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**Ministry of Environment Science,
Technology, and Innovation**

West Africa Coastal Areas Resilience Investment Project II (P175525)

Environmental and Social Management Framework

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Use of Cultural Symbols: Each chapter of the Environmental and Social Management Framework (ESMF) opens with a cultural symbol, which summarises the concept of the chapter. The cultural symbols are used to communicate concepts, aphorisms, and the complex, and often nuanced, belief systems in Ghana. These symbols also represent objects that encapsulate evocative messages that convey traditional wisdom, aspects of life or the environment. As a public document, the prospect of widespread acceptance of the ESMF will be enhanced when stakeholders see that the document meets World Bank ESF and respects Ghanaian cultural heritage. As a public document, the prospect of widespread acceptance of the ESMF will be enhanced when stakeholders see that the document respects Ghanaian culture.



TABLE OF CONTENTS

TABLE OF CONTENTS	iii
LIST OF FIGURES	v
LIST OF TABLES	v
ACRONYMS AND ABBREVIATIONS	vii
EXECUTIVE SUMMARY	ix
1. INTRODUCTION	1
1.1 Background	1
1.2 Rationale for the ESMF	2
1.3 Objectives of the ESMF	2
1.4 Methodology for the ESMF Preparation	3
1.5 Required E&S Risk Management Tools	4
2. PROJECT DESCRIPTION	6
2.1 Program Development Objectives	6
2.2 Project Components	6
2.3 Project Beneficiaries	10
2.4 Project Area	11
3. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK	12
3.1 National Environmental and Social Policies, Laws and Regulations	12
2.5 Environmental Quality Standards	17
2.6 The World Bank Environmental and Social Policies and Guidelines	18
2.6.1 Environmental and Social Framework and Standards	18
2.6.2 World Bank Group Environment, Health and Safety Guidelines (EHSG)	20
2.6.3 Comparison between National and World Bank ESSs	22
2.7 Regional and International Policies and Frameworks	31
2.8 Institutional Framework	36
4. ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS	44
4.1 Ghana within West Africa	44
4.2 Coastal Regions and Districts with Ghana's Administrative Structures	45
4.3 Coastal Regions Land Area	45
4.4 Population of Coastal Regions and Districts	45
4.5 Environmental Baseline Conditions	47
4.5.1 Ghana's Coastline	47
4.5.2 Coastal Climate and Weather Conditions	47
4.5.3 Agro-Ecological Zones	51
4.5.4 Hydro-Climatic Zones	51
4.5.5 Land Cover Land Use of Coastal Regions	51
4.5.6 Ghana's Coastal Geology	52
4.5.7 River Basins and Coastal Systems	53
4.5.8 Ghana's Coastal Regions Biodiversity	54
4.5.9 Coastal Zone Vulnerabilities in Ghana	59
4.6 Social Baseline	59
4.6.1 Traditional Authorities	59
4.6.2 Household Size	59
4.6.3 Literacy	60
4.6.4 Poverty	61
4.6.5 Employment Status of the Population	61
4.6.6 Economic Characteristics of Coastal Ghana	62
4.6.7 Coastal Cultural Heritage	64

4.6.8	Coastal Tourism	65
4.6.9	Disability.....	65
4.7	Baseline Characteristics of Project Priority Sites.....	68
4.7.1	Korle Lagoon.....	68
4.7.2	Keta Lagoon Complex Ramsar Site.....	71
4.7.3	Densu Delta Ramsar Site.....	72
4.8	Baseline Characteristics of Other Potential Project Sites	75
5	ENVIRONMENTAL AND SOCIAL RISK AND IMPACTS IDENTIFICATION.....	81
5.1	Environmental and Social Benefits, Risks and Impacts	81
5.1.1	Environmental and Social Benefits.....	81
5.1.2	Environmental Risks and Negative Impacts	81
5.1.3	Social Risks and Negative Impacts.....	83
6	ENVIRONMENTAL AND SOCIAL RISK ASSESSMENT AND MANAGEMENT PROCEDURES FOR SUBPROJECTS	86
6.1	Environment and Social Due-diligence Procedures for Subprojects	86
6.2	Chance Find Procedures	92
6.2.1	Chance Find Process	93
6.2.2	Chance Find Documentation.....	93
6.2.3	Cultural Heritage Training.....	93
6.2.4	Reporting and Communication	94
6.2.5	Implementation Arrangement for Chance Find.....	94
6.3	Incident and Accident Reporting	94
7	ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS MITIGATION AND MONITORING PLAN	96
7.1	Environmental and Social Management Plan.....	96
7.2	Environmental and Social Monitoring	115
7.2.1	Monitoring and Reporting of Environmental and Social Indicators.....	115
8	GRIEVANCE REDRESS MECHANISM	121
8.1	Objectives of Project GRM.....	121
8.2	Guiding Principles.....	121
8.3	Levels of the Grievance Mechanism.....	122
8.3.1	Community and Lower-Level	122
8.3.2	District Level	123
8.3.3	National Level	123
8.4	Elements of the GRM.....	123
8.5	Grievance Channel for Gender-Based Violence.....	128
8.6	Workers Grievance Mechanism	129
8.7	World Bank's Grievance Redress Service	130
9	INSTITUTIONAL ASSESSMENT AND IMPLEMENTATION ARRANGEMENT.....	130
9.1	Institutional Assessment and Capacity Building	131
9.2	Capacity Building Requirements.....	131
9.3	ESMF Implementation Arrangements and Responsibilities.....	132
9.3	ESMF Implementation Budget.....	134
10	PUBLIC CONSULTATIONS, PARTICIPATION AND INFORMATION DISCLOSURE.....	135
10.1	Stakeholder Engagement and Consultation.....	135
10.1.1	Initial Consultations during Project Preparation	135
10.1.3	Additional Consultations During ESMF Preparation.....	138
10.2	Disclosure of ESMF	144
	REFERENCES	145
	ANNEXES	146
	Annex 1: Evidence of Stakeholder Consultation.....	146
	Annex 2: Environmental and Social Screening Checklist/Form	156

Annexe 3: Sample Grievance Complaint Form	164
Annexe 4: Grievance Register/Log	165
Annex 5: Grievance Screening and Investigation Sheet.....	166
Annex 6: Incident Reporting Form and Types of Incidents to be Reported	167
Annex 7: Contractor's Code of Conduct.....	171
Annex 8: Individual code of conduct in case of contractor.....	173
Annex 9: Sample Terms of Reference for Consultancy Services for Environmental and Social Management Plan (ESMP)	176
Annex 10: Sample Terms of Reference for Consultancy Services for Environmental and Social Impact Assessment (ESIA)	183
Annex 11: Description of National Environmental and Social Policies, Laws and Regulations.....	197
Annex 12: WACA ResIP II Project Community Driven Social Subprojects Exclusion/Negative List.....	212
Annex 13. GBV/SEA/SH Reporting Format.....	213

LIST OF FIGURES

Figure 1. The four dimensions of the WACA ResIP II project	6
Figure 2: Map of West Africa Nations.....	44
Figure 3: Boundary and Administrative Maps of Ghana.....	45
Figure 4: Drainage, Longshore Drift and Divisions of Ghana's Coastline.....	47
Figure 5: Rainfall in Coastal Regions of Ghana.....	49
Figure 6: Temperature in Coastal Regions of Ghana	50
Figure 7: Agro-ecological Zones of Ghana.....	51
Figure 8: Land Cover and Land Use Map of the Coastal Regions of Ghana.....	52
Figure 9: Geological Map of the Coastal Regions of Ghana.....	53
Figure 10: Map of Rivers, Streams and Water Bodies in Coastal Regions Region	54
Figure 11: Map of Forest Reserves and Parks	58
Figure 12: Korle Lagoon (March 2022)	71
Figure 13: Densu Delta Ramsar Site	73
Figure 14: Sakumo Ramsar Site.....	76
Figure 15: Muni-Pomadze Ramsar Site.....	77
Figure 16. Channels to submit complaints.....	124
Figure 17. Risk-Urgency Scores	126

LIST OF TABLES

Table 1: Methodological Compatibility Matrix According Toto Specific Objectives	3
Table 2. Procedures for Incorporating EIA into Programs or Activities	15
Table 3: Requirements for Ambient Noise Control	17
Table 4: Requirements for Ambient Air Quality – Maximum Limit for 24 Hours	18
Table 5: Requirements for Effluent Discharge.....	18
Table 6: World Bank Environmental and Social Standards Relevant to the Project	19
Table 7: Gap Analysis - National and World Bank.....	23
Table 8: International Conventions Relevant to WACA Project	32
Table 9: Coastal Regions Population, Land Area, and Population Density.....	46
Table 10: Coastal Districts Population by Sex.....	46
Table 11: Geological Units, Rock Type and Geological Age Along Ghana's Coast.....	52
Table 12: Coastal Ramsar Sites in Ghana	55

Table 13: Household and average household size	59
Table 14: Population 15 Years and Older by Literacy Status, Sex, Type of Locality and Region.....	60
Table 15: Poverty Incidence by region, 1992-2013.....	61
Table 16: Employment Status of the Population 15 Years and Older by Coastal Region and Sex (%)	61
Table 17: Employed Population 15 Years and Older by Industry, Sex, and Coastal Region	66
Table 18: Species of Birds Present Around Korle Lagoon.....	69
Table 19: Water Quality Results compared with CEQGs and TWQR.....	69
Table 20: Hydrochemical Data of Surface Water at Densu Delta	74
Table 21: Impact Matrix of Project Activities.....	84
Table 22: Generic Environmental and Social Management Plan	97
Table 23: Quality Guidelines for General Industries.....	117
Table 24: Category of Grievance	125
Table 25: Outline of Response Timelines	128
Table 26: The Capacity Building Program	131
Table 27: Roles and Responsibilities of Key Actors.....	132
Table 28: Estimated Budget for the Implementation of ESMF	134
Table 29: Initial Stakeholder Engaged during Project Preparation	135
Table 30: Institutions Consulted and Engaged.....	138
Table 31: Coastal Communities Consulted and Engaged.....	139

ACRONYMS AND ABBREVIATIONS

AEHS	Annual Environmental Health and Safety
CBD	Convention on Biological Diversity
CDD	Community Driven Development
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
C-ESMP	Contractor Environmental and Social Plans
CGRC	Community Grievances Redress Committee
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLM	Child Labour Monitoring
CMS	Convention on Migratory Species
CSO	Civil Society Organisations
DEO	District Environmental Officer
DoC	Department of Children
DoG	Department of Gender
DOVVSU	Domestic Violence and Victims Support Unit
DSD	Department of Social Development
DVS	Domestic Violence Secretariat
E&S	Environmental and Social
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EHS	Environmental, Health, and Safety
EHSG	Environmental Health and Safety Guidelines
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPA	Environment Protection Agency
EPC	Environmental Protection Council
EPD	Environmental Permitting Decision
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESIS	Environmental and Social Impact Statement
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESRC	Environmental and Social Risk Classification
ESRS	Environmental and Social Risk Summary
ESSs	Environmental and Social Standards
FAO	Food and Agriculture Organization
FM	Financial Management
FWSC	Fair Wages and Salaries Commission
GBV	Gender-based Violence
GRM	Grievance Redress Mechanism
GMMB	Ghana Museum and Monuments Board
GNFS	Ghana National Fire Service
GNHR	Ghana National Household Registry
GNPC	Ghana National Petroleum Corporation
GoG	Government of Ghana
GPRS	Ghana Poverty Reduction Strategy
GSFP	Ghana School Feeding Programme
HTS	Human Trafficking Secretariat
IEZ	Inshore Exclusion Zone
ITCZ	Inter-Tropical Convergence Zone
IUU	Illegal, Unreported, and Unregulated
KRFR	Kabo River Forest Reserve
LC	Lands Commission
LEAP	Livelihood Empowerment Against Poverty
LIPW	Labour-Intensive Public Works

LMP	Labour Management Procedures
LUSPA	Land Use and Spatial Planning Authority
LVD	Land Valuation Division
MAM	Mission Aid Memories
MDAs	Ministries, Department and Agencies
MELR	Ministry of Employment and Labour Relations
MESTI	Ministry of Environment, Science, Technology and Innovation
MLNR	Ministry of Lands and Natural Resources
MMDAs	Metropolitan, Municipal and District Assemblies
MoFAD	Ministry of Fisheries and Aquaculture Development
MoGCSP	Ministry of Gender, Children and Social Protection
MSIPs	Multi Sector Investment Plans
NCC	National Commission on Culture
NCCE	National Commission for Civic Education
NCPD	National Council for Persons with Disability
NEAP	National Environmental Action Plan
NEP	National Environmental Policy
NEP	National Employment Policy
NGRC	National Grievance Redress Committee
NRM	Natural Resource Management
NSP	National Social Protection
OASL	Office of the Administrator of Stool Lands
ODS	Ozone-depleting substances
OHS	Occupational, Health and Safety
PAD	Project Appraisal Document
PCN	Project Concept Note
PDO	Programme Development Objective
PER	Preliminary Environmental Report
PID	Project Information Document
PIU	Project Implementation Unit
PSC	Project Steering Committee
PRCC	Public Relations and Complaints Committee
PVLMD	Public and Vested Land Management Division
PwDs	Persons with Disabilities
RCC	Regional Coordinating Council
ResIP	Resilience Investment Projects
RFI	Request for Information
RFP	Request for Proposal
RPF	Resettlement Policy Framework
RTI	Right To Information
SCAs	Special Consideration Areas
SEA/H	Sexual Exploitation Abuse or Harassment
SEP	Stakeholder Engagement Plan
TDS	Total Dissolved Solids
ToR	Terms of Reference
TRC	Technical Review Committee
TSS	Total Suspended Solids
UNCLOS	United Nations Convention on the Law of the Sea
VBA	Volta Basin Authority
WACA	West Africa Coastal Areas Resilience Investment Project
WACA	West Africa Coastal Areas
WAEMU/UEMOA	West African Economic and Monetary Union
WB	World Bank
WRC	Water Resources Commission

EXECUTIVE SUMMARY

Project Background

Coastal areas in West Africa are essential for livelihoods and economic growth. Although the West African economies have been growing steadily, the countries continue to be heavily dependent on natural resources such as fisheries, fossil fuels, minerals, and timber. Ghana's economic success over the last decade has come at a price, particularly for the country's coastline. About eighty per cent of its industrial activities, such as oil and gas production, port operations, and the generation of thermal power are concentrated along the coast, in addition to coastal agriculture and fishing.

As in other West African countries, the degradation of coastal resources and ecosystems in Ghana is accelerating due to increasing population pressure on the coast and climate change. The deterioration of the coast is leading to significant and potentially irreversible loss of critical ecosystems, such as beaches and mangroves, which provide important coastal protective and social services (livelihoods, food, protection from storm surges, and timber).

No single country alone can fix West Africa's coastal erosion, flooding, and pollution problems nor independently preserve the health of the region's critical ecosystems. Solutions require coordination and collaboration among agencies in each country and significant transaction costs. The problems are multi-sectoral, which adds to the complexity at the country and regional levels. Solutions are bound to be expensive, beyond one country's public finances or any single development partner's means. Finally, it requires a long-term vision and commitment at national and regional levels, and that commitment has yet to be achieved. A massive, cross-country coordinated effort is needed to tackle these challenges. Thus, the Government of Ghana seeks to participate in the West Africa Coastal Areas Resilience Investment Project (WACA), which was created in response to countries' requests for solutions and finance to help save the ecological, social and economic assets of coastal areas in addressing coastal erosion and flooding. The WACA Program consists of National Coastal Resilience Investment Projects (ResIP) and a Bank-managed Programmatic ASA "WACA Scale-Up Platform" (P166218). The project will address the underlying issues of a) coastal retreat and increased flooding incidences that cause loss of housing, assets, and land, and b) coastal and marine pollution affecting the quality of coastal ecosystems. The constraints to sustainable development are a) lack of coastal management and planning, b) insufficient integration of social development in environmental and social protection and resilience, and c) lack of financial planning and adequate solutions.

Project Description

The Program Development Objective (PDO) of the WACA ResIP II Project is to strengthen the resilience of targeted communities and areas in coastal Western Africa. The project will restore coastal ecosystems, especially mangroves, to reduce the risk of erosion and flooding, including restoration of abandoned rice paddies and the water system. It builds on an ongoing project called the WACA Resilience Investment Project. The Project has four components which are as follows:

Component 1: Strengthening Regional Integration. The objective of the regional integration component is to strengthen the effective coordination of interventions for coastal resilience in West Africa at the regional and national levels. This is achieved through the consolidation of the regional institutional set-up and harmonization of policy to seek economies of scale and the development of new strategic partnerships needed for the scale-up of response to the coastal resilience development challenge.

Component 2: Strengthening the Policy or Institutional Frameworks. The project will support the strengthening of institutional and policy frameworks around coastal development, protection, and natural resource management (exclusive of fisheries). Focus areas will include strengthening of existing national coordination mechanisms and development of mechanisms for sub-national coordination, including civil society coordination. This component will

also support the development of institutional capacity of key ministries and agencies, including MESTI and the Coastal Development Authority, for coastal development and management.

Component 3: Strengthening National Physical and Social Investments. The project will support a wide typology of site-specific grey, green, and hybrid physical investments, and social sub-projects at the community level to achieve measurable increases in protection from coastal erosion and flooding, pollution control, and promote climate-resilient coastal development.

The project will be financing (a) green infrastructure such as dune fixation to protect beaches from erosion using vegetation and shrubs to trap sand, wetland and mangrove restoration and beach replenishment; (b) grey infrastructure such as the construction of breakwaters, seawalls, revetments, groynes, and dikes; (c) land claim and reclamation; (d) rehabilitation of flood banks; (e) rehabilitation and management of natural flood areas, including dredging to maintain natural flow in lagoons; (f) infrastructure, e.g. culverts, for improved drainage, especially in urban areas; and (g) sustainable land management practices in transboundary sub-watersheds and areas of high ecosystem value that drain into the coastal areas, and (h) measures to improve the management of natural habitats, including reduction of invasive species encroachment.

Component 4: Project Management. A Project Implementation Unit (PIU) will be established with the Ministry of Environment, Science, Technology, and Innovation (MESTI) and will be guided by a multi-stakeholder project steering committee.

Project Beneficiaries

Project activities are expected to directly benefit people at project sites, who live along the coast and depend on it for their livelihoods. These people, including women and youth and people living in marginal lands on barrier islands and near lagoons, are at immediate risk from coastal erosion, flooding, and salinity intrusion. They also suffer from the negative impacts of both marine and coastal pollution. For example, fishers and fish processors (mostly women) living in coastal areas are among the most vulnerable groups in developing countries. People engaged in agroindustry and tourism located along the coastline's project sites will also directly or indirectly benefit from the project interventions. Their livelihoods are often highly dependent on natural resources or ecosystem services that are increasingly being degraded. Unlike their wealthier counterparts, poor people have few savings to draw on to respond to shocks and typically have very limited access to formal credit or recovery resources.

Rationale for the ESMF

Environmental and Social Risk Classification (ESRC) for the project assigned by the World Bank (WB) is “high”. The project design and implementation will be guided by the WB’s Environmental and Social Framework (ESF) and will comply with all relevant legal requirements in Ghana. Eight of the Environmental and Social Standards (ESSs) of the WB’s ESF will be relevant to the project, namely: ESS1 - Assessment and Management of Environmental and Social Risks and Impacts, ESS2 - Labour and Working Conditions, ESS3 - Resource Efficiency and Pollution Prevention and Management, ESS4 - Community Health and Safety, ESS5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS8 - Cultural Heritage, and ESS10 - Stakeholder Engagement and Information Disclosure.

At this stage of project preparation, the exact locations/sites of project implementation and the specifics of sub-project activities and locations are not yet confirmed. In compliance with the requirements of the ESF, specifically the ESS1, the Ministry of Environment, Science, Technology and Innovation (MESTI) needs to prepare an Environmental and Social Management Framework (ESMF) and a Resettlement Policy Framework (RPF) to guide the management of potential environmental and social risks and impacts associated with the project. The ESMF also considers the Ghana’s

policies, regulations, and laws for environmental assessment. The EA Regulations of 1999 (LI 1652) is considered an important tool both at the central government and local/district government levels.

Environmental and Social Baseline

Ghana has four coastal regions, from east to west, namely Volta, Greater Accra, Central and Western Regions. The coastal regions cover 15% of the country's land area (36,417 sq.km) and home to 12,012,806 people overall (5,894,689 males and 6,118,117 females). The coastal zone is home to more than 60% of the country's principal industries, including manufacturing, refinery, mining, port and harbour, textile, and smelting, urban settlements (including Accra, Tema, and Takoradi), tourism, heritage sites, and conservation sites. Fishing is the main commercial activity in Ghana's coastal towns and communities.

The country has about 550 kilometres coastline. It has a sandy beachfront and is distinguished by spits and barrier lagoons. The temperature of the coastal regions seems uniformly high throughout the year ranging between 30°C during the day to 24°C. The major raining season, which lasts from April to July, and the minor season, which lasts from September to November, are well defined rainfall seasons in Ghana's coastal regions. The annual rainfall ranges from 600 to 2200 mm. Ghana's coastal plain is crossed by several rivers and streams and drained by the Volta, South-Western and Coastal Rivers Systems. Five (5) coastal wetlands (Keta Lagoon Complex, Songhor, Sakumo, Densu Delta, and Muni-Pomadze lagoons) have been named Ramsar sites because they provide habitat for three (3) significant populations of 12 species of migratory waterbirds and three (3) species of marine turtles that are endangered globally. The Amanzuri, Korle, Kpeshie, Butre, Narkwa, and Fosu lagoons, as well as the Pra, Ankobra, and Whin estuaries, are other noteworthy wetlands, estuaries, and lagoons. Numerous marine species use these wetlands, estuaries, and lagoons, along with the mangrove stands that they are surrounded by, as breeding and nursery grounds.

Physical interventions under the project will support adaptation measures for protection, retreat, or accommodation, or a combination thereof at three potential sites: Korle Lagoon, Densu Delta, and Keta Lagoon. It is essential to describe the social and environmental circumstances in each of the three places.

Korle Lagoon: The surface area of Korle Lagoon is roughly 0.127 square kilometers. It is situated in the southwest region of Accra Metropolis, at an altitude of roughly 7 meters above sea level. The Odaw stream, Kaneshie stream, and Agboghloshie stream are the three primary rivers that feed into the Korle lagoon. The majority of drainage channels in the city are connected to the Korle Lagoon before it finally empties into the Gulf of Guinea, making it the main sea outflow. The Lagoon has become one of Ghana's most contaminated water bodies, despite the fact that it has the potential to be an attractive environment and sustain socio-economic activity for nearby communities. The lagoon's natural ecology has been severely harmed by the large amounts of untreated home, industrial, and medical waste that are dumped into surface drains. Numerous urban dwellers are frequently impacted by flooding because Korle Lagoon has gotten stagnant. The city authorities face a significant issue in controlling the amount of waste, especially in ensuring that all waste created is collected for disposal. Very little to no vegetation is present. The island and edges of the Upper Korle Lagoon contain the majority of the project area's remaining vegetation. Patches of the once-prominent mangroves and other flora can be seen here, providing wildlife with a resting place. The plant patches surrounding Korle Lagoon are home to a variety of species, and the island within the lagoon can serve as a resting spot for migratory birds. According to Biney and Amuzu's study on migrating birds from 1995, the lagoon's surroundings were home to three species at the time, with wild ducks, egrets, and herons using the mangroves around the beaches as roosting grounds. However, the absence of mangroves and other food sources has led to the extinction of the majority of other bird species in the area. The lagoon has played a significant role in Accra's history as a Ga town and is still held in high regard by the local native Ga communities as a deity. The large slum known as Old Fadama or Sodom & Gomorrah near the Korle Lagoon is a special issue with significant socio-political implications.

Keta Lagoon: The Keta Lagoon Complex Ramsar Site covers part of the Volta River estuary. It consists of a collection of small islands and a network of salinity-varying lagoons. The Lagoon is the largest of the more than 90 lagoons that

can be found along Ghana's 550 kilometers of coastline. This low-lying lagoon is 126.13 km in length, surrounded by settlements of several towns, flood plains and mangrove swamps. The Keta lagoon is separated from the sea by a narrow strip of sandbar. The dominant vegetation includes swamps, scrublands, and mangrove forests, which are heavily exploited by resident communities for fuel woods and commercial fishing. Numerous habitations are located all around the lagoon. In addition to Kodzi, Alakple, and Tregui to the west, Anloga, Woe, Keta, and Kedzi to the south, Aborlove Nolopi, Anyako, and Anlo Afiadenyigba to the north, and Denu and Adina to the east. The Keta Lagoon contains the island of Seva. Other islands are Netivi Kpota, which has coconut trees, and Dudu, which is uninhabited. After prolonged rains, the area frequently floods as well as when the Kplikpa and Aka rivers enter the lagoon. By building a canal between the lagoon and the sea, the Keta Sea Defence project has made it possible for overflowed water to enter the sea. The lagoon makes a substantial contribution to the local population's economic prosperity. Thousands of people rely on the lagoon for their daily sustenance. For those who reside in its catchment areas as well as those who live outside of the area, it is a significant source of income. The lagoon primarily supports farming, fishing, and salt mining as economic activities. Near the coastal regions where coconut oil is produced, coconut trees are common. Additionally, there is a chance to use aquatic weeds that are picked by women to make bags, mats, and other handicrafts that will offer alternative livelihoods and money-making opportunities, particularly for women. The lagoon holds a deep cultural and spiritual significance for adherents of the traditional Anlo religious system.

The Lagoon offers protected nesting areas for the endangered olive ridley sea turtle (*Lepidochelys olivacea*), leatherback turtle (*Dermochelys coriacea*), and green turtle (*Chelonia mydas*), as well as the Nile monitor (*Varanus niloticus*) and the endangered West African Manatee (*Trichechus senegalensis*).

Densu Delta Ramsar Site: The Densu delta is situated west of Dansoman, south of Mallam, McCarthy Hill, and Aplaku, and east of Bortianor. Its area is close to 6,000 ha. The Densu River, which supplies water to about half of the Accra metropolitan area, is the primary source of water for the wetland. The Delta's southern estuary drains into the sea at several spots depending on the time of year. The marsh is surrounded by human settlements, a condition that has recently gotten worse due to the need for housing sites in the Accra metropolitan area. The wetland is surrounded by human settlements, a condition that has recently gotten worse due to the need for housing sites in the Accra metropolitan area. Wetland areas that were once covered in woody vegetation are becoming more barren and built up, which suggests a loss of important habitats like nesting grounds for local water birds (e.g., herons, long-tailed cormorant). Densu Delta wetland is important for species of resident and migratory waterbirds. Sixty species of waterbirds have been recorded at this site with an estimated population of some 35,000 birds, including globally important numbers of eight species (*Tringa erythropus*, *Sterna maxima*, *Sterna sandvicensis*, *Sterna dougallii*, *Sterna hirundo*, *Sterna albifrons*, *Chlidonias niger* and *Egretta garzetta gularis*). The site is particularly important for roosting terns and is the second most important site for the rare *Sterna dougallii*.

Environmental and Social Benefits, Risks and Impacts

Overall, the project is expected to have positive environmental impacts by restoring coastal ecosystems, especially wetlands and mangroves to reduce the risk of erosion and flooding. The restoration of coastal ecosystems will enhance the ecological services they provide. These habitats provide several ecosystem services or benefits, including coastal protection, habitat for biodiversity, fish production, recreation, soil and sediments regulation, nutrient regulation, disturbance and natural hazards regulation and other economic, recreational, aesthetic and cultural values. Direct employment by the project and indirect employment in the supply chain by contractors will have a positive socio-economic impact on the people to be employed and their dependents.

Component 3 activities can have negative impacts on the natural and built environment. In other words, the project may affect physical and biological receptors, including species habitats in the natural or built environment. The environmental risk rating of the project is high. The project may alter natural ecosystems, impact flora and fauna, disturb the sensitive habitats, lead to changes in topography, impact soils and geology, impact water quality, lead to

sedimentation of surface water, dust emissions and impact air quality, lead to noise and vibration, increase traffic, lead to waste generation, lead to occupational health and safety risks of the workers, lead to community health and safety risks. material change to the appearance of the landscape or townscape, etc. Again, exposure to polluted or contaminated sediments may pose dangers to human health and the environment.

The social risk rating of the project is high. Key social risks that may be associated with project activities include possible physical and economic displacement from the project activities in the short-term and losses of assets and/or income due to impacts from project activities; potential compensation related legacy issues, potential for cumulative impacts, impact is likely to disproportionately affect people who live in coastal areas because of restrictions to the water, risks associated with associated facilities, potential inter-communal conflict; potential labour influx that in turn may exacerbate the risks related to SEA/SH, Violence Against Children; social exclusion of vulnerable groups such as persons with disabilities, the landless, elders and youth in the consultations process and access to benefits and development opportunities. Other risks include potential child labour use, community health and safety concerns, social fragmentation and disruption of traditional livelihoods.

Grievance Redress Mechanisms

In line with ESS2, ESS5 and other international good practices, the project will develop and operationalize a comprehensive Grievance Redress Mechanisms (GRMs) for the management of all kinds of grievances raised by all stakeholders. This will also include a workers' GRM consistent with ESS 2. The project's GRMs will provide a formal avenue to register stakeholders' concerns and for these to be addressed in good faith and through a transparent and impartial process. Grievances will be monitored to provide signals of any escalating conflicts or disputes. The GBV action plan will mitigate GBV risks, and inclusive of referral pathways for the rehabilitation of victims.

Environmental and Social Management Procedures

The Project is composed of a series of subprojects and activities. All these subprojects and activities will undergo environmental and social screening to identify potential environmental and social risks and determine the appropriate E&S instruments required to manage the risks. The ESMF provides procedures to be used by the Project Implementing Unit (PIU) and other stakeholders for the identification, preparation, approval and implementation of subprojects E&S requirements as outlined in the following steps:

- Step 1: Subproject Identification
- Step 2: Subproject Site-specific Screening
- Step 3: Assigning the Appropriate Risk Classification
- Step 4: Determination of E&S Instruments Required
- Step 5: Project Registration with EPA
- Step 6: Scoping and Preparation of Terms of Reference
- Step 7: Preparation of the ESIA with Community Consultation
- Step 8: Review of the ESIA
- Step 9: Public Hearing, Consultations and Disclosure
- Step 10: Review and Approval of the ESIAs
- Step 11: Preparation of Bidding Documents
- Step 12: Contractor's Mobilization and Preparation of Contractor Environmental and Social Management Plans (C-ESMPs) and Occupational Health Safety Plans
- Step 13: Preparation and Implementation of C-ESMPs by Contractor
- Step 14: Contractor Management, Oversight and Reporting

The ESMF also sets out the reporting and monitoring systems and responsibilities of the institutions in implementing the ESMF.

Environmental and Social Management Implementation Arrangement

The overall project management will be the responsibility of Ministry of Environment, Science, Technology and Innovation (MESTI). A Project Implementation Unit (PIU) will be set up and operationalized within the MESTI. MESTI has prior experience implementing World Bank funded projects including the Ghana Sustainable Water and Land Management Project (SWLMP, P098538), with satisfactory performance. MESTI also supported the preparation of the Ghana Landscape Restoration and Small-Scale Mining Project (P171933) a substantial risk project under the World Bank's Environmental and Social Framework. The Environmental Protection Agency (EPA) which is an agency of Ministry of Environment, Science, Technology and Innovation, has extensive capacity in managing safeguards risks of developmental projects and will provides support to the ministry for the implementation of this project. Despite this experience, the expanded scope of the Environmental Social Framework (ESF) requires targeted training, monitoring and technical assistance to support the effective implementation of the project.

In addition to the proposed training to build capacity of implementing staff, MESTI will hire specialists who will oversee all project-related fiduciary functions, including Financial Management (FM) Specialist, Procurement Specialist, Monitoring and Evaluation (M&E) Specialist, Environment Specialist, Social Development Specialist etc. Given the high risks associated with the proposed project, it would be appropriate to have two ESF Staff manage the E&S risks. The Environmental Specialist and Social Development Specialist will be responsible for E&S safeguards implementation, monitoring, management and reporting. It is recommended that training sessions cover all ESSs relevant to this project, including aspects proposed in this framework.

The capacity of the E&S Specialists, as well as the capacity of other PIU staff, would be strengthened, especially on the new ESF/ESSs. Capacity building will also target other actors at various levels. This includes, but is not limited to, District-level Officers, NGOs, Contracting Entities, Supervising Consultants etc. (who will support the planning and implementation of sub-projects). Training will be designed to enhance the skills to implement the proposed E&S screening process, GRM, and mitigation measures appropriately to manage the environmental and social risks and impacts associated with the project. The proposed trainings will cover the following and others that will be identified during implementation. The PIU will ensure that these training are delivered, in consultation with World Bank Environmental and Social Specialists.

Budget for the Implementation of ESMF

The total cost for ESMF implementation, including safeguards documents preparation, monitoring of ESMPs, capacity building, auditing and workshops for unit performance review is estimated at US \$ 750,750. It assumed that all subprojects in a district could be compiled to prepare one ESIA report and one overall environmental and social audit would be conducted.

Consultations and Disclosure

In line with ESS10 and national regulations, consultations were conducted with stakeholders who are directly or indirectly involved in project. Consultations were held with government Ministries, Departments and Agencies, Development Partners and Civil Society Organizations, metropolitan, municipal and district assemblies, communities etc.

The World Bank policies require that this ESMF is made available to project affected groups, local NGOs, and the public at large. Disclosure of this ESMF is also a national requirement and forms part of Ghana ESIA procedures.

1. INTRODUCTION



Boa me na me mmoa wo
 (“Help me and let me help
 you”): cooperation,
 interdependence reconciliation”):
 Peacemaking, Reconciliation

1.1 Background

Coastal areas in West Africa are essential for livelihoods and economic growth. Although the West African economies have been growing steadily, the countries continue to be heavily dependent on natural resources such as fisheries, fossil fuel, minerals, and timber. Ghana’s economic success over the last decade has come at a price, particularly for the country’s coastline. About eighty per cent of its industrial activities, such as oil and gas production, port operations, and the generation of thermal power are concentrated along the coast, in addition to coastal agriculture and fishing. As in other West African countries, degradation of coastal resources and ecosystems in Ghana is accelerating due to increasing population pressure on the coast and climate change. The deterioration of the coast is leading to significant and potentially irreversible loss of critical ecosystems such as beaches and mangroves, which provide important coastal protective and social services (livelihoods, food, protection from storm surges, and timber).

Climate change and climate variability are predicted to further aggravate existing physical, ecological, biological, and socioeconomic stresses on the coast. This could also lead to serious social and economic hardships resulting from natural disaster induced physical and economic displacements. Increased frequency and intensity of storm surges and sea level rise will exacerbate coastal erosion. Inundation of the natural habitats, such as mangroves, will result in loss of key functions (such as stabilizing coastal lands, providing breeding grounds and sheltered habitats for many species) and disruption of the economic activities they support. Sea-level, storm surges, and hazards are expected to increase and may modify littoral sediment transport and these events are likely to be more frequent and occur with greater intensity in the future.

The livelihood and well-being of the coastal population is intricately entwined with the health of coastal resources, with profound implications for poverty alleviation and economic growth. This natural resource base, if well managed under the governance of accountable institutions, could transform the economy, reduce poverty, and improve the lives of its citizens. Similarly, preserving important ecosystem services (fisheries, flood protection, etc.) and investing in coastal and marine protected areas are critical if the ecosystem services and future economic opportunities are to be preserved.

No single country alone can fix West Africa’s coastal erosion, flooding, and pollution problems nor independently preserve the health of the region’s critical ecosystems. Solutions require coordination and collaboration among agencies in each country and significant transaction costs. The problems are multi-sectoral, which adds to the complexity at country and regional levels. Solutions are expensive, beyond one country’s public finances or any single development partner’s means. Finally, it requires a long-term vision and commitment at national and regional levels, and that commitment has yet to be achieved. A massive, cross-country coordinated effort is needed to tackle these challenges. Thus, the Government of Ghana seeks to participate in the West Africa Coastal Areas Resilience Investment Project (WACA) which was created in response to countries’ request for solutions and finance to help save the ecological, social and economic assets of coastal areas addressing coastal erosion and flooding. The WACA Program consists of National Coastal Resilience Investment Projects (ResIP) and a Bank-managed Programmatic ASA “WACA Scale-Up Platform” (P166218).

1.2 Rationale for the ESMF

The Environmental and Social Risk Classification (ESRC) for the West Africa Coastal Areas Resilience Investment Project (WACA ResIP) II project is “high” and the project design and implementation will be guided by the WB’s Environmental and Social Framework (ESF). The project is also required to comply with relevant legal requirements in Ghana. Eight (8) of the Environmental and Social Standards (ESSs) of the WB’s ESF/ESS are relevant to the project, namely: ESS1 - Assessment and Management of Environmental and Social Risks and Impacts, ESS2 - Labour and Working Conditions, ESS3 - Resource Efficiency and Pollution Prevention and Management, ESS4 - Community Health and Safety, ESS5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS8 - Cultural Heritage, and ESS10 - Stakeholder Engagement and Information Disclosure. At this stage of project preparation, the specifics of sub-project activities and exact locations/sites are not yet confirmed. Consequently, MESTI has prepared this Environmental and Social Management Framework (ESMF). The ESMF is a methodological document that provides guidance for the initial screening of proposed activities for any negative environmental and social impacts and establishes the procedures, mechanisms as well as practical approaches to be used to ensure the compliance of the sub-projects’ activities with National laws and requirements and objectives of ESF/ESS.

1.3 Objectives of the ESMF

The objective of this ESMF is to ensure that the implementation of WACA ResIP II project is carried out in an environmentally and socially responsible manner. For this reason, the ESMF aims to provide clear guidelines and processes for determining the level of required environmental and social management and development of mitigation measures so as to avoid, manage or minimize potentially negative environmental and social impacts associated with the project. The ESMF specifically aims to:

- i. Generally, assess the potential environmental and social risks and impacts of the proposed project and propose their mitigation measures;
- ii. Establish clear processes and procedures for environmental and social risk assessment, such as screening of sub-project activities as the first step to determine the level of assessment required, that is whether an Environmental and Social Management Plan (ESMP) or Environmental and Social Impact Assessment (ESIA) will be prepared, and necessary management approaches to be undertaken during project implementation.
- iii. Provide for continuous improvement and identification of potential social and environmental risks and impacts of the proposed Project.
- iv. Ensure adherence to national, regional and international laws, policies and regulations relevant to the project.
- v. Specify appropriate roles and responsibilities of government departments, lead agencies and other stakeholders, and outline the necessary reporting procedures for managing and monitoring environmental and social concerns related to the project subcomponents.
- vi. Assess the institutional capacity and training needs to implement the provisions of the ESMF and make recommendations for strengthening the capacity.
- vii. Undertake stakeholder consultations, document issues that are raised in relation to the expansion.
- viii. Develop the Terms of Reference (TOR) for appropriate safeguards instruments (such as ESMPs/ESIAs) as appropriate and required.
- ix. Develop mechanisms for public consultation and disclosure of project documents as well as redress of possible grievances
- x. Provide recommendations on ensuring review and adherence to developed project compliance procedures.
- xi. Set out the compliance monitoring, auditing/verification requirements.
- xii. Establish the budget requirements for environmental and social safeguards compliance.

1.4 Methodology for the ESMF Preparation

The preparation of the ESMF involved desk-based studies, screening for the identification of environmental and social issues, stakeholder consultation and engagement, field surveys and impact analysis approaches. Detailed review and analysis of relevant project documents, national legislations, policies, and guidelines were done. A systematic approach to identify and assess the potential environmental and social impacts of the project was undertaken and mitigation, management and monitoring measures were outlined. Table 1 presents a matrix of the methodological approach for the preparation of the ESMF.

Specifically, the following processes and procedures were followed for the preparation of the E&S instruments:

- Desk-based studies: Review of various project related documents such as Project Concept Note (PCN), Project Information Document (PID), concept stage Environmental and Social Risk Summary (ESRS), draft Project Appraisal Document (PAD), Mission Aide Memoires (MAM), stakeholder consultation briefs and other technical reports; Review of research and technical reports and national strategy and action plan documents on coastal management and governance, marine ecosystem management, wetland conservation etc.; and Review of National policies, legislations, guidelines and the World Bank Environmental and Social Framework;
- Stakeholder identification and analysis: identification of all relevant key, primary and secondary stakeholders.
- Analysis of policies and regulatory framework: Analysis of the policies and regulatory framework relevant to the E&S management related issues of the project.
- Field survey and baseline data collection at project areas: A reconnaissance survey was conducted at (i) Keta Lagoon Complex (ii) Densu Delta Ramsar Site, and (iii) Korle Lagoon.
- Screening and analysis of potential environmental and social risks and impact
- Identification of potential risks and impacts mitigation measures

Table 1: Methodological Compatibility Matrix According To Specific Objectives

Objective	Methods and Techniques	Expected results
Analysis of policies and regulatory framework	Review of relevant national documents on policy, law, institutional and regulatory framework	Policy, law, institutional and regulatory framework analyses
Identify potential environmental and social risks and impacts that may arise as a result of the project and the subprojects that it will support.	Field visits, observation, mapping, pictures, interviews with key stakeholders, review of World Bank and National Environmental and Social Standards documents.	- Potential environmental impacts identified - Potential social impacts identified
Specify appropriate roles and responsibilities of involved stakeholders in the implementation of the ESMF.	Review of relevant national documents on policy, law, institutional and regulatory framework governing environmental assessment, regulations; identification of key stakeholders; interviews with key stakeholders	- Roles and responsibilities of government institutions in the implementation of ESMF identified and analysed - Capacity of MESTI to implement the ESMF identified and analysed
Develop subproject review procedures as well as forms, guidance and checklists to apply technical input for the subprojects	Prepare a guidance document for procedures, forms, checklists to apply technical input for the subprojects	Guidance document for procedure forms, checklists for subprojects developed
Develop a screening procedure to identify the environmental and social issues associated with the subprojects	Review of World Bank and national guidelines and procedures for screening the projects.	Screening criteria for environmental and social impacts of subprojects developed
Develop the TOR for appropriate safeguards instruments (such as ESIA) as required.	Prepare the TOR, with consideration of World Bank and Ghana social and environmental safeguard instruments The ESIA (or any other site-specific E & S instrument) to be prepared will be timed in such a manner that the	Terms of Reference (TOR) for appropriate safeguards instruments developed

Objective	Methods and Techniques	Expected results
	feasibility studies (or multi-sector investment plan) under preparation are informed by them so that E & S aspects are built into the design of the activities to be financed.	
Define appropriate environmental and social performance indicators	Propose a set of indicators to monitor environmental and social performance. Those indicators should be SMART (specific, measurable, achievable, realistic and time bound).	A set of SMART Indicators to monitor the environmental and social standards performance defined
Provide estimates for the budget required for project ESMP implementation	Costing of activities required for the implementation of ESMF.	ESMF budget provided

1.5 Required E&S Risk Management Tools

The ESMF is connected to other environmental and social instruments such as the:

- Resettlement Policy Framework:** The purpose of the resettlement framework is to clarify resettlement principles, organizational arrangements, and design criteria to be applied to subprojects or project components to be prepared during project implementation. The project is not anticipated to acquire considerable land, but activities planned especially under Component 3 may need land or easements that cause loss of crops and trees. Therefore, the RPF will guide the preparation of Resettlement Action Plans (RAPs), if required, to ensure that physical and economic displacement issues, resulting from land acquisition and leading to direct social and economic impacts, are resolved and that the livelihoods of the project affected persons are not negatively impacted and, where it is unavoidable, they are compensated and/or resettled.
- Stakeholder Engagement Plan:** The SEP aims to provide key stakeholders with program information, alternative approaches to its implementation, potential impacts and strategies to mitigate those negative impacts while optimizing the positive ones, educate stakeholders on the grievance management mechanism and Gender Based Violence framework the program plans to utilize, identify key stakeholders that are affected, and/or able to influence the program and its activities and provide stakeholders an opportunity to make input into the program risk management process by highlighting their expectations, fears, concerns and what needs to be done among others. The SEP will also serve as tool to further analyse social conflicts within project areas.
- Environmental and Social Commitment Plan:** The Environmental and Social Commitment Plan (ESCP) sets out material measures and actions, any specific documents or plans, as well as the timing for each of these so that the Program is implemented in accordance with the relevant Environmental and Social Standards (ESSs). It also states MESTI's responsibility for compliance with all requirements of the ESCP even when the implementation of specific measures, monitoring and actions is conducted by its contractors and sub-contractors.
- Labour Management Procedure:** This Labour Management Procedure (LMP) provides a framework for dealing with labour-related issues and health and safety risks that are likely to emanate from the implementation of this project and their impacts on workers and the project communities. The LMP has been prepared in accordance with the requirements of Labour laws of Ghana and the objectives and requirements of the World Bank Environmental and Social Standards 2. The LMP will guide the preparation of Labour Management Plans during implementation to address the specific procedure for the protection of the rights of different categories

of workers and to manage and implement measures that will avoid or reduce labour related risks and impacts on workers, and community health and safety, and security.

- **Gender Based Violence (GBV) Action Plan:** This proposes an action plan on how to address GBV risks, particularly the risks of sexual exploitation and abuse (SEA) and sexual harassment (SH) during project preparation and implementation. The plan includes considerations, such as Contractor's GBV/SEA/SH obligations to be documented in the contractor ESMP, including Codes of Conduct (CoC) and worker training and enforcement mechanisms; GBV services providers to whom GBV survivors will be referred and the services which will be available; GBV allegation procedures and information on how employees and local communities may report cases of CoC breaches to the GRM; response framework which has mechanisms to hold accountable alleged perpetrators associated with the project, and which allows the PIU to hold contractors accountable; and awareness raising strategy which describes how workers and local communities will be sensitized to GBV risks, and the worker's responsibilities under the CoC.

2. PROJECT DESCRIPTION



Nkonsonkonson ("Chain links"): Unity, human relations

This section outlines the project's development objectives, describes the components, beneficiaries and project area.

2.1 Program Development Objectives

The main Development Objective of the WACA ResIP II Project is to strengthen the resilience of targeted communities and areas in coastal Western Africa. The project will restore coastal ecosystems, especially mangroves, to reduce the risk of erosion and flooding, including restoration of abandoned rice paddies and the water system. It builds on an ongoing project called, the WACA Resilience Investment Project. The project will address the underlying issues of a) coastal retreat and increased flooding incidences that causes loss of housing, assets, and land, and b) coastal and marine pollution affecting the quality of coastal ecosystems. The constraints to sustainable development are a) lack of coastal management and planning, b) insufficient integration of social development in environmental and social protection and resilience, and c) lack of financial planning and adequate solutions.

2.2 Project Components

The Project has four components as follows:

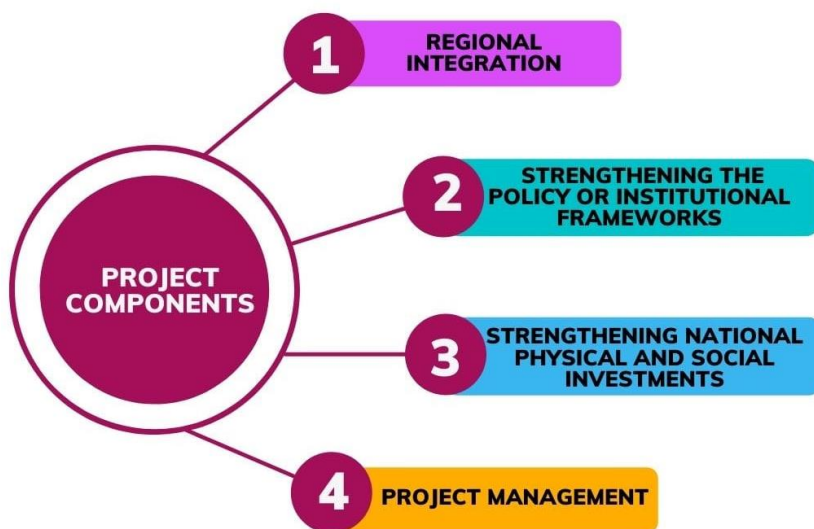


Figure 1. The four dimensions of the WACA ResIP II project

Component 1: Regional Integration. The objective of the regional integration component is to strengthen the effective coordination of interventions for coastal resilience in West Africa at the regional and national levels. This will be achieved through the consolidation of the regional institutional set-up and harmonization of policy, to seek economies of scale and the development of new strategic partnerships needed for the scale-up of response to the coastal resilience development challenge.

As part of the ongoing WACA ResIP I (P162337), the WAEMU contracted IUCN to establish the Regional Implementation Support Unit (RISU) to support implementation of country projects and coordinate regional technical activities, facilitate access to high level expertise, promote exchanges of know-how for E&S support to the six first WACA countries. The RISU has an environmental and a social specialist.

Under WACA ResIP II, IUCN will continue support for project management, technical assistance, and coordination of partnerships and consolidate its Helpdesk function with its Regional Implementation Support Unit (RISU) based in Dakar. The RISU staff, integrated to the IUCN Marine and Coastal Program (MACO), will support countries and regional partners on all components of project management: (i) program coordination; (ii) coordination of partnerships and institutional development; (iii) monitoring, evaluation, reporting and knowledge management; (iv) financial and administrative management; (v) procurement; (vi) communication; and (vii) E&S framework management.

IUCN in collaboration with implementation partners will also provide technical support and capacity building to WACA countries in various fields, including implementation of physical investments (coastal engineering, nature-based solutions), provision and improvement of planning tools (ICZM, GIS, marine spatial planning) and management of marine protected areas. They will organize virtual or face-to-face training sessions, workshops, and provide advice and technical assistance on a permanent basis. IUCN will mobilize its internal units, technical experts and external expertise. IUCN will provide technical support to WAEMU including on preparation, monitoring and supervision of WAEMU sub-contracts and agreements with regional institutions (CSE, RAMP AO, PRCM, ABC).

Component 2: Strengthening the Policy or Institutional Frameworks. The project will support the strengthening of institutional and policy frameworks around coastal development, protection, and natural resource management (exclusive of fisheries). Focus areas will include strengthening of existing national coordination mechanisms and development of mechanisms for sub-national coordination, including Civil Society coordination. This component will also support development of institutional capacity of key ministries and agencies, including MESTI and the Coastal Development Authority, for coastal development and management. Policy and for implementing adaptation options, including

Policy actions under this component will support improved land use and marine spatial planning for resilient coastal development. This includes measures for institutional support that will improve collection and analysis of data critical for risk-informed decision making. This includes, but is not limited to, data related to beach profile and crest elevation, spatial data, and improved local demographic and economic data, especially as related to sources of livelihood and gender disaggregation.

Support to national engagement in regional integration activities described in Component 1. This component will support Ghanaian engagement on the West Africa Coastal Observatory and State of the Coast reporting process, private sector engagement on ports via the sustainable ports' initiative, local initiatives and learning with PRCM, knowledge sharing on marine protected areas management with RAMP AO, engagement of capacity-building and professional training with Africa Centre of Excellence in Coastal Resilience (ACECoR), and work with the Abidjan Convention Secretariat to address any gaps in meeting the obligations made to the Convention's protocols (mangroves, ICZM, pollution, and oil/gas).

Transboundary cooperation. This component will support the development of policy frameworks around transboundary coastal zone management, specifically as it relates to the use and management of shared resources along Ghana's borders with Cote d'Ivoire and Togo. Priority interventions identified by the work under this component can be addressed through regional policy measures under Component 1 of this project, through technical studies supported by Component 2 of this project or by WACA ResIP 1, and physical and social interventions under Component 3 of this project.

Component 3: Physical and Social Investments.

Sub-component 3.1: Physical investments. The project will finance a mix of grey, green, and hybrid infrastructure solutions at multiple sites to reduce risks of flooding and erosion. Nature-based solutions include submerged native aquatic vegetation, mangrove protection and reforestation to serve as a buffer to inundation and sea-level rise, and/or nourishment of shorelines and dunes between communities and the sea. Potential grey solutions include small-scale localized infrastructure such as groynes or breakwaters for erosion control/sediment management and tidal wave attenuation, while hybrid solutions incorporate both approaches depending on site-specific needs and characteristics. Based on systems analyses, risk level assessments, and extensive stakeholder consultations, priority areas to be addressed by the project through infrastructure measures include the Korle Lagoon, Densu Delta, and Keta Lagoon. The project will also support interventions for social development and economic recovery based on the needs of affected coastal communities through community-based sub-projects. Special attention will be given to ensure opportunities for marginalized groups, including women and native peoples. Site selection is being finalized through a series of government-led consultations with communities, civil society, private sector, traditional authorities, and other stakeholders. Sites selection and potential intervention options will be identified and prioritized prior to project appraisal at the pre-feasibility level. Feasibility level studies will be carried out by this project component. For those sites identified as requiring urgent interventions but not financed by this project, this component will support Government to carry out necessary further technical studies and develop project concepts to seek financing through the WACA Marketplace or other venues.

Physical investments. Physical interventions under this component will support adaptation measures for protection, retreat, or accommodation, or a combination thereof at three locations: Korle Lagoon, Densu Delta, and Keta Lagoon. Nature-based physical protection measures will include protection and restoration of mangroves and other submerged native aquatic vegetation to reduce flooding hazards, and beach nourishment and dune rehabilitation to address coastal erosion. Grey solutions may include the construction of groins, dykes, seawalls, revetments, or other infrastructure. The type of intervention to be utilized will be decided through participatory, multi-stakeholder engagement, that provides the greatest benefit to coastal communities while also provided significant co-benefits, including sustainable job creation, diversified livelihood opportunities.

Korle Lagoon: The Korle Lagoon serves as the main outlet for all drainage channels in Accra. Though not a designated Ramsar site, Korle Lagoon can provide significant ecological benefit to the greater Accra area by serving as a natural buffer against flooding during heavy rainfall events. However, its ability to do so is severely limited due to the regular accumulation of plastic and other solid waste at the non-functional weir located on the northern end of the lagoon, and to the accumulation of marine sediment at the seaward outlet at the southern end of the lagoon. While the Greater Accra Resilient and Integrated Development Project is addressing the accumulation of solid waste in the lagoon, WACA ResIP 2 aims to address the accumulation of marine sediment at the outlet of the lagoon, thereby minimizing the obstruction to water flow within the lagoon and past the Old Winneba Road bridge. The project will do so by rehabilitating and extending the existing breakwater located at the outlet of the lagoon. Additionally, WACA ResIP 2 will dredge the existing sediment at the outlet and remove the foundations of the old bridge that are blocking the outflow of water and serving as an accumulation point for sediment. Following the completion of these works and improved management of solid waste within the lagoon, WACA ResIP 2 will support the restoration of the lagoon – approximately 42 hectares – to improve its ecological status and hydrological function. Restoration measures will include revegetation of native flora within the lagoon, creation of a green buffer zone around the lagoon to serve a community asset and increase the areas absorptive capacity during rainfall events, and stabilization of the lagoon’s eroding slopes through revegetation and riprap retaining structures.

Densu Delta: The Densu Delta Ramsar site comprises an open lagoon, salt pans, freshwater marsh, scrublands, and sand dunes over an area of 5,893 hectares. The lagoon provides nesting and feeding grounds to dozens of water bird species, contains clusters of mangroves, and is a key livelihood source for nearby communities through commercial fishing and salt mining. However, Densu Delta and its surrounding communities are plagued by floods and coastal recession resulting from rising sea levels, increasing rainfall, and encroachment of settlements which have significantly degraded the vegetation and health of the delta (Figure 8). Coastal erosion also significantly impacts the delta, with shoreline retreat ranging between 0.27m and 3.72m/year in front of the delta. These phenomena notably impact the Dansoman area east of the Delta, and the Tetegu and Glefe settlements which have encroached into the protected area of the delta itself. Shoreline retreat is exacerbated by the extraction of beach sand for construction material by local residents for income generation, which also increases local risk for coastal flooding. During the rainy seasons when the water level in the reservoir exceeds the safe operational level of 13.7m, capacity flooding occurs. The Weija dam is opened by removing the sand bar at the mouth of the Densu River to spill excess water into the sea to prevent it from flooding and collapsing. The floods inundate several homes and properties, displacing people and potentially resulting in casualties. Encroachments also exacerbate flooding, blocking the outflow of water into the delta's floodplains or seaward during rainfall events. Temporary channels dug by individuals to direct excess water away from their property often exacerbates flooding for nearby residents. Planned, sustainable measures for flood risk mitigation and management are required for the inhabitants in and around the delta as opposed to temporary measures that transfer risk.

In the Densu Delta area, the project will support improved spatial planning and enforcement capacities for existing regulations for protected areas and to minimize further encroachment into the delta ecosystem. Specifically, the project will support improved awareness and capacity for enforcing existing environmental protection regulations regarding sand mining and removal, Ramsar site management guidelines for wetland conservation, and building regulations and permitting to prevent further encroachment and settlement on highly vulnerable sites. The project will explore potential flood control measures that reduce risk rather than transfer risk. For improved management of coastal erosion, the project will support measures including the restoration and fixation of sand dunes within the delta, including revegetation, beach nourishment, and works including but not limited to temporary groyne systems (e.g., removable semi-rigid webbing/fencing). The project will also support the protection and restoration of mangroves and coconut trees where possible, critical for fishery health and bird nesting ground, respectively, as well as supplemental income generation for local communities.

Keta Lagoon Complex: Keta Lagoon is the largest of the over 90 lagoons that are found along the 550 km stretch of the Ghanaian coastline. This low-lying lagoon is 126.13 km in length, surrounded by settlements of several towns, flood plains and mangrove swamps. The Keta lagoon is separated from the sea by a narrow strip of sandbar. This hotspot is prone to annual flooding from the sea and erosion by sea waves. Over the past decades, the area has been threatened by advancing tidal waves resulting in the destruction of schools, homes, and many habitats. The beach fronting this lagoon has been the subject of concern in the last two decades due to rampant erosion and flooding. Over the years' population growth, extensive human activities and climate change all contributed to this erosion and dynamics of the lagoon which appears to be degrading. Coastal erosion is severe in the area, with rates of shoreline retreat around the Dzita-Anloga beach area reaching 8-10 meters per year following the construction of the Akosombo dam, and potentially reaching up to 17 meters per year in areas near Kedzi downdrift of the existing Keta Sea defense system. The projects interventions in the Keta area will focus on the community facing the most urgent need of intervention that stands to benefit most from a hybrid infrastructure approach. Specific sites and interventions will be identified based upon robust community engagement and stakeholder involvement in order to catalyze a national program of action to address long-standing issues of flooding and erosion in the area. Additional activities in the Keta area will include mangrove reforestation and protection, with specific attention to mangrove areas that are threatened by saline

intrusion due to coastal erosion and sea level rise degrading the narrow sandbar separating the mangrove habitat from the sea. Pilot studies and works will be carried out to identify native marine vegetation, such as seagrasses, that could be planted and/or expanded in order to attenuate waves that contribute to coastal inundation while improving nearshore ecosystems that can serve as habitat and breeding grounds for marine life.

Subcomponent 3.2: Social Subprojects. The project will support social subprojects for targeted coastal communities. These subprojects will be identified during project implementation using a CDD approach. An operations toolkit will be developed laying out the step-by-step procedures for community mobilization (outreach and sensitization), participatory needs diagnostic, participatory subproject prioritization and selection, subproject proposal preparation, community implementation workplan, subproject closure including community operations and maintenance (O&M) and monitoring and evaluation (M&E), and terms of reference (e.g., feasibility studies and facilitators). The typology of subprojects may include community infrastructure (e.g., wells, schools, and sanitation) and livelihood diversification activities (e.g., aquaculture and innovative oyster production, mangrove nursery and restoration, confectionary soap making and other handicrafts, and plastics and waste management). A negative list of social subprojects has been identified in the ESMF and will be excluded from financing under the project. Women, youth, fishers and fish processors, mangrove harvesters, and those engaged in agro industry and tourism are expected to benefit from these subprojects.

Component 4: Project Management. This component will support the establishment and operation of a PIU under MESTI. This PIU will work across institutional structures to ensure a coordinated and inclusive approach for project implementation, environmental and social risk management, sustainable and green procurement, and financial management.

The PIU is proposed to be anchored with the Ministry of Environment Science, Technology and Innovation (MESTI) as implementation agency.

A national Steering Committee has been established to oversee the project and provide guidance on key decisions (such as annual implementation plans), ensure synergy with other initiatives in the country, and represent Ghana in WACA Regional Steering Committee functions.

A national Technical Committee has been established to provide technical oversight of the project. The TC will serve a quality assurance and improvement function by providing reviews studies, engineering designs, ecosystem restoration schemes, and other key documents produced by the PIU.

Both governance bodies consist of a diverse set of stakeholders, ensuring representation from multiple Government ministries and agencies, sub-national governance bodies, academia, private sector, communities, tribal and traditional authorities, trade groups, and civil society.

2.3 Project Beneficiaries

Project activities are expected to directly benefit people at project sites, who live along the coast of Ghana and depend on marine and coastal environments for their livelihoods. This include women and youth and people living in marginal lands, on barrier islands and near lagoons, who are at immediate risk from coastal erosion, flooding, and salinity intrusion. Such people also suffer from the negative impacts of both marine and coastal pollution. Also, fishermen and women fish processors living in coastal areas are among the most vulnerable groups in developing countries. People engaged in agroindustry and tourism along the coastline's project sites also directly or indirectly benefit from the project interventions. Their livelihoods are often highly dependent on natural resources or ecosystem services that are increasingly being degraded. Unlike their wealthier counterparts, poor people have no social protection and typically have very limited access to formal credit or recovery resources.

2.4 Project Area

Broadly, the Coastal Districts in the (Volta, Greater Accra, Central and Western Regions can be described as the WACA ResIP II Project's area of influence. Table 8 and 9 illustrate the population size of the coastal regions and districts of Ghana. The exact locations of project activities have not yet been finalised. Analytical work is underway to develop a Multi-Sector Investment Plan (MSIP) to strengthen coastal risk reduction strategies and climate change adaptation in Ghana. The MSIP will identify coastal hotspots requiring interventions, and develop pre-feasibility studies for grey, green or hybrid options for physical interventions at three high priority sites to be incorporated into this project. The three high priority sites being considered during project preparation are:

Site	Description
<i>Korle Lagoon:</i>	Korle lagoon has a surface area of approximately 0.127 square kilometres, and it is located within the south-western part of the Accra Metropolis, with an elevation of about 7m above sea level. (See section 4.7.1)
<i>Densu Delta:</i>	The Densu River forms part of the Coastal River System and serves as a source of drinking water for 74% of the population in Greater Accra, the capital of Ghana. The Densu Basin is generally low lying with undulating topography and isolated ridges forming the characteristic landscape features in many places. (See section 4.7.2)
<i>Keta Lagoon Complex:</i>	The Keta Lagoon Complex Ramsar Site covers part of the Volta River estuary. It comprises several small islands and a complex of lagoons with varying salinity. The dominant vegetation includes swamps, scrublands, and mangrove forests, which are heavily exploited by resident communities for fuel woods and commercial fishing. (See section 4.7.3)

3. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK



Hwemudua
("Measuring Stick"):
Examination, Quality
Control

This section outlines the national Environmental and Social policies, legislations, and institutions and the World Bank's (WB) Environmental and Social Standards and policies relevant for the preparation and implementation of the West Africa Coastal Areas Resilience Investment Project II. The section also identifies gaps between the national and WB policies and standards. Because Ghana is a signatory to various international conventions and laws, it is important that national projects are in line with these laws and therefore some of the relevant international conventions are reviewed in this chapter.

3.1 National Environmental and Social Policies, Laws and Regulations

The relevant national environmental and social policies, laws and regulations are listed below, and the details description presented in Annex 11.

Environmental Policies

- National Environmental Policy (NEP), 2012
- Environmental Sanitation Policy (Revised, 2010)
- National Climate Change Policy, 2013
- National Environmental Action Plan (NEAP), 1991
- Ministry of Fisheries and Aquaculture Development - Medium Term Expenditure Framework (MTEF) 2019-2022
- Forest and Wildlife Policy, 2012
- National Water Policy, 2007
- Riparian Buffer Zone Policy (2011)

Environmental Quality Standards

- Ghana Standard on Health Protection - Requirements for Ambient Noise Controls (GS 1222:2018)
- Ghana Standard on Environment and Health Protection - Requirements for Ambient Air Quality and Point Source/Stack Emissions (GS 1236:2019)
- Ghana Standards Environment Protection- Requirements for Effluent Discharge (GS 1212:2019)

Environmental Laws and Regulations

- The 1992 Constitution of Ghana
- Environmental Protection Act, 1994 (ACT 490)
- Environmental Assessment Regulations, 1999 (L.I. 1652)
- Fees and Charges (Amendment) Instrument, 2019 (L.I. 2386)
- Wetland Management (Ramsar Sites) Regulations, 1999 (LI 1659)
- Hazardous and Electronic Waste Control and Management Act, 2016 (Act 917) and Hazardous, Electronic, and other waste (Classification), Control and Management Regulations, 2016 (LI2250)
- Fisheries Regulations, 2010 (L.I. 1968)
- Fisheries (Amendment) Regulations, 2015 (L.I. 2217)
- Water Resources Commission Act 1996 (Act 522)
- Water Use Regulations, 2001 (L.I. 1692)
-

Environmental Policies

- National Social Protection (NSP) Policy, 2015
- National Employment Policy (NEP), 2014
- Occupational Safety and Health Policy of Ghana (Draft), 2004

Social Laws and Regulations

- The Children's Act 1998, Act 560
- Persons with Disability Act, 2006 Act 715
- Workmen's Compensation Law 1987, PNDCL 187
- Fair Wages and Salaries Commission Act, 2007 (Act 737)

- National Gender Policy, 2015
- National Child and Family Welfare Policy, 2015
- Justice for Children’s Policy, 2015
- National Workplace HIV/AIDS Policy, 2004
- Cultural Policy of Ghana, 2004
- National Land Policy, 1999
- National Museums Decree, Act 387 of 1969
- Land Act, 2020 (Act, 1036)
- Office of the Administrator of Stool Lands Act 1994, Act 481
- The Lands Statutory Wayleaves Act, 1963, Act 186
- Land Use and Spatial Planning Act, 2016 (925)
- Lands Commission Act, 2008 (Act 767)
- The Right to Information Act, 2019 (Act 989)

Other Relevant Laws

- Ghana National Fire Service Act, 1997 (Act 537)
- The Fire Precaution (Premises) Regulations, 2003 (LI 1724)
- Ghana Building Code (2018)
- Public Health Act, 2012 (Act 851)
- Ghana Meteorological Agency Act 2004, Act 687
- Local Governance Act, 2016 (Act 936)

The 1992 Constitution¹ of Ghana serves as the first source of environmental protection requirements in Ghana. According to Article 36(9) of the Constitution: “the State shall take appropriate measures needed to protect and safeguard the national environment for posterity; and shall seek co-operation with other states and bodies for purposes of protecting the wider international environment for mankind”. In addition, Article 41(k) requires that all citizens protect and safeguard the natural environment of the Republic of Ghana. Articles 268 and 269 make provisions for the protection of the natural resources of the country.

The 1992 Constitution of Ghana also serves as the supreme legal document that promotes and protects the rights of citizens, especially the vulnerable and the excluded. The Constitution of Ghana ensures:

- Child’s Rights: The Constitution establishes the rights of the child and provides a framework for the enactment of appropriate legislation to protect the rights of children (Article 28).
- Rights of Persons with Disabilities: Article 29 of the Constitution spells out the rights of persons with disabilities.

¹ The 1992 Constitution of the Republic of Ghana sets out the Rights, Freedom, Duties, and Obligation of every citizen of Ghana. These are the constitutional rights of Ghanaians. The constitution also defines specific requirements for the protection of the Environment such as provided under: Article 37(3); Article 39(6); Article 41(k); Article 268 and Article 269.

- **Citizen's Right to Information:** The Constitution also acknowledges the right to information under Article 21(1) (f) as a fundamental human right of all citizens. This right will be properly enjoyed where the public is efficiently engaged in the processes and procedures of public institutions. It also sets out the first source of environmental protection requirements in Ghana.
- **Article 36(10)** requires the State to safeguard the health, safety, and welfare of all persons in employment and establish the basis for the full deployment of the creative potential of all Ghanaians.
- **The rights of citizens to own property:** The Constitution upholds the rights of citizens to own property and receive adequate reparation from the state when lands are compulsorily acquired by the state. The Constitution provides for individual property rights, the protection of those rights, and appropriate compensation from the government if it compulsorily acquires a private person's property.
- **Compulsory Acquisition and Compensation:** The Constitution upholds the private ownership of land. However, Article 20 provides for compulsory acquisition of land for public benefit, subject to the payment of "prompt, fair, and adequate compensation." Article 20(3) further stipulates that where the compulsory acquisition involves the displacement of any inhabitants the state shall resettle them on suitable alternative land, having due regard to their economic well-being and social and cultural values. It is a requirement that sufficient provision must be made for the prompt payment of fair and adequate compensation (Article 20(2)). The Constitution further makes provision for any aggrieved person to have the right of access to the High court to seek redress if dissatisfied with the manner of acquisition or the compensation thereof.

Box 1. Definition of environmental Assessment and Impact

LI 1652 defines EA as "the process for the orderly and systematic evaluation of a proposal including its alternatives and objectives and its effect on the environment including the mitigation and management of those effects: the process extends from the initial concept of the proposal through implementation to completion, and where appropriate, decommissioning."

Environmental impact is given a wide definition under LI 1652. It includes any direct or indirect, positive, or negative change in the environment caused by man-made works or activity when such changes affect life in general, biodiversity, the quality, or a significant quantity of natural or environmental resources and their use, well-being, health, personal safety, habits, customs, cultural heritage, or legitimate means of livelihood. This implies that any assessment should cover the above definition in its entirety and hence make provision for socio-economic and health impact assessments as an integral part of the EA process.

The Environmental Assessment Regulations, 1999 (LI 1652) provides the framework and gives comprehensive legal cover to the Ghana Environmental Impact Assessment procedures. These Regulations require that all developmental activities likely to impact adversely on the environment must be subject to environmental assessment. The objective of the LI is to ensure that such development activities are carried out in an environmentally sound and sustainable manner. It generally outlines the various procedures to be followed prior to the granting of environmental permits, during the Program life cycle and procedures for filing complaints, offences, and penalties. The regulations prohibit commencing an "undertaking" without prior registration and environmental permit.

The LI defines environmental assessment and environmental impact (Box 1). The Legislative Instrument (LI 1652) is in three parts:

- Part 1 describes the environmental permit process, the registration of new and existing undertakings, screening, and fees. The regulation enjoins any proponent or person to register an undertaking with the agency and obtain an Environmental Permit prior to commencement of the project. It then allows the EPA to place proposed undertakings at the appropriate level of environmental assessment.
- Part 2 describes the various types and levels of EA Reports – Preliminary Environmental Report (PER), Scoping Report, Environmental Impact Statement (EIS) – and prescribes actions to be taken by the EPA upon

submission of such reports within specified timelines. This part also provides for public participation during the EIS study as well as review of environmental reports.

- Part 3 contains miscellaneous provisions dealing with the submission of annual environmental reports; suspension, cancellation or revocation of permits and certificates; complaints by aggrieved persons; gazette publication; offenses and penalties; appeals; interpretation and schedules.

The LI has Five Schedules:

- Schedule 1: lists and describes the scale of the undertakings that require registration with EPA and issuance of an environment permit.
- Schedule 2: lists undertakings for which EIA is mandatory. Schedule 2 undertakings that are relevant to the project includes: coastal land reclamation, drainage of wetland; and dredging of bars, estuaries.
- Schedule 3: outlines the EIA Scoping Notice.
- Schedule 4: outlines the EIA Notice.
- Schedule 5: lists twelve (12) Environmentally sensitive areas for which all activities in these areas require an EIA (Box 2).

Box 2. Environmentally sensitive areas

- Parks, reserves, and sanctuaries declared by law, including sacred groves.
- Areas with potential tourist value.
- Habitat of endangered or threatened species of indigenous flora or fauna.
- Areas of unique historic, archaeological, or scientific interest.
- Areas traditionally occupied by cultural communities.
- Areas prone to natural disasters.
- Areas prone to bushfires.
- Hilly areas with critical slopes.
- Areas classified as prime agricultural lands.
- Recharge areas of aquifers.
- Water bodies used for domestic supply, or located in protected areas, or supporting wildlife or fishery activities; and
- Mangrove areas.

A permit and licencing system were established under these regulations in order to control the undertaking of any new construction or development. This Act is relevant since activities under component 3 of the WACA ResIP II Project will require an environmental and social impact assessment and permits.

In June 1995, the Ghana EPA established procedures for EIAs, which involved graduated phases depending upon the nature, complexity, and location of the undertaking. Although the document predates LI 1652, its relevance and consistency with the regulations kept it operational. Table 2 describes the different levels of environmental assessment.

Table 2. Procedures for Incorporating EIA into Programs or Activities

Procedure	Description
Registration	Registration of proposed and existing undertakings with the EPA.
Screening	EPA determines whether any proposed activity under the WACA ResIP II should be subjected to further assessment and, if so, the level of assessment that will be required. A site inspection by EPA officers is conducted and a screening report is presented to a cross-sectoral Environmental Assessment/Technical Review Committee (EA/TRC) for decision-making within 25 days of registration. The decision can be one of four: • Environmental permit declined (objection to the project), • Environmental permit issued (no objections), • Preliminary Environmental Report (PER) required, or

Procedure	Description
	Environmental Impact Assessment required. Consultations with relevant stakeholders, particularly institutions responsible for land-use zoning, fire, planning permits, and persons and communities likely to be affected, are important ingredients in the screening decision.
Scoping	Whenever the result of the screening or the review of a PER (submitted as the result of screening) indicates that significant adverse environmental impacts may result from the ResIP activity, EPA will require the PIU to prepare an EIA and submit an Environmental Impact Statement (EIS). In this instance, the PIU will first commission or undertake a scoping exercise. This involves widespread consultations with interested and/or affected parties to identify all key environmental and social issues and to determine how the concerns of all parties will be addressed. As a part of the scoping process, the PIU is expected to: (a) give notice of the proposed undertaking to the relevant Ministries, Department, and Agencies (MDAs) as well as Metropolitan, Municipal, or District Assemblies (MMDAs); (b) advertise in at least one national newspaper and a newspaper circulating in the locality where the proposed project is to be located; and (c) make available for inspection by the general public in the locality of the proposed undertaking, copies of the scoping report. The PIU prepares a Scoping Report, which includes a draft Terms of Reference (TOR) for the EIA and submits it to EPA, which reviews it with the assistance of the EA/TRC and provides comments within 15 days. The draft TOR can be rejected or approved, or revisions/modifications may be required. The PIU is also expected to make copies of the Scoping Report available for inspection by the public in the locality of the proposed undertaking.
Preparation of EIA and submission of EIS	When the TOR for the EIA is accepted by EPA, the PIU will proceed to conduct an EIA. During the study, the PIU will be required to initiate a public information and consultation program for the area likely to be affected by the undertaking. The PIU will submit the draft EIA report (EIS) to EPA. LI 1652 specifies the required content of an EIS. Copies of all reports of the study shall be made available to EPA and relevant stakeholders. Public concern shall be recorded and must be addressed by the EIS. The PIU will submit the final draft EIS to EPA.
EPA Review	The draft EIS is reviewed by the EA/TRC, which is composed of representatives of various MDAs, among which are the Ministry of Environment, Science, Technology and Innovation, Ministry of Lands and Natural Resources, Ministry of Works and Housing, Land Use and Spatial Planning Authority, Land Use and Spatial Planning Authority and Centre for Scientific and Industrial Research.
Public Consultation	Public consultation is inherent in the EA process from screening to permit issuance. According to LI 1652 and the EIA Procedures, the concerns of the public, if any, and, in particular, concerns of immediate residents of the project site, must be taken into account at the screening stage. If the PIU is required to prepare an EIS, it must notify relevant MDAs and MMDAs of the proposed undertaking and advertise it in at least one national and one local newspaper. Scoping reports must be made available for public inspection in the locality of the proposed project. The TOR for an EIS must provide for consultation with members of the public that might be affected by the proposed project. During the review of a draft EIA, copies are placed at vantage points, including the EPA Library, relevant MMDA, EPA regional offices, and the sectoral ministry responsible for a particular undertaking. EPA posts a public notice in the national and local newspapers about the EIS publication and its availability for public comments for a 21 -day period.
Public Hearings	Regulation 17 of LI 1652 specifies three conditions that oblige EPA to hold a public hearing on a proposed project: When a notice issued under Regulation 16 of LI 1652 results in great public reaction to the commencement of the proposed undertaking.

Procedure	Description
	- When the undertaking will involve the dislocation, relocation, or resettlement of communities. - When EPA considers that the undertaking could have extensive and far-reaching effects on the environment. Where a public hearing is held, the processing of an application may be extended beyond the prescribed timelines required for EPA's actions and decision-making.
Environmental Permitting Decision (EPD)	Once the draft EIS is found acceptable by the EPA, the PIU will be notified to finalise the report and submit eight hard copies and an electronic copy. Within 15 working days after submission, EPA issues the environmental permit and publishes an official notice of the approval in the Gazette within three months after issuance.
Fees	An amendment to the EA Regulations, LI 1703 of 2002, specifies two separate fees that they will pay to EPA for processing applications and issuing permits. The amounts vary with project sector and size. A portion of the fees goes into the National Environment Fund that was established by the EPA Act. Fund proceeds may be spent on environmental education of the public, research, studies and investigations, human resources development, and other purposes agreed in consultation between the Minister of Environment and the Board of EPA.
Appeals	A person aggrieved by a decision or action of the Agency, including a decision not to hold a public hearing, may submit a complaint in writing to the Minister of Environment. The complaint shall be submitted to the Minister within 30 days of the complainant becoming aware of the decision. The Minister has 14 days in which to appoint a panel with members as specified in LI 1652. The panel reports its findings to the Minister within 60 days from the date the matter was referred to it.

2.5 Environmental Quality Standards

Ghana Standard on Health Protection - Requirements for Ambient Noise Controls (GS 1222:2018)

The Ambient Noise Controls provide maximum permissible noise levels based on categorised zones as shown in Table 3. The standard also includes noise requirements for a construction site which include:

- Erecting an acoustic barrier around a construction site; and
- Ensuring that the maximum noise level near the construction site does not exceed 66dB(A) Leq (5min) in areas other than industrial areas.

Table 3: Requirements for Ambient Noise Control

Zone	Permissible Noise Level in dB(A)		WBG EHS Guidelines One Hour LAeq (dBA)	
	Day (6:00am-10:00pm)	Night (10:00pm-6:00am)	Daytime 07:00 - 22:00	Night-time 22:00 - 07:00
Residential Area	55	48	55	45
Educational and health facilities, offices and law courts	55	50		
Mixed use	60	55		
Area with some light industry	65	60		
Commercial areas	75	65		
Light industry areas	70	60	70	70
Heavy industry areas	70	70	70	70

Ghana Standard on Environment and Health Protection - Requirements for Ambient Air Quality and Point Source/Stack Emissions (GS 1236:2019)

The Ghana Standard on Environment and Health Protection - Requirements for Ambient Air Quality and Point Source / Stack Emissions provides the maximum limit for ambient air pollutants (Table 4).

Table 4: Requirements for Ambient Air Quality – Maximum Limit for 24 Hours

Substance	Maximum Limit ($\mu\text{g}/\text{m}^3$)
Sulphur Dioxide (SO ₂)	50
Nitrogen Oxide (NO ₂)	250
Total suspended particulate matter	150
Particulate Matter (PM ₁₀)	70
Particulate Matter (PM _{2.5})	35
Black Carbon	5

Ghana Standards on Environment Protection-Requirements for Effluent Discharge (GS 1212:2019)

The Ghana Standard for Environment Protection – Requirements for Effluent Discharge (GS 1212:2019) requires every undertaking to install a pollution control system to treat effluent discharges from the operations, based on the best available technology. In the absence of pollution control equipment, an undertaking shall implement measures to control pollution. Any effluent discharged from a facility shall be within permissible levels (Table 5).

Table 5: Requirements for Effluent Discharge

Parameter	Unit	Maximum Permissible Levels
Colour (TCU)	TCU	200
pH	pH Units	6 – 9
Conductivity	$\mu\text{S}/\text{cm}$	1500
Total Suspended Solids (TSS)	mg/L	50
Total Dissolved Solids (TDS)	mg/L	1000
COD	mg/L	250
Oil and grease	mg/L	5
Aluminium	mg/L	1.0
Copper	mg/L	5
Lead	mg/L	0.1

2.6 The World Bank Environmental and Social Policies and Guidelines

2.6.1 Environmental and Social Framework and Standards

The World Bank launched the Environmental and Social Framework in 2018 to be applied to all investment projects commencing on or after October 2018. The ESF re-enforces the vision of the Bank to pursue sustainable development and poverty reduction. It also sets out the policy of the Bank to support borrowers to develop and implement environmentally and socially sustainable projects as well as build capacity in the assessment and management of environmental and social impacts and risks associated with the implementation and operation of projects. The World Bank, as part of the new framework also has environmental and social standards that borrowers must comply with for projects to be sustainable, non-discriminatory, transparent, participatory, environmentally, and socially accountable as well as conform to good international practices. There are ten (10) Environmental and Social Standards under the new World Bank Environmental and Social Framework (ESF) that applies to Investment Project Financing projects. Eight

of these standards are relevant to the funding of intended investments under the West Africa Coastal Areas Resilience Investment Project II (Table 6).

- Assessment and Management of Environmental and Social Risks and Impacts (ESS1);
- Labour and Working Conditions (ESS2),
- Resource Efficiency and Pollution Prevention and Management (ESS3),
- Community Health and Safety (ESS4),
- Land Acquisition, Restrictions on Land Use and Involuntary Resettlement (ESS5),
- Biodiversity Conservation and Sustainable Management of Living Natural Resources (ESS6),
- Cultural Heritage (ESS8),
- Stakeholder Engagement and Information Disclosure (ESS10).

Table 6: World Bank Environmental and Social Standards Relevant to the Project

World Bank Environmental and Social Standards	Justification for relevance
ESS1: Environmental & Social Risk and Impact Assessment	This standard is relevant since sub-project activities under component 3 are expected to present some environmental and social risks. The potential impacts associated with these risks needs to be mitigated. With specific sub- project details and locations being unknown, ESS 1 is the basis for the preparation of this ESMF.
ESS2: Labour and Working Conditions	This standard is relevant because the project will engage direct workers, (Project staff); people employed or engaged through third parties (contractors, sub-contractors, brokers, agents and intermediaries) to perform work related to core functions of the project, regardless of location; people employed or engaged by the Borrower's primary suppliers (suppliers who, on an ongoing basis, provide directly to the project goods or materials essential for the core functions of the project); and, people employed or engaged in providing community labour. ESS2 applies to people engaged in the project on a full-time, part-time, temporary, and seasonal basis as well as migrant workers. To this end, a labour Management Procedures Document (LMP) has been prepared as a separate document but to be used in conjunction with this ESMF in the implementation of subproject.
ESS3: Resource Efficiency and Pollution Prevention and Management	This standard is relevant since to sub-project activities under component 3 are expected to present some resource efficiency and pollution prevention and management issues.
ESS4: Community Health and Safety	This standard is relevant since project implementation will happen in coastal communities and the fact that the subproject locations will be in an already high fragility environment.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	This standard is relevant since activities under component 3 may involve land acquisition, restrictions on land use, and/or involuntary resettlement.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	This standard is relevant since the project will be implemented in coastal area, which is particularly diverse in habitats, many of which are unique in terms of biodiversity and provision of ecosystem goods and services. Project activities related to coastal infrastructure development could impact local ecology and biodiversity. Vegetation clearance at sites and construction activities could lead to loss of vegetation and contribute to habitat fragmentation, which could potentially affect critical habitats.

World Bank Environmental and Social Standards	Justification for relevance
ESS8: Cultural Heritage	This standard is relevant since some project activities may occur in areas where risks to cultural heritage can be present. Local communities maintain shrines, deities, and sacred groves in local forested locations, including forest reserves, etc., and have developed years of belief systems and customary practices around some of the sites.
ESS10: Stakeholder Engagement and Information Disclosure	This standard is relevant since multiple stakeholders include government agencies, District Assemblies, NGOs. CSOs will be involved in this project.

2.6.2 World Bank Group Environment, Health and Safety Guidelines (EHSG)

The following WB Environmental, Health & Safety Guidelines will be followed:

General Guidelines: Environmental, Health, and Safety: These General EHS Guidelines are designed to be used together with the relevant Industry Sector EHS Guidelines which provide guidance to users on EHS issues in specific industry sectors. For complex projects, use of multiple industry-sector guidelines may be necessary. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them. The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each project on the basis of the results of an environmental assessment in which site-specific variables, such as host country context, assimilative capacity of the environment, and other project factors, are taken into account. The applicability of specific technical recommendations should be based on the professional opinion of qualified and experienced persons. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent. If less stringent levels or measures than those provided in these EHS Guidelines are appropriate, in view of specific project circumstances, a full and detailed justification for any proposed alternatives is needed as part of the site-specific environmental assessment. This justification should demonstrate that the choice for any alternate performance levels is protective of human health and the environment. [available: <https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=nPtguVM>].

Air Emissions and Ambient air quality. This guideline applies to facilities or projects that generate emissions to air at any stage of the project life cycle. It complements the industry-specific emissions guidance presented in the industry sector Environmental, Health, and Safety (EHS) Guidelines by providing information about common techniques for emissions management that may be applied to a range of industry sectors. This guideline provides an approach to the management of significant sources of emissions, including specific guidance for assessment and monitoring of impacts. It is also intended to provide additional information on approaches to emissions management in projects located in areas of poor air quality, where it may be necessary to establish project-specific emissions standards. The construction activities under the project are expected to generate some level of dust. In the case of the dugouts, dust generation may be only realized during the construction phase [available: <https://www.ifc.org/wps/wcm/connect/4e01e089-ad1a-4986-b955-e19e1f305ff0/1-1%2BAir%2BEmissions%2Band%2BAmbient%2BAir%2BQuality.pdf?MOD=AJPERES&CVID=nPtgybS>].

Hazardous Material Management. These guidelines apply to projects that use, store, or handle any quantity of

hazardous materials, defined as materials that represent a risk to human health, property, or the environment due to their physical or chemical characteristics. These can be classified according to the hazard as explosives; compressed gases, including toxic or flammable gases; flammable liquids; flammable solids; oxidizing substances; toxic materials; radioactive material; and corrosive substances. The potential use of chemicals at project construction sites [available: <https://www.ifc.org/wps/wcm/connect/90231ba8-5bb3-40f4-9255-eaf723d89c32/1-5%2BHazardous%2BMaterials%2BManagement.pdf?MOD=AJPERES&CVID=nPtgwmI>].

Waste Management. These guidelines apply to projects that generate, store, or handle any quantity of waste across a range of industry sectors. It is not intended to apply to projects or facilities where the primary business is the collection, transportation, treatment, or disposal of wastes. Construction (excavated spoils) and domestic waste (from the numerous workers to be engaged) expected to be generated from various sites make this guideline relevant to the project's implementation. [Available: <https://www.ifc.org/wps/wcm/connect/456bbb17-b961-45b3-b0a7-c1bd1c7163e0/1-6%2BWaste%2BManagement.pdf?MOD=AJPERES&CVID=nPtgwEW>]

Noise Management. This guideline addresses the impacts of noise beyond the property boundary of the facilities or subprojects being implemented. Thus, it seeks to address the public health risks of noise generated from the project and not the occupational health risks. The use of the handheld compactor at construction sites. [Available: <https://www.ifc.org/wps/wcm/connect/4a4db1c5-ee97-43ba-99dd-8b120b22ea32/1-7%2BNoise.pdf?MOD=AJPERES&CVID=nPtgwZY>]

Occupational Health and Safety: This guideline provides guidance and examples of reasonable precautions to implement in managing principal risks to occupational health and safety. Although the focus is placed on the operational phase of projects, much of the guidance also applies to construction and decommissioning activities. Activities at LIPW sites, such as land clearing, excavation, hauling etc. expose workers to one form of occupational risk or the other. The guidance provided under this guideline will be helpful in managing such risks. [Available: <https://www.ifc.org/wps/wcm/connect/1d19c1ab-3ef8-42d4-bd6b-cb79648af3fe/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=nPtgyxY>].

Community Health and Safety. Specific guidelines provided under traffic safety, water quality and availability, disease prevention and construction and decommissioning presented in this guideline are relevant to the implementation of the project's subproject activities, such as construction. [Available: <https://www.ifc.org/wps/wcm/connect/ceb82b4a-e9a8-4ad1-9472-f1c766eb67c8/3%2BCommunity%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES&CVID=nPtgxTd>]

Construction and Decommissioning. This provides specific guidance on prevention and control of community health and safety impacts during new project development, at the end of the project life-cycle, or due to expansion or modification of existing project facilities. [Available: <https://www.ifc.org/wps/wcm/connect/7d708218-2a9e-4fcc-879d-9d5051746e7d/4%2BConstruction%2Band%2BDecommissioning.pdf?MOD=AJPERES&CVID=nPtgy6x>].

Ports, Harbors and Terminals. The EHS Guidelines for Ports, Harbors, and Terminals are applicable to marine and freshwater ports, harbors, and terminals for cargo and passengers. Shipping (including repair and maintenance of ships), fuel terminals, and railways are addressed in the EHS Guidelines for Shipping; Crude Oil and Petroleum Product Terminals; and Railways, respectively. [Available: https://www.ifc.org/wps/wcm/connect/ddfac751-6220-48e1-9f1b-465654445c18/20170201-FINAL_EHS+Guidelines+for+Ports+Harbors+and+Terminals.pdf?MOD=AJPERES&CVID=ID.CzO9]

2.6.3 Comparison between National and World Bank ESSs

This section compares the. The similarities and differences between National requirements and the World Bank environmental and social standards (ESSs) are presented below (Table 7).

Table 7: Gap Analysis - National and World Bank. Comparison of Ghana's Regulations/ Policies and World Bank ESF for Handling Environmental and Social Risks and Impacts

Scope/Objective	Description of Bank Standard	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts				
Identify, evaluate and manage the environmental and social risks and impacts of the project in a manner consistent with the ESSs. To adopt a mitigation hierarchy approach to: • Anticipate and avoid risks and impacts • Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; • Once risks and impacts have been minimized or reduced, mitigate; and • Where significant residual impacts remain, compensate for or offset them where technically and financially feasible.	The standard provides guidance on assessing the Project's potential environmental and social risks and impacts and addressing potential impacts through a planning and mitigation hierarchy approach.	Environmental Assessment. Regulation 1 (2) of LI 1652 mandates that no person shall commence any undertaking which, in the opinion of the Agency, has or is likely to have adverse effects on the environment or public health unless, prior to the commencement, the undertaking has been registered by the EPA and an environmental permit has been issued by the Agency in respect of the undertaking.	Even though the regulation seeks to anticipate and mitigate/avoid risks and impacts, it does not fully address potential impacts and mitigation hierarchy approach, e.g., content wise it does not address impacts on the vulnerable	The project has prepared a Stakeholder Engagement Plan, which identified vulnerable groups and outlines measures to engage them. The capacities of implementing agencies and staff on world bank ESF will also be built at the early stage of project implementation to enable them to collaborate effectively in addressing this gap Clear guidelines should be provided for Sexual Exploitation Abuse or Harassment (SEA/H), vulnerability, people with disability, inclusiveness, the need for timely and effective consultation, timely and responsive grievance mechanism and adequate consideration of project affected persons and communities in stakeholder engagement
ESS2: Labour and Working Conditions				
• To promote safety and health at work, fair treatment, non-discrimination and equal opportunity for project	ESS2 promotes fair treatment, non-discrimination and the provision of equal	• The Labour Act 2003 (Act 651) provides for the rights and duties of employers and workers; legal or illegal strikes; guarantees	Although the Commission makes provision for anticipated labour-related	• The project will adopt and enhance an existing transparent GRM which addresses concerns

Scope/Objective	Description of Bank Standard	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
workers, including vulnerable workers such as women, persons with disabilities, and children. To prevent the use of all forms of forced labour and child labour. • To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law. To provide project workers with accessible means to raise workplace concerns. OHS Hazard identification and right of employees to remove themselves from such workplaces without being punished.	opportunities for workers engaged in projects it supports. It strongly encourages the protection of all project workers, including vulnerable groups such as women, persons with disabilities, children (of working age) and migrant workers, contracted workers and primary supply workers, as appropriate. It provides certain requirements that the project must meet in terms of working conditions, protection of the workforce (especially the prevention of all forms of forced and child labour), and provision of a grievance mechanism that addresses concerns on the project promptly and uses a transparent process that provides timely feedback to those concerned. Under ESS 2, workplace processes will be put in place for project workers to report work situations that they believe are not safe or healthy and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health. Project workers	trade unions the freedom of associations and establishes a Labour Commission to mediate and act in respect of all labour issues. Under Part XV (Occupational Health Safety and Environment), the Act explicitly indicates that it is the duty of an employer to ensure the worker works under satisfactory, safe and healthy conditions. The Workmen's Compensation Law 1987 (PNDC 187) seeks to address the necessary compensations needed to be awarded to workers for personal injuries arising out of and in the course of their employment. Section 78 of the Factories, Offices and Shop Act 1970 (Act 328), details the duties of persons employed. it is not part of the duties of persons employed to remove themselves from such unsafe working places and also silent on they not being retaliated against	complaints and redress, beneficiaries' access (distance and processes) to the commission at the district level may be a challenge. The law does not explicitly mandate workers to remove themselves from such unsafe working places and is also silent on they not being victimised if they should do so	promptly • It has also developed labour management procedures, e.g., working conditions, occupational health and safety, child labour, etc. which will guide project implementers in managing labour-related issues. For instance, in order to avoid child labour, the acceptable age will be 18 years and the Ghana 2010 risks assessment technique of child labour monitoring (CLM) described under (section 5.4.4) will also be observed to ensure that labour management procedures in respect of child labour are respected. (LMP - Appendix 12). Labour management procedures have been prepared as part of this ESMF, which adequately takes care of ESS 2 provisions. Workers will be sensitized to the LMP and their rights to remove themselves from unsafe workplaces and will not be retaliated against if they do so in line with the LMP/ESS 2 provisions

Scope/Objective	Description of Bank Standard	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
	who remove themselves from such situations will not be required to return to work until necessary remedial action to correct the situation has been taken. Project workers will not be retaliated against or otherwise subject to reprisal or negative action for such reporting or removal.			
ESS3: Resource Efficiency and Pollution Prevention and Management				
To achieve the sustainable use of resources, including implementing measures that avoid or reduce pollution resulting from project activities and to minimize and manage the risks and impacts associated with pesticide use.	The ESS3 provides requirements for projects to achieve the sustainable use of resources, including energy, water and raw materials, as well as implement measures that avoid or reduce pollution resulting from project activities. The standard places specific consideration on hazardous wastes or materials and air emissions (climate pollutants) given that the current and projected atmospheric concentration of greenhouse gases (GHG) threaten the welfare of present and future lives.	- The Act 490 mandates the EPA to enforce compliance with established EIA procedures among companies and businesses in the planning and execution of development projects, including existing projects. - Part II of the Act also mandates the Agency to register and manage all pesticides to ensure that the approved ones are used. - The Pesticide Control and Management Act, 1996 (Act 528) provides for the registration and use of pesticides and related matters.	The regulation ensures that measures are put in place by polluters through routine monitoring by regulatory agencies and institutions, i.e., EPA, etc. It does not address the risks associated with the use of pesticides by prospective users	
ESS4: Community Health and Safety				
To anticipate and avoid adverse impacts on the health	This standard recognizes that project activities,	The Public Health Act, 2012 (Act 851) revises and consolidates all	The regulation does not consider an assessment of	The law provides the platform to engage with

Scope/Objective	Description of Bank Standard	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
and safety of project-affected communities. • To promote quality and safety and considerations relating to climate change in the design and construction of infrastructure, including dams. • To ensure that safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities and adverse impacts on the health and safety of project affected persons	project equipment and infrastructure increase the exposure of the project to stakeholder communities to various health, safety and security risks and impacts and thus recommends that projects implement measures that avoid or limit the occurrence of such risks. It provides further requirements or guidelines on managing safety, including the need for projects to undertake safety assessments for each phase of the project, monitor incidents and accidents and preparing regular reports on such monitoring. ESS4 also provides guidance on emergency preparedness and response.	the laws and regulations pertaining to the prevention of disease, The Public Health Act, 2012 (Act 851) revises and consolidates all the laws and regulations to promote, safeguard and maintain and protect the health of humans and animals, and to provide for related matters. The law has merged all provisions in the criminal code, ordinances, legislative and executive instruments, acts, by-laws of the District Assemblies etc. The Act enjoins the provision of sanitary stations and facilities, destruction of vectors including mosquitoes, protection of water receptacles and the promotion of environmental sanitation.	events and measures to deal with occurrences and emergencies	stakeholders. A stakeholder engagement plan has been prepared and will be implemented.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement				
Land Ownership/ Land tenants/ squatters	Through census and socio-economic surveys of the affected population, identify, assess, and address the potential economic and social impacts of the project that are caused by involuntary taking of land (e.g., relocation or loss of shelter, loss of assets or access to assets, loss of income sources or means of livelihood, whether or not the affected person must move to another location) or	Property acquired compulsorily in the public interest shall be used only for the purpose for which it was acquired. Where the property is not used for the purpose for which it was acquired, the owner of the property, immediately before the compulsory acquisition, shall be given the first option for acquiring the property and shall, on such reacquisition, refund the whole or part of the compensation paid as provided for by law or such other amount as is commensurate with	The legal right to resettlement is applicable only to those with proprietary interest in the affected land in the Ghanaian context. The Constitution provides for land-based resettlement. Although its provisions could be interpreted as implying a preference for land-based strategies for displaced persons whose livelihoods are land-based,	The legal rights to resettlement and compensation will be applicable to all individuals who are likely to suffer economic and social losses as a result of the project.

Scope/Objective	Description of Bank Standard	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
	involuntary restriction of access to legally designated parks and protected areas land-for-land exchange is the preferred option; compensation is to be based on replacement cost. For those without formal legal rights to lands or claims to such land that could be recognized under the laws of the country, the government should provide resettlement assistance in lieu of compensation for land, to help improve or at least restore those affected persons' livelihoods	the value of the property at the time of the reacquisition. Resettlements in the case of acquisitions can be claimed as of right only by persons with proprietary interests in acquired lands. No constitutionally or legally recognized resettlement rights or assistance for those without recognised (formal) legal rights to land.	there is no specific legislative or regulatory provision made for this preference. Those without formal legal rights or claims to such lands are not entitled to be resettled or compensated in the Ghanaian context.	Squatters and other vulnerable groups will be compensated.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources				
• To protect and conserve biodiversity and habitats. • To apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity. • To promote the sustainable management of living natural resources. • To support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities.	ESS6 promotes the conservation of biodiversity or natural habitats. and supports the protection and maintenance of the core ecological functions of natural habitats and the biodiversity they support. It also encourages projects to incorporate into their development environmental and social strategies that address any major natural habitat issues, including identification of important natural habitat sites, the ecological functions they perform, the degree of threat	The 1994 Forest and Wildlife Policy, which was revised in 2011 and subsequently approved in 2012, aims at the conservation and sustainable development of forest and wildlife resources for the maintenance of environmental stability and continuous flow of optimum benefits from the socio-cultural and economic goods and services that the forest environment provides to the present and future generations, whilst fulfilling Ghana's commitments under international agreements and conventions.	Adequate provisions made under national laws and policies.	The project will take measures to protect and conserve biodiversity and habitats and all requirements specified in the ESS6

Scope/Objective	Description of Bank Standard	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
	to the sites, and priorities for conservation.			
ESS8: Cultural Heritage				
• To protect cultural heritage from the adverse impacts of project activities and support its preservation. • To address cultural heritage as an integral aspect of sustainable development. • To promote meaningful consultation with stakeholders regarding cultural heritage. • To promote the equitable sharing of benefits from the use of cultural heritage.	This standard sets out general provisions on cultural heritage preservation and recommends protecting cultural heritage from the adverse impacts of project activities. It addresses physical or tangible cultural resources, which are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Cultural Heritage may be in urban or rural settings and may be above or below ground or underwater. It also addresses intangible cultural heritage such as practices, representations, expressions, instruments, objects and cultural spaces that communities recognize as part of their cultural heritage. Projects involving significant excavations, demolition, movement of earth, flooding, or other environmental changes are to take cognizance of this standard in the ESMF.	The Fourth Republic Constitution (1992) recognizes culture as a necessary tool for national integration and development and, under the Directive Principles of State Policy (Article 39), declares as follows: “(1) Subject to clause (2) of this article, the State shall take steps to encourage integration of appropriate customary values into the fabric of national life through formal and informal education and the conscious Introduction of cultural dimensions to relevant Aspect of national planning. (2) The State shall ensure that appropriate customary and cultural values are adapted and developed as an integral part of the growing needs of the society as a whole; and in particular, that traditional practices which are injurious to the health and well-being of the person are abolished (3) The State shall foster the development of Ghanaian languages and pride in Ghanaian culture. - The Ghana cultural policy (2004) enjoins the National Commission on Culture to undertake the following actions to protect and preserve the monument, forests reserves,	The regulations and policies do not address cultural heritage as an integral part of sustainable development and promotion of equitable sharing of benefits	The National Commission on Culture provides a platform for collaboration with Chiefs, opinion leaders and community representatives and other institutions to protect cultural assets. The project will go by the procedures outlined by the Commission in respect of cultural assets. The project will also go the extra mile to complement this collaboration with stakeholder engagement procedures outlined in the Stakeholder Engagement Plan (SEP) to educate communities that raised concerns about the likely project impacts on their own cultural heritage during consultations to appreciate the role of cultural values and assets in sustainable development and also the need to share benefits accruing from the use of cultural assets.

Scope/Objective	Description of Bank Standard	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
		national parks and recreational facilities		
ESS10: Stakeholder Engagement and information Disclosure				
- To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties. To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance - To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issue that could potentially affect them. - To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format.	ESS10 seeks to encourage open and transparent engagement between the Borrower and the project stakeholders project-affected parties) throughout the project life cycle. The standard establishes a systematic approach to stakeholder engagement that potentially helps the Borrower to identify stakeholders and build and maintain a constructive relationship with them, as well as disclose information on the environmental and social risks and impacts to stakeholders in a timely, understandable, accessible and appropriate manner and format. It recommends that stakeholder engagements are commenced as early as possible in the project development process and continued throughout the lifecycle of the Project. This allows for stakeholders' views to be considered in the project design and environmental and social performance. The Borrower is also expected to	- The key laws most relevant to stakeholder engagement are: - Article 21(1) (f) of the 1992 Constitution of Ghana recognizes the right to information for all citizens as a fundamental human right. To fully operationalize the right to information, people need to be effectively engaged and provided with information on issues that affect their lives. - The Right to Information Act, 2019 (Act 989), which was also passed into law in 2019 by Ghana's parliament, is meant to put into effect the aforementioned article in the constitution of the Republic of Ghana. - Articles 40 to 48 of the Local Governance Act, 2016 (Act 936), mandate local authorities to create opportunities for residents and other stakeholders to access information and to participate in decision making. - Stakeholder engagement is an integral part of the Environmental Impact Assessment process. Ghana	The regulations to the Right to Information (RTI) 2019 Act (989), have not been developed to fully operationalize mechanisms for disclosure or dissemination of information and grievance redress.	The project has developed a Stakeholder Engagement Plan. The SEP also includes a GRM based on an existing grievance mechanism for resolving grievances for the project. - The GRM is a decentralized and transparent system which ensures quick resolution of complaints and disputes. It also has the structure for disclosing vital information to requisite stakeholders - It also provides means for effective and inclusive engagement. This instrument which satisfies almost all the requirements of ESS 10 will jealously be applied during project implementation to bridge the gaps in national regulations and policies

Scope/Objective	Description of Bank Standard	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
• To provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances	implement a grievance mechanism to receive and facilitate the resolution of concerns and grievances	Environmental Assessment Regulations LI 1652 (1999), as amended (2002), requires effective public consultation and participation as an integral component of Environmental Impact Assessment (EIA) procedures (Appendix 10) • Strategic goal 4 of the National Environmental Policy, which focuses on participation and coordination in environmental governance, charges the lead institutions in environmental governance to ensure active participation in all environmental matters.		

2.7 Regional and International Policies and Frameworks

Volta River Basin Convention

The convention declares the Volta River and its tributaries and sub-tributaries within the territories of the Republics of Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, and Togo as an international river. The convention establishes the Volta Basin Authority (VBA) as an international body for the purpose of ensuring international cooperation for the rational and sustainable management of water resources of the Volta Basin and for socioeconomic integration among the 6 riparian countries (called the parties) that make up the VBA. The Parties commit to cooperate closely on the basis of the following principles:

- Use of the water resources of the basin and the participation in their development in an equitable and reasonable manner;
- Regular exchange of data and information among the State Parties; and
- Notification of planned activities that can have negative effects, as well as the related consultations and negotiations.

The Parties may enter into agreements on any portion of the Volta Basin for a project, or utilisation of water resources consistent with the provision of the convention, under the Authority, such as promoting the implementation of integrated water resources management and the equitable distribution of benefits, authorising the development of infrastructure which could have a substantial impact on the water resources of the basin, and developing joint projects and works. The jurisdiction of the Authority includes the reservoirs and lakes, groundwater and wetlands as well as the aquatic and land ecosystems linked to the basin and the estuary of the river including the zone of coastal and oceanic influence.

Water Charter for the Volta River Basin

The purpose of the Water Charter is to set out the principles, procedures, rules and modalities for the equitable, coordinated, and sustainable use of shared water resources in the Volta Basin, in accordance with the mandate of the Volta Basin Authority. The State Parties to the Water Charter are to cooperate on the basis of the principles of international law for the Authority to fulfil legally binding obligations. The types of use of the Basin's shared water resources include any requirements the Authority deems to be necessary or legitimate and specifically for:

- Drinking water supply and sanitation;
- Agriculture, industry and energy;
- Navigation and transport; and
- Tourism and recreational activities.

International Conventions

The international conventions to which Ghana is a signatory relevant to the WACA ResIP II Project are presented in the following Table 8.

Table 8: International Conventions Relevant to WACA Project

Convention	Main Characteristics	Participation of Ghana ² Signature = S; Ratification = R; Accession = A; Authorisation for ratification or accession = AR Letters of ratification = LR; Participation = P; Letters of accession = LA. N/A: Not Available
Atmospheric Area		
UN Framework Convention on Climate Change (UNFCCC) (Rio, June 1992)	To stabilise the concentration of greenhouse gases in the atmosphere at a level that should prevent dangerous anthropogenic interference with the climate system. This level should be reached insufficient time for ecosystems to adapt naturally to climate change, food production would not be threatened, and economic development could continue in a sustainable.	S = June, 1995 AR = September 6, 1995
The Montreal Protocol (1987)	The Montreal Protocol is a global agreement to protect the stratospheric ozone layer by phasing out the production and consumption of ozone-depleting substances (ODS).	S = February 24, 1988
Protection of Biodiversity		
African Convention for the conservation of nature and natural resources (Algiers, September 15, 1968)	The African Convention on the Conservation of Nature and Natural Resources is the primary Pan-African legal instrument for the conservation of the environment in general and biodiversity in particular, including birds. Its objective is to improve environmental protection, promote conservation and sustainable natural resource use, as well as to synthesise and coordinate resident policies with an eye to develop policies and programs that are ecologically reasonable, economically sound and socially acceptable. The Convention provides measures to ensure the conservation, use of soil, water, flora and fauna resources in accordance with scientific principles and taking into account the best interests of the people. These provisions illustrate a forward-looking treaty which is well in tune with the wide conservation objectives of the Convention on Biological Diversity (CBD). The Contracting States shall ensure the conservation, wise use and development of faunal resources and their environment within the framework of land-use planning and of economic and social development.	R = July 20, 2007 S = October 31, 2003
Convention on Biological Diversity, Rio de Janeiro, 1992	The Convention on Biological Diversity (CBD), known informally as the Biodiversity Convention, is a multilateral treaty. The convention has three main goals: the conservation of biological diversity (or biodiversity); the sustainable use of its components, and the fair and equitable sharing of benefits arising from genetic resources. Its objective is to develop national strategies for the conservation and sustainable use of biological diversity, and it is often seen as the key document regarding sustainable development.	S = August 29, 1994
UN Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (Paris, June 17, 1994)	Aims to fight desertification and eradicate the effects of drought in countries severely affected by the problem through national action programs that incorporate long-term strategies supported by international cooperation and partnership arrangements.	R = December 27, 1996 S = October 15, 1994

² Signature = S; Ratification = R; Accession = A; Authorisation for ratification or accession = AR Letters of ratification = LR; Participation = P; Letters of accession = LA. N/A: Not Available

Convention	Main Characteristics	Participation of Ghana ² Signature = S; Ratification = R; Accession = A; Authorisation for ratification or accession = AR Letters of ratification = LR; Participation = P; Letters of accession = LA. N/A: Not Available
Convention on Biological Diversity (CBD, December 29, 1993)	The Convention on Biological Diversity underlines those threats to biological diversity that had increased everywhere in the world, mainly as a result of the continuing destruction of natural habitats. It has 3 main objectives: - The conservation of biological diversity; - The sustainable use of the components of biological diversity; - The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.	R = August 29, 1994 S = June 12, 1992
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Washington, 1973	To regulate the trade of wildlife and flora species that is or may be threatened with extinction due to international commerce CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Because the trade in wild animals and plants crosses borders between countries, the effort to regulate it requires international cooperation to safeguard certain species from over-exploitation. CITES was conceived in the spirit of such cooperation. Today, it accords varying degrees of protection to more than 35,000 species of animals and plants, whether they are traded as live specimens, fur coats or dried herbs.	R = November 14, 1975 S = December 16, 1974
Convention on Migratory Species of Wild Animals (CMS), Bonn, 1979	The CMS focuses its efforts on a list of migratory species, in particular, that are either endangered or threatened. It focuses on the protection of migratory species (not only birds but also mammals and invertebrates) in recognition of the fact that protection is needed throughout every part of migratory ranges and that this requires international conservation agreements. Each party seeks to prohibit or restrict taking migratory species, to limit the degradation of habitats, the introduction of invasive species, and any other activity or condition that may block migration or disrupt migratory species, and to enter into separate international agreements concerning certain specific migratory species or groups of species whose ranges or migration routes extend over areas under party jurisdiction.	R = January 19, 1988
International Plant Protection Convention	Aims to secure coordinated, effective action to prevent and control the introduction and spread of pests of plants and plant products. The Convention extends beyond the protection of cultivated plants to the protection of natural flora and plant products. It takes into consideration both direct and indirect damage by pests, so it includes weeds.	A = February 22, 1991
Convention on Wetlands of International Importance, especially as Waterfowl Habitat (Ramsar Convention, 1971)	To assure reasonable and sustainable use of resources in wetlands, particularly by designating wetlands of international importance, and guaranteeing resource conservation, now and in the future.	R = February 22, 1998
Cultural Heritage		
1972 World Heritage Convention	A purpose to safeguard the uses, representations, expressions, knowledge and techniques that communities, groups and, in some cases, individuals recognise as an integral part of their cultural heritage.	R = February 4, 2016
Human Rights		
Convention on the Elimination	Follows the basic principles of the United Nations who have proclaimed their faith in fundamental human rights, in the dignity	S = July 17, 1980

Convention	Main Characteristics	Participation of Ghana ² Signature = S; Ratification = R; Accession = A; Authorisation for ratification or accession = AR Letters of ratification = LR; Participation = P; Letters of accession = LA. N/A: Not Available
of All Forms of Discrimination against Women (CEDAW, 1979)	and worth of the human person and in the equal rights of men and women.	R = January 2, 1986
Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (Maputo Protocol)	The Maputo Protocol guarantees comprehensive rights to women, including the right to take part in the political process, to social and political equality with men, improved autonomy in their reproductive health decisions, and an end to female genital mutilation.	R = June 13, 2007 S = October 31, 2003
Convention on the Rights of the Child, 1989	Commitment to defend and guarantee the rights of children and to meet these commitments before the international community. States which are members of the Convention are required to develop and implement measures and policies which take into account the best interests of the child.	R = February 5, 1990 S = February 5, 1990
Convention on the Rights of Persons with Disabilities, 2006	A purpose to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms of persons with disabilities and to promote respect for their inherent dignity	S = March 2007 R = August 21, 2012
Workers' Rights		
Convention on Discrimination (Employment and Occupation), 1958	Enables legislation which prohibits all discrimination and exclusion on any basis, including of race or colour, sex, religion, political opinion, national or social origin in employment and repeal legislation that is not based on equal opportunities.	R = April 4, 1961
International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families	Aims at protecting migrant workers and members of their families, sets a moral standard, and serves as a guide and stimulus for the promotion of migrant rights in each country	R = September 7, 2000 S = September 7, 2000
Conventions		
Rotterdam Convention	The Rotterdam Convention provides Parties with a first line of defence against hazardous chemicals. It promotes international efforts to protect human health and the environment as well as enables countries to decide if they want to import hazardous chemicals and pesticides listed in the Convention. Together with the Stockholm and Basel conventions and FAO's voluntary Code of Conduct, the Rotterdam Convention promotes a life cycle approach and provides the necessary tools for managing pesticides.	S = September 11, 1998 R = May 30, 2003 AA = May 30, 2003
Basel Convention	The Basel Convention was created to protect people and the environment from the negative effects of the inappropriate management of hazardous wastes worldwide. It is the most comprehensive global treaty dealing with hazardous wastes from its generation, transport to disposal.	R = June 9, 2005 DE = December 5, 2019
Stockholm Convention	The Stockholm Convention is a global treaty to protect human health and the environment from highly dangerous, long-lasting chemicals by restricting and ultimately eliminating their production, use, trade, release and storage	S = May 23, 2001 R = May 30, 2003
African Convention on	The objectives of this convention is to enhance environmental protection, foster the conservation and sustainable and use of	S = April 7, 1969

Convention	Main Characteristics	Participation of Ghana ² Signature = S; Ratification = R; Accession = A; Authorisation for ratification or accession = AR Letters of ratification = LR; Participation = P; Letters of accession = LA. N/A: Not Available
the Conservation of Nature and Natural Resources (Revised) Algier, 1968	natural resources and harmonise and coordinate policies in these fields.	
Fisheries, Oil and Gas and Maritime		
United Nations Convention on the Law of the Sea, Montego Bay, 1982.	The United Nations Convention on the Law of the Sea (UNCLOS), also called the Law of the Sea Convention or the Law of the Sea Treaty, is an international agreement that establishes a legal framework for all marine and maritime activities.	S = June 7, 1983
Convention on the Continental Shelf, Geneva, April 29, 1958	The Convention on the Continental Shelf was an international treaty created to codify the rules of international law relating to continental shelves	S = April 29, 1958
Convention on Fishing and Conservation of the Living Resources of the Seas, Geneva, April 29, 1958	The Convention on Fishing and Conservation of Living Resources of the High Seas is an agreement that was designed to solve through international cooperation the problems involved in the conservation of living resources of the high seas, considering that because of the development of modern technology some of these resources are in danger of being overexploited.	S = April 29, 1958
International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, Brussels, 1969	International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties 1969 (INTERVENTION 1969) is an international maritime convention affirming the right of a coastal State to "take such measures on the high seas as may be necessary to prevent, mitigate or eliminate grave and imminent danger to their coastline or related interests from pollution or threat of pollution of the sea by oil, following upon a maritime casualty or acts related to such a casualty".	R = September 24, 1978
Protocol of 1992 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, November 27, 1992	This Protocol amends the provisions of the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage to harmonise them with the amendment to the International Convention on Civil Liability for Oil Pollution Damage, 1969 set out in its protocol of 1992.	S = April 23, 1993 R = September 29, 1994
International Convention of Oil Preparedness, Response and Co-operation (OPRC), November 30, 1990	International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) is an international maritime convention establishing measures for dealing with marine oil pollution incidents nationally and in co-operation with other countries.	S = November 30, 1990 R = June 2, 2010

Convention	Main Characteristics	Participation of Ghana ² Signature = S; Ratification = R; Accession = A; Authorisation for ratification or accession = AR Letters of ratification = LR; Participation = P; Letters of accession = LA. N/A: Not Available
Convention on Civil Liability for Oil Pollution Damage, Nov 29, 1969	The objective of the convention is to ensure that adequate compensation is available to persons who suffer damage caused by pollution resulting from the escape or discharge of oil from ships and to standardise international rules and procedures for determining questions of liability and adequate compensation in such areas.	S = November 29, 1969 R = April 20, 1978

2.8 Institutional Framework

This section outlines the institutional framework that will support the implementation of the WACA ResIP II Project, especially in the area of environmental and social assessment and management.

Ministry of Environment, Science, Technology and Innovation

MESTI is at the top of the hierarchy for environmental and natural resource management. MESTI formulates and directs policy under a mission “to ensure accelerated socioeconomic development of Ghana through the formulation of sound policies and a regulatory framework to promote the use of science and technology that is not harmful to the environment.” The Ministry’s main functions are the protection of the environment through policy formulation; economic, scientific, and technological interventions to mitigate harmful impacts caused by development activities; and standard-setting and regulatory activities to apply science and technology to manage the environment for sustainable development. With its agencies/authorities and departments, the Ministry is mandated to:

- Protect and manage the environment for sustainable development.
- Provide leadership and guidance for the environment through sound policy formulation and implementation.
- Ensure the establishment of the regulatory framework and set of standards for the management of the environment for sustainable development.
- Ensure coordination, supervision, monitoring, and evaluation of activities of the environment.
- Initiate, simulate, and coordinate research, including the continuous development and reviews of policies, laws, rules, and regulations in the environment sector of the economy.
- Ensure effective environmental management and governance.

The WACA ResIP II Project will be implemented by a Project Implementing Unit (PIU) to be set up by MESTI. The MESTI has a history of satisfactory performance in implementing several WB operations, though mostly under the WBG’s Operational Policies. The PIU will manage the day-to-day implementation of the project. The staff will ensure the following PIU roles: Project Coordinator, Procurement Specialist, Environmental Specialist, and Social Development Specialist. Again, MESTI will serve on the National Steering Committee for the WACA ResIP II Project, which will support the project to set priorities and approve annual work plans developed by PIU.

Ministry of Finance

The Ministry of Finance manages the central government’s budget and is responsible for the overall oversight responsibility for the financial management of the project finances. The Ministry is also responsible for releasing funds to support displacement and resettlement activities through the implementing agencies. Once the compensation data for the project has been approved, the Ministry, subject to the readiness of funds, will release the total amount of compensation to the acquiring agency for subsequent payment to the affected persons.

Ministry of Lands and Natural Resources (MLNR)

The Ministry is mandated to ensure sustainable management and utilisation of the nation’s lands, forests, wildlife, and mineral resources for socio-economic growth and development.

Specific responsibilities of the Ministry and its authorities/agencies/commissions are:

- Facilitate equitable access, benefit-sharing from and security to land, forest, and mineral resources.
- Facilitate the acquisition of land on behalf of the Government for all projects.
- Undertake land and land-related valuation services.
- Promote community participation and public awareness at all levels in sustainable land management and development practices to ensure the highest and best use of land.
- Develop and maintain effective institutional capacity and capability at the national, regional, district and community levels for land, forest, wildlife, and mineral service delivery.
- Ensure efficient and equitable land service delivery.
- Promote public awareness and local communities' participation in sustainable forest, wildlife, and land use management and utilisation.
- Negotiate with Development Partners in connection with the land and natural resources.
- Validate Policies, Programs, and Projects relating to land, forestry, minerals, and other natural resources.

MLNR will serve on the National Steering Committee for the WACA ResIP II Project, and which will support the project to set priorities and approve annual work plans developed by PIU.

Ministry of Works and Housing (MWH)

The Ministry of Works and Housing has the overall responsibility for the initiation, the formulation, implementation and co-ordination of policies and programmes for the systematic development of the country's infrastructure requirements in respect of Works, Housing and Flood Control Systems to ensure efficiency of the sector. The Works Directorate and the Hydrological Services Department of the Ministry have direct responsibility for drainage and flood control measures. The main objective of the Works Directorate is to facilitate the formulation of policies for the construction industry (building and drainage), and the protection of Ghana's coastline through the following:

- To collate plans, programmes and projects emanating from policies and objectives of the sector as well as assist in the development of strategies for the determination of works priorities;
- To programme and coordinate the construction, rehabilitation, maintenance and reconstruction of state properties, i.e., public buildings and Government bungalows;
- To programme and coordinate the construction, rehabilitation, maintenance and reconstruction of storm water drainage systems and coastal works;
- To liaise with works sub-sector implementing Agencies to ensure that their programmes are integrated into well-defined national and sectoral plans and priorities;
- To prepare short, medium and long-term plans for the sub-sector to attract donor funding;
- To monitor the implementation of all works related to field programmes and projects

MWH will serve on the National Steering Committee for the WACA ResIP II Project which will support the project to set priorities and approve annual work plans developed by PIU.

National Disaster Management Organization (NADMO)

The National Disaster Management Organisation is the government agency that is responsible for the management of disasters as well as other emergencies in Ghana. NADMO performs specific functions which are all aimed at ensuring that in times of emergency, the government is ready to support relief efforts. These functions are:

- Rehabilitation services for victims of disasters;
- Mobilization of people at various levels of society to support governmental programmes;
- Ensuring the preparedness of the country in the management of disasters; and
- Coordinating the activities of various governmental and non-governmental agencies in the management of disasters. The organization's mandate includes response to earthquakes, floods and rainstorms, and market fires.

NADMO will serve on the Technical Committee for the WACA ResIP II Project and will provide technical inputs to the PIU and support and coordinate on-the-ground activities.

Environmental Protection Agency (EPA)

The EPA is the leading public body for protecting and improving the environment in Ghana. The mission of the EPA of Ghana is to co-manage, protect, and enhance the country's environment, in particular, as well as seek common solutions to global environmental problems. According to its mandate, the EPA is Ghana's main agency for environmental governance and management. Core functions include formulating environmental policy; promoting environmentally-conscious planning; coordinating and collaborating with domestic and international agencies/institutions as well as decentralised offices on environmental governance issues; developing standards and guidelines related to pollution including discharge of waste and control of toxic substances; issuing environmental permits and compliance enforcement; conducting investigations and research focused on environmental protection; raising awareness for environmental education; and developing a comprehensive environmental database for public use. The EPA also serves as a technical secretariat, interfacing with sectoral agencies and acts as a clearinghouse through a number of inter-sectoral networks. To execute its mandate, the EPA partners with stakeholders from all branches of Government and society. EPA has regional offices across the country and 12 district zonal offices that liaise with MMDAs and communities. The Regional Offices receive and review EIA applications, Environmental Management Plan/Environmental and Social Management Plan (EMP/ESMP), and issue environmental permits for subprojects within its threshold normally those listed in Schedule 1 of LI 1652. They also take a lead role in responding to complaints, investigating, and prosecuting violations such as developments that fail to follow and comply procedures in LI 1652. They make field inspections and conduct monitoring. The directors of the Regional Offices report to the Deputy Executive Director of Field Operations at EPA Headquarters. EPA will serve on the Technical Committee for the WACA ResIP II Project and will provide technical inputs to the PIU and support and coordinate on-the-ground activities.

Forestry Commission (FC)

The Commission is responsible for the regulation of the utilisation of forest and wildlife resources, the conservation and management of those resources and the coordination of policies related to them. The Commission regulates the utilisation of forest and timber resources and manage the nation's forest reserves and protected areas by proper planning for the protection, harvesting and development of forest and wildlife resources in a sustainable manner. The following agencies form the divisions under the commission:

- Forest Service Division
- Wildlife Division
- Timber Industry Development Division
- Resource Management Support Centre

FC will serve on the Technical Committee for the WACA ResIP II Project and will provide technical inputs to the PIU and support and coordinate on-the-ground activities.

Water Resources Commission (WRC)

Water Resources Commission is the agency responsible for the regulation and management and the utilisation of water resources and the coordination of any policy in relation to them. WRC has Basin offices in Koforidua (Densu Basin Office), Bolgatanga (White Volta Basin Office), Tarkwa (Ankobra Basin Office), Kumasi (Pra Basin Office) and Sunyani (Tano Basin Office). WRC will serve on the Technical Committee for the WACA ResIP II Project and will provide technical inputs to the PIU and support and coordinate on-the-ground activities.

Ministry of Local Government, Decentralisation and Rural Development (MLGDRD)

The Ministry of Local Government, Decentralisation, and Rural Development is the central government agency tasked with promoting government policies and projects at the local level in Ghana. It also facilitates governance and balanced rural based development. The local government structures (District Assemblies and Regional

Coordinating Councils) in the various districts and regions within which the WACA ResIP II Project will be implemented will play a part in the planning, implementation and monitoring of the project including resettlement/rehabilitation operations. The Physical Planning Departments (PPDs) of the various MMDAs are set up, among others, to ensure that developments are done in an orderly manner and that land use is optimized. The PPDs are responsible for the preparation of layouts for towns and cities. They also assess and approve layout by prospective developers and specify all reservations based on projected land use plans. It ensures that developmental projects are implemented according to the approved planning schemes. The MLGDRD will provide technical guidance on how to engage with the District Assemblies in the implementation of the WACA ResIP II Project.

Ministry of Gender, Children and Social Protection (MoGCSP)

The Ministry is mandated to:

- Coordinate and ensure gender equality and equity, promote the survival, social protection, and development of children, vulnerable and excluded and persons with disability and integrate fulfilment of their rights, empowerment, and full participation into national development.
- Formulate gender, child development, and social protection policy.
- Improve the socio-economic status of the vulnerable and the excluded through targeted interventions.
- Co-ordinate gender, child, and social protection-related programs and activities at all levels of development.
- Develop guidelines and advocacy strategies for use by all Ministries, Departments, and Agencies (MDAs) and in collaboration with Development Partners and civil society organisations, (CSOs) to ensure effective gender and social protection mainstreaming.
- Ensure compliance with international protocols, conventions, and treaties concerning children, gender, and social protection.

The ministry oversees the work of the following agencies and departments:

- Department of Gender (DoG)
- Department of Children (DoC)
- Department of Social Development (DSD)
- Human Trafficking Secretariat (HTS)
- Domestic Violence Secretariat (DVS)
- Ghana National Household Registry (GNHR)
- Ghana School Feeding Programme (GSFP)
- National Council for Persons with Disability (NCPD)
- Livelihood Empowerment Against Poverty (LEAP)

MoGCSP will serve on the National Steering Committee for the WACA ResIP II Project, and which will support the project to set priorities and approve annual work plans developed by PIU.

Ministry of Employment and Labour Relations (MELR)

The Ministry is responsible for the following:

- Formulate, plan, coordinate, monitor and evaluate policies, programs/projects, and the performance of the Employment and Labour Relations Sector towards accelerated employment generation for national development.
- Promote harmonious industrial (labour) relations and ensure workplace safety.
- Create an enabling- policy environment and opportunities for profitable job creation, career, and professional development.
- Develop strategies and mechanisms to ensure and promote industrial peace and harmony.
- Develop and periodically review all legal and policy instruments for the sector.
- Ensure the monitoring and evaluation of sector policies, programs, and projects concerning gainful employment-generation and the promotion of industrial harmony.

- Ensure fair and equitable wages and salaries for employees in all sectors of the economy.
- Ensure occupational safety and health for all workers in both the formal and informal sectors.
- Ensure all workplaces conform to labour laws through labour inspection; and
- Facilitate the development of vibrant co-operatives, medium and small-scale enterprises for employment generation and poverty reduction.

The key departments /directorates directly involved in the management of social issues under the Ministry are:

- Labour Department
- Fair Wages and Salaries Commission
- Youth Employment Agency
- Department of Factories Inspectorate
- National Labour Commission

MELR will provide technical guidance on how to manage labour related issues on the WACA ResIP II Project.

Ministry of Fisheries and Aquaculture Development (MoFAD)

The Ministry of Fisheries and Aquaculture Development (MoFAD) is responsible for the formulation of appropriate fisheries and aquaculture policies, planning and coordination, monitoring and evaluation. The Fisheries Commission is the implementing agency of MoFAD. The Commission is responsible for monitoring, control, surveillance, evaluation, and compliance functions in all areas of fisheries development and management in Ghana, including fish health, post-harvest activities, safety, and quality assurance. MoFAD will provide technical guidance on how to manage issues relating to fisheries livelihoods on the WACA ResIP II Project.

Lands Commission (LC)

The LC is charged primarily with the management and administration of state and vested lands. It is responsible for advising on policy frameworks for the development of particular areas to ensure that the development of such areas is coordinated. Specifically, the Commission is mandated to provide Land Services consisting of managing public and vested lands; surveying, mapping and maintaining national territorial boundaries; developing and maintaining national and geodetic reference networks nationwide; registering title to land and other interests in land; registering deeds and other instruments affecting land; assessing compensation upon compulsory acquisition; assessing stamp duty; and determining values of properties for letting, sale, purchase, and rating frameworks on land administration in coordination with Land Use and Spatial Planning Authority (LUSPA); preparation and maintenance of valuation lists or rolls for rating purposes, acquisition of land for government and comprehensive program for registration of title to land. The LC includes the Land Valuation Division (LVD), Land Registration Division, Survey and Mapping Division, and the Public and Vested Land Management Division (PVLMD). LC will provide technical guidance on issues relating to land administration, acquisition and compensation on the WACA ResIP II Project.

Land Use and Spatial Planning Authority (LUSPA)

The Land Use and Spatial Planning Authority (LUSPA) which was formerly the Town and Country Planning Department (TCPD), with the passage of the Land Use and Spatial Planning Act, 2016 (Act 925) is the national entity solely responsible for land use and spatial planning in Ghana, and thus will be providing inputs into the project infrastructure planning and execution. The Authority prepares planning layouts for towns and cities and defines Safety Zones/Rights of Way. It also vets and approves layouts prepared by prospective developers and specifies all reservations based on forecasted land-use plans. The Authority is required to approve developments and grant permits in conformity with the already prepared layout of the area. LUSPA has responsibility to revise and consolidate the laws on land use and spatial planning, provide for sustainable development of land and human settlements through a decentralised planning system, ensure judicious use of land in order to improve quality of life, promote health and safety in respect of human settlements, regulate national, regional, district and local spatial planning, and generally provide for spatial aspects of socio-economic development and other related matters. The Authority is mandated to undertake the following services:

- Preparation of Spatial Plans (Spatial Development Frameworks; Structure Plans and Local Plans)
- Rezoning and Change of Use
- Plan Revision and Amendments
- Layout Extracts
- Sub-division
- Site Selection
- Processing Development and Building Permit Applications
- Provision of Certified True Copies of Planning Documents and Permits

LUSPA is expected to have dedicated staff who will take direct responsibility for ensuring judicious use of selected land to improve the quality of life and promote the health and safety of the people. LUSPA will serve on the Technical Committee for the WACA ResIP II Project and will provide technical inputs to the PIU and support and coordinate on-the-ground activities.

Ghana Museums and Monuments Board (GMMB)

The GMMB is the legal custodian of Ghana's material cultural heritage (movable and immovable heritage). The Board was established in March 1957 – on the eve of Ghana's independence - as a result of the merger of the then interim Council of the National Museum of the Gold Coast and the Monuments and Relics Commission. The GMMB is governed by the National Liberation Council Decree (NLCD) 387 of 1969, now known as Act 387 of 1969, which was further strengthened by the E.I. 29 of 1973. The mission of the GMMB is to acquire, protect, conserve and document Ghana's movable and immovable material cultural heritage for posterity for the purposes of research and education of the public. Ghana ratified the World Heritage Convention in 1975. Therefore, GMMB is guided by the operational guidelines for the implementation of the World Heritage Convention. GMMB is also guided by international guidelines, recommendations and charters. The material cultural heritage of Ghana comprises monuments which include buildings of traditional Ghanaian architecture and décor, and other colonial-era buildings. The movable cultural heritage includes artefacts such as pots, stools, musical instruments, textiles, clothing, leather works, weapons, tools, carvings, masks, jewellery, and ritual dolls. The material cultural heritage of Ghana also includes several archaeological finds.

The GMMB has procedures for addressing archaeological finds. The Project will involve earthworks and excavations, as such, if any historical or cultural assets are found during the road construction, the GMMB will be contacted, and Chance Find Procedures (see Section 5.2) will be activated as stipulated by the GMMB Code of Protection of Cultural and Heritage Resources.

Office of the Administrator of Stool Lands (OASL)

It exists to enhance stool land revenue mobilisation and disbursement, to facilitate sustainable development and efficient management of stool and family lands for the benefit of present and future generations. OASL will provide guidance on issues related to stool lands as may be related to the WACA ResIP II Project.

National Commission for Civic Education (NCCE)

The NCCE educates the citizens on their rights and responsibilities. Among other things, they are to inform the communities about their rights as found in the legislation concerning the right to information and stakeholder engagement. The Functions of the NCCE:

- Create and sustain within the society the awareness of the principles and objectives of the 1992 fourth Republican Constitution as the fundamental law of the people of Ghana.
- Educate and encourage the public to defend the Constitution at all times against all forms of abuse and violation.
- Formulate, implement, and oversee programs intended to inculcate in the citizens of Ghana awareness of their civic responsibilities and an appreciation of their rights and obligations as free people; and

To assess for the information of Government, the limitations to the achievement of true democracy arising from the existing inequalities between different strata of the population and make recommendations for addressing these inequalities.

The Commission has 16 Regional Offices headed by Regional Directors who coordinate the Commission's work in our Regional and 260 District offices across the country. It is also instructive to note that the local offices of the NCCE are autonomous and do not come under the local government system. NCCE can support by creating awareness of the rights and obligations of citizens as related to the WACA ResIP II Project.

Coastal Development Authority

The Coastal Development Authority was established by Act, 2017 (Act 961). The Authority was established to facilitate investment in the development of public infrastructure to catalyse the creation of decent and sustainable income and enhance the quality of life across all social classes in the Coastal Development Zone in the country.

The Regional Coordinating Councils (RCC)

Each region has an RCC established, in line with Article 255 of the Constitution. Section 188 of Act 936 sets out the functions of the RCC. The RCCs have the following functions:

- Monitor, coordinate, and evaluate the performance of the District Assemblies in the region.
 - Review and co-ordinate public services generally in the region.
 - Responsible for the approval of the by-laws of the District Assemblies in the region subject to their consistency with national legislation.
 - Provide back-stopping support for the performance of any function assigned to the District Assemblies in the region in respect of which a particular District Assembly is deficient in terms of skills and workforce.
- Monitor and evaluate the implementation of the programs and projects of the District Planning Authorities within the region.

The RCCs perform mainly supervisory roles at the regional level. Much of the regulatory responsibility rests with the local governments. The central government through the ministries are responsible for policy and standards but the enforcement and monitoring are the responsibility of the Metropolitan, Municipal, and District Assemblies (MMDAs) who are in turn supervised by the RCCs. The RCCs can support the WACA ResIP II Project to coordinate with the MMDAs.

Metropolitan, Municipal, and District Assemblies (MMDAs)

These are the local level governments responsible for the day-to-day administration of the districts. There are currently 261 MMDAs across the country. The MMDAs are involved in the approval, implementation, and oversight duties relating to most of the identified environmental and sanitation concerns. They are also the authority mandated to carry out and execute at the local level the provisions of some legislation. The WACA ResIP II Project will be implemented within MMDAs and will require their support and participation.

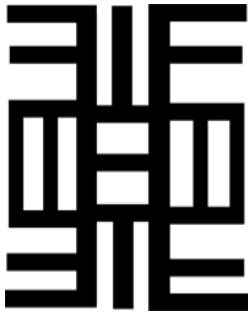
Traditional Authorities

Article 267 (1) of the 1992 Constitution avers that all stool lands in the country shall be vested in the appropriate stool on behalf of, and in trust of the subjects of the stool in accordance with customary law and usage. Traditional Authorities play a key role in the development of the areas within their jurisdiction and act as custodians of customary lands. They play key roles in land dispute resolution at the community level. Although chiefs and queen mothers have no direct political authority, some are appointed by the Government on Boards and Committees and the District Assemblies. WACA ResIP II Project cannot be easily implemented without the active participation of traditional authorities. It is therefore important to see collaboration with traditional authorities to promote the project and to support issues on land acquisition. Traditional authorities can provide mediation and arbitration services during project implementation and dispute resolutions.

Civil Society in Environmental and Social Awareness

Civil society and the media play a strong role in environmental and social awareness and in influencing, to the extent possible, the decision-making process related to environmental and social risk management issues. Ghana has CSOs and NGOs actively participating in the environment and social risk management space on issues ranging from public awareness and environmental education to waste collection and community self-help programs, land governance, SEA/SH issues etc. CSOs and NGOs have been increasingly involved in project implementation, public debate, hearings/consultations on EA, and monitoring compliance with environmental laws. The media have contributed to increased awareness and to changes in behaviour.

4 ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS



Nea onnim no sua a, obu
 ("He who does not know
 can know from learning"):
 knowledge, life-long
 education

This section describes the environment and socio-economic baseline of the project area before the development work of the project. It serves the purpose of a base reference against which the changes due to the implementation of the project are measured. The section describes overall baseline conditions of coastal regions with reference to Ghana. In this section, reference is made to the following:

- *Coastal Region* refers to regions that have coastlines
- *Coastal district* refers to districts that have coastlines
- *Coastal zone* refers to the interface between the land and sea, which comprises of a continuum of coastal land, intertidal area, aquatic systems including the network of rivers and estuaries, islands, transitional and intertidal areas, salt marshes, wetlands, and beaches

4.1 Ghana within West Africa

Ghana is a country in West Africa and lies within longitudes 3°5'W and 1° 10'E and latitudes 4°35'N and 11°N. The country is bordered by Togo to the east, La Cote d'Ivoire to the west and Burkina Faso to the north and the Gulf of Guinea to the south. Ghana's coastal zone is located in the southern part of the country and is

surrounded by the Atlantic Ocean (Figure 2).

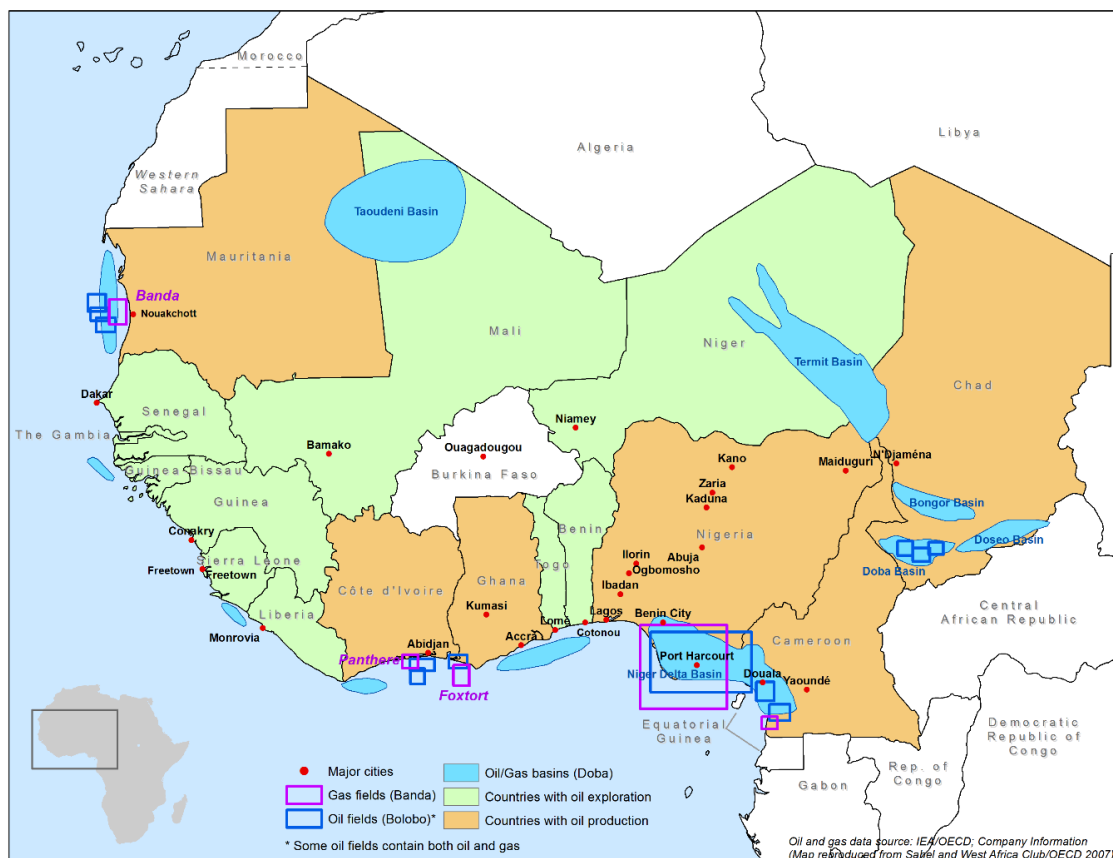


Figure 2: Map of West Africa Nations

Source IEA/OECD 2007

4.2 Coastal Regions and Districts with Ghana's Administrative Structures

Ghana has four coastal regions, from east to west, namely Volta, Greater Accra, Central and Western Regions. The coastal regions and districts form part of Ghana's 16 administrative regions and 261 second-level administrative divisions referred to as metropolitan, municipal and district assemblies (MMDA's) (Figure 3). There are also subdivisions of the MMDA's political and administrative structures that are subordinate bodies of the assemblies. These include sub- metropolitan, district, urban, town, zonal and area councils, and unit committees. The local government system is made up of the Regional Coordinating Council (RCC) and MMDAs.

The Volta Region has 6 - municipalities and 12 – district assemblies. The Greater Accra Region has 2 - metropolis, 23 - municipalities and 4 district assemblies. The Central Region has 1 - metropolis, 7 - municipals and 14 – district assemblies. The Western Region has 1 - metropolis, 8 - municipalities, and 5 – district assemblies.

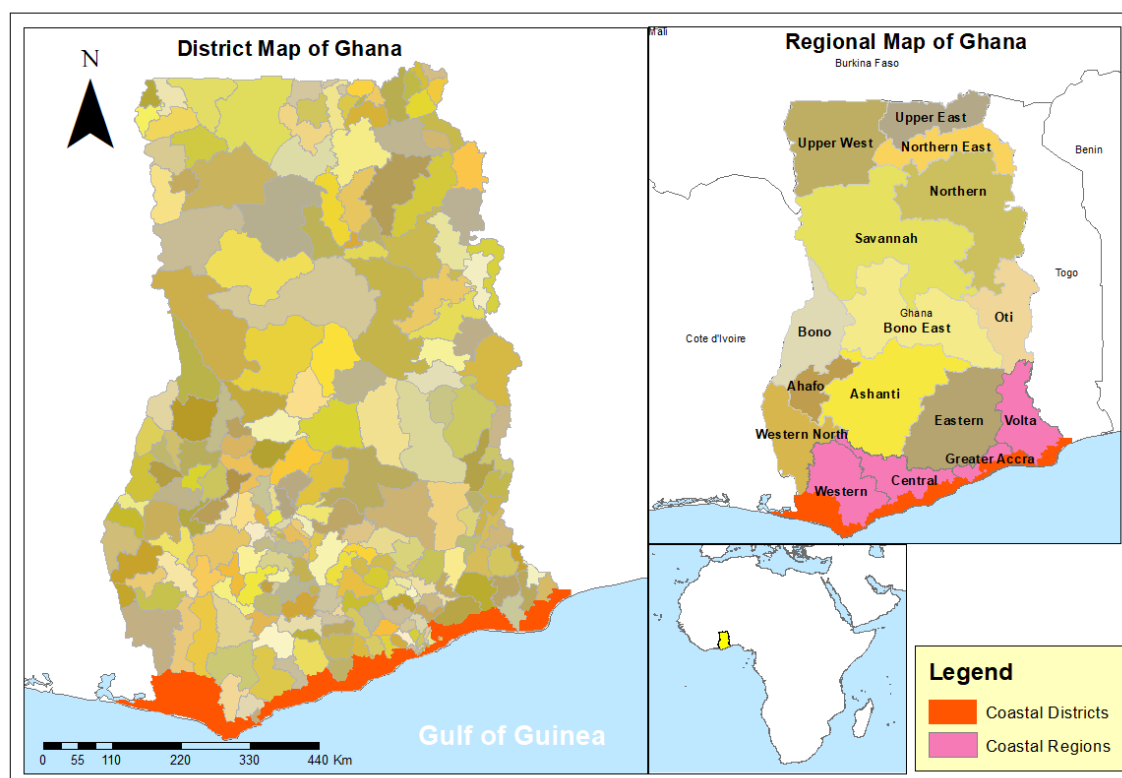


Figure 3: Boundary and Administrative Maps of Ghana

Source: Green WaterHut, 2022

4.3 Coastal Regions Land Area

Ghana's coastal regions cover about 15% of the country's land area (36,417 sq.km), with the largest being the Western Region (13,842 sq. km), followed by Central Region (9,826 sq. km), Volta Region (9,504 sq. km) and Greater Accra Region (3,245 sq. km). Ghana has a total land area of 238,533 square kilometres (sq.km).

4.4 Population of Coastal Regions and Districts

The coastal regions of Ghana together have a population 12,012,806 people (5,894,689 males and 6,118,117 females). The Population and Housing Census, 2021 indicates that the Greater Accra Region has the highest population in Ghana with 5,446,237 people consisting of 2,674,192 males (49.1%) and 2,772,045 females (50.9%). The population density of the region is 1,678.3 persons per square km. The West Region has a population of 2,057,225 consisting of 1,043,400 males (50.7%) and 1,013,825 females (49.3%). The Central Region has a population of 2,859,821 consisting of 1,390,985 males (48.6%) and 1,468,836 females (51.4%) see Table 9.

Overall, Ghana has a population of 30.8 million (2021 Population and Housing Census). Overall, females make up 50.7% of the population and males 49.3%, giving a national sex ratio of 97 males for every 100 females. The country has an average population density of 129.1 persons per square km. About 25% of Ghana's population resides in the coastal zone. The Volta Region has a population of 1,649,523, consisting of 786,112 males (47.7%) and 863,411 females (52.3%). The population density of the region is 291.0 persons per square km as shown in Table 9. Table 10 presents population by coastal districts in Ghana.

Table 9: Coastal Regions Population, Land Area, and Population Density

Locality/ Region	Land Area (Sq.km)	Population		Population Density		2021 Population	
		2010	2021	2010	2021	Male	Female
Ghana	238,533	24,658,823	30,792,608	103.4	129.1		
Greater Accra	3,245	4,010,054	5,446,237	1235.8	1,678.3	2,674,192	2,772,045
Western	13,842	1,664,586	2,057,225	120.3	148.6	1,043,400	1,013,825
Central	9,826	2,201,863	2,859,821	224.1	291.0	1,390,985	1,468,836
Volta	9,504	1,481,363	1,649,523	155.9	173.6	786,112	863,411
Coastal Regions	36,417	9,357,866	12,012,806			5,894,689	6,118,117

Source: Population and Housing Census, 2021

Table 10: Coastal Districts Population by Sex

Region	District	Total Population		
		Both Sexes	Male	Female
Volta Region	Anloga	94,895	44,709	50,186
	Keta Municipality	78,862	36,986	41,876
	Ketu South	253,122	121,277	131,845
Greater Accra	Weija Gbawe Municipality	213,674	104,910	108,764
	Ablekuma West Municipality	153,490	73,879	79,611
	Accra Metropolis	284,124	134,045	150,079
	Korle Klottey Municipality	68,633	33,108	35,525
	La Dade-Kotopon	140,264	68,099	72,165
	Ledzokuku Municipality	217,304	106,099	111,205
	Krowor Municipality	143,012	70,735	72,277
	Tema West Municipality	196,224	96,846	99,378
	Tema Metropolis	177,924	87,529	90,395
	Kpone Katamanso	417,334	208,040	209,294
	Ningo/Prampram	204,673	101,871	102,802
	Ada West	76,087	37,132	38,955
	Ada East	76,411	37,034	39,377
Central Region	Komenda-Edina-Eguafo-Abirem Municipality	166,017	80,570	85,447
	Cape Coast Metropolis	189,925	92,790	97,135
	Abura-Asebu-Kwamankese	124,465	59,644	64,821
	Mfantseman Municipality	168,905	78,033	90,872
	Ekumfi	56,741	26,384	30,357
	Gomoa West	129,512	59,420	70,092
	Gomoa Central	83,610	39,101	44,509
	Effutu Municipality	107,798	54,723	53,075
	Awutu Senya East	236,527	115,530	120,997
	Gomoa East	308,697	152,238	156,459
Western Region	Jomoro	126,576	62,649	63,927
	Ellembelle	120,893	60,586	60,307
	Nzema East	94,621	48,590	46,031
	Ahanta West Municipality	153,140	75,219	77,921
	Sekondi Takoradi Metropolis	245,382	119,344	126,038

Region	District	Total Population		
		Both Sexes	Male	Female
	Shama	117,224	57,210	60,014

Source: Population and Housing Census, 2021

4.5 Environmental Baseline Conditions

This section describes the physical and biological environment of the project area.

4.5.1 Ghana's Coastline

The coastline of Ghana is approximately 550 km, and it is mainly high-energy type (Figure 4). The coast is subdivided into three major zones based on geomorphologic characteristics. They are East, Central and West coasts. The Eastern coast (149 km) stretches from Aflao (Togo Border) in the East to the west of Prampram. It consists of a sandy shoreline and is characterised by barrier lagoons and spits. The beaches comprise medium to coarse sand with an elevation of about 2 m above sea level. The Central coast (≈ 296 km) represents a medium energy environment. It is an embayed coast of rocky headlands, sand bars and spits enclosing coastal lagoons. The coast is characterised by sandy shorelines, which lie mostly, between rocky headlands and promontories. It is the most developed part of Ghana's coastlines. It extends from the west of Prampram to Cape Three Points (the southmost point of Ghana). The West Coast (95 km) is a low energy beach. It consists of flat and wide beaches backed by coastal lagoons. The coast extends from the estuary of the Ankobra River to the border with La Cote D'Ivoire. Coastal erosion is not confined to any of these wider coastal divisions (East, Central and West) alone but occurs to the varying extents on the entire coastline of Ghana (Armah and Amlalo, 1998).

The Greater Accra Region has a coastline of approximately 126 km, stretching from Kokrobite in the west to Ada in the east. The Central Region has a coastline of approximately 150 km. The Western Region has a coastline of approximately 195km coastline that stretches from South Ghana's border with Ivory Coast to the Western region's boundary with the Central Region on the east.

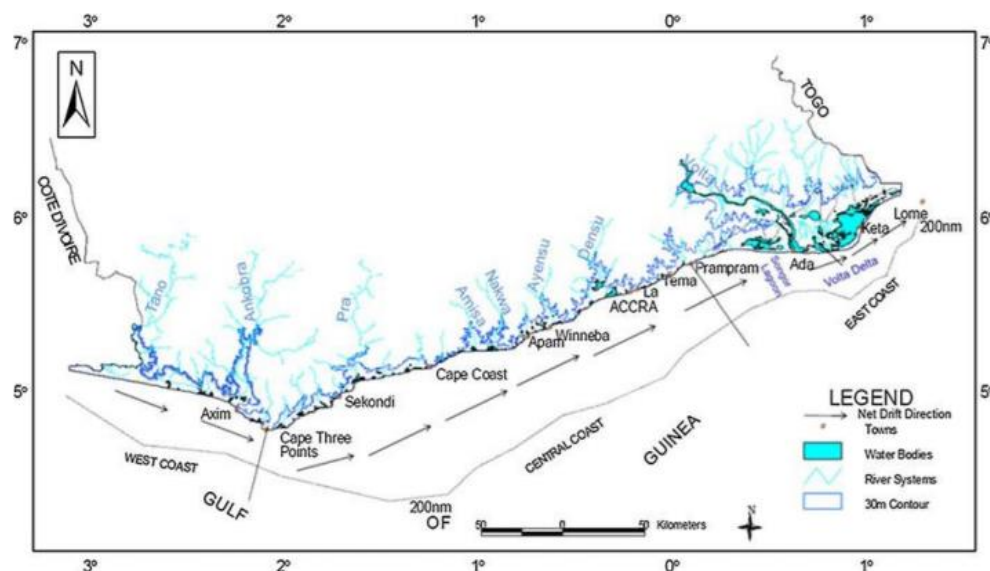


Figure 4: Drainage, Longshore Drift and Divisions of Ghana's Coastline
(Source: Boateng 2012)

4.5.2 Coastal Climate and Weather Conditions

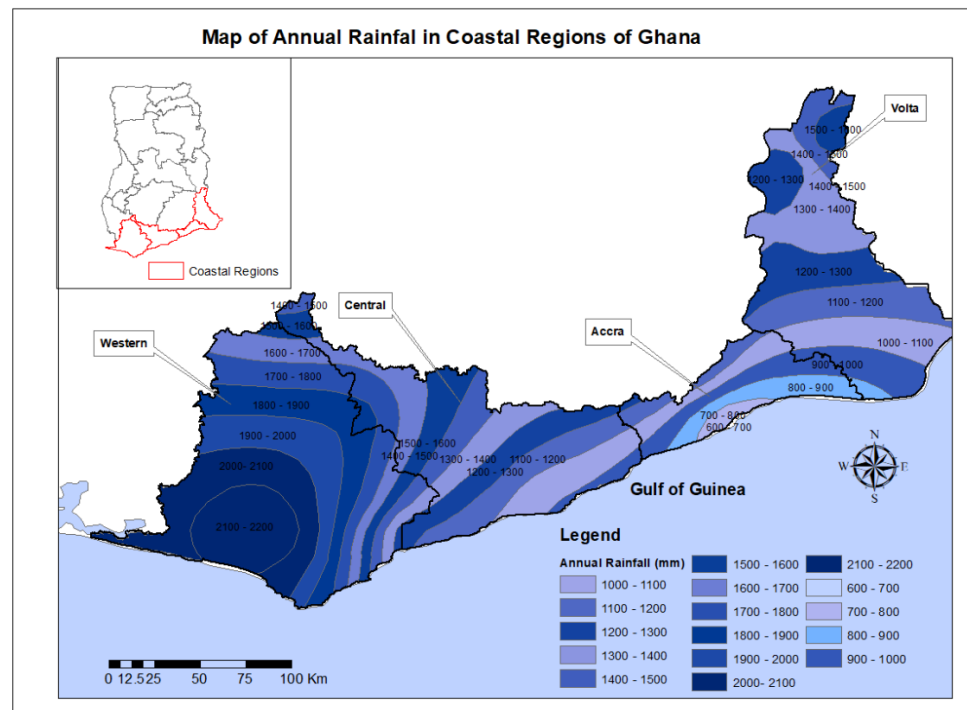
Rainfall

Ghana's coastal regions are characterized by two well-defined rainfall seasons; major season from April to July and minor from September to November. Rainfall ranges from 600 to 2200 mm a year (Figure 5a). The Western Region is the wettest part of the country, with an average rainfall of 2200 mm per annum. Rainfall distribution along the coast of Ghana has posed significant problems to meteorologists, farmers and dwellers in the coastal strip of Ghana. Not only are there considerable changes in rainfall from day to day, but also there is varied pattern along the coast which provides the area with remarkable climatic sequence³. Historical data from the year 1950 to 2020 clearly shows a decrease in mean annual rainfall in all the ecological zones in the country including coastal areas (Figure 5b).

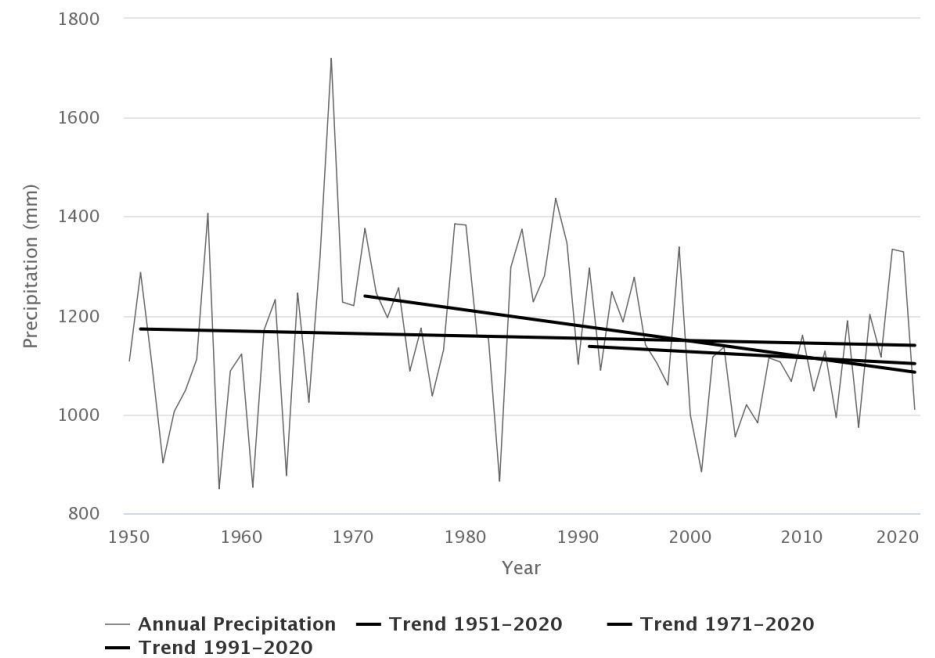
Temperature

The temperature of the coastal regions seems uniformly high throughout the year ranging between 30°C during the day to 24°C (Figure 6a) at night with a relative humidity between 77 percent and 85 percent. The climate is generally warm, with variable temperatures masked by seasons and elevation. The harmattan, a dry desert wind, blows in north-east Ghana from December to March, lowering the humidity and causing hotter days and cooler nights in the northern part of Ghana. Historical data from the year 1950 to 2020 clearly shows a progressive rise in temperature for all ecological zones in the country including coastal areas (Figure 6b).

³ Peter Kwabenah Acheampong, *Geografiska Annaler. Series A, Physical Geography* Vol. 64, No. 3/4 (1982), pp. 199-211 (13 pages) Published By: Taylor & Francis, Ltd.

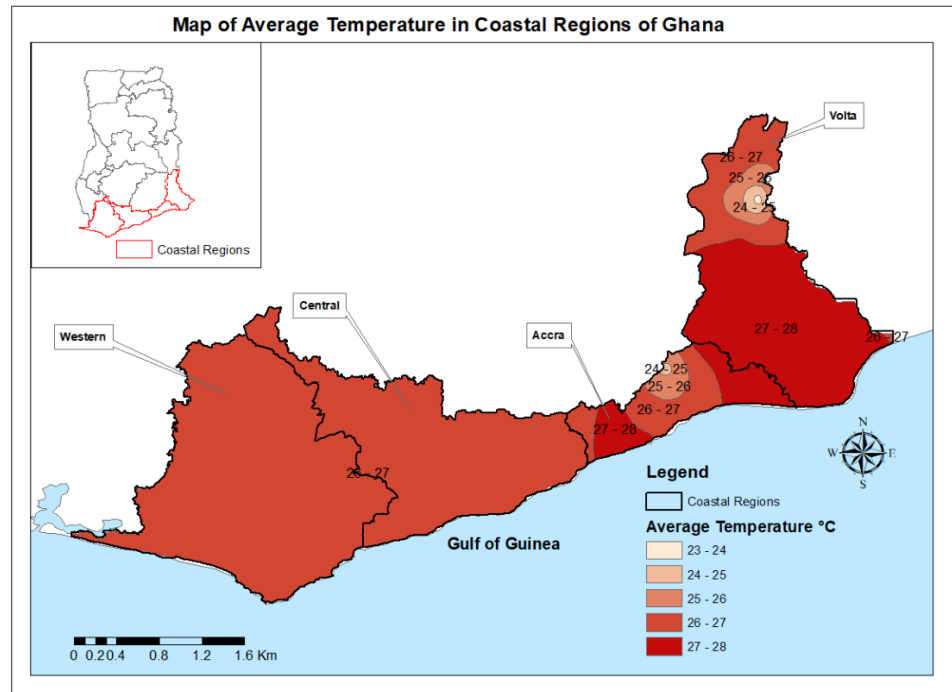


(a) Annual Rainfall
(Source: Green WaterHut, 2022)

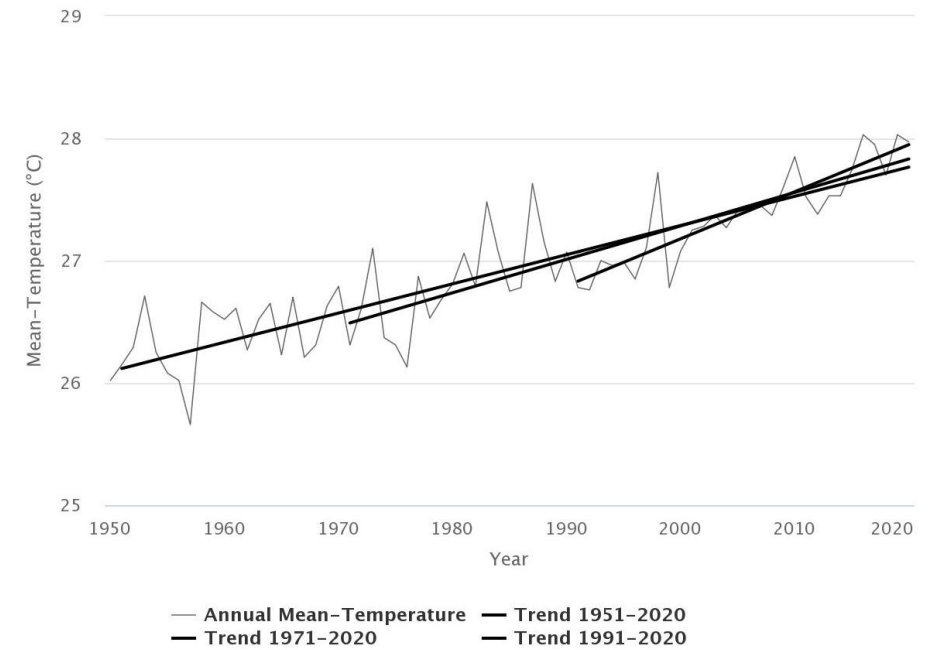


(b) Precipitation Annual Trends with Significance of Trend Per Decade
(Source: World Bank 2020)

Figure 5: Rainfall in Coastal Regions of Ghana



(a) Average Temperature
Source: Green WaterHut, 2022



(b) Mean-Temperature Annual Trends with Significance of Trend per Decade Source: World Bank 2020

Figure 6: Temperature in Coastal Regions of Ghana

4.5.3 Agro-Ecological Zones

Ghana has six agro-ecological zones in Ghana: Sudan Savannah, Guinea Savannah, Coastal Savannah, Forest/Savannah transitional zone, Deciduous Forest zone and the Rain Forest zone (Figure 7). From the east to the west coast, the vegetation type reflects rainfall patterns ranging from coastal shrub and savannah, southern marginal forest, dry semi-deciduous, wet semi-deciduous to the east and wet evergreen forest to the extreme south-west (Western Region) of the country.



Figure 7: Agro-ecological Zones of Ghana

Source: RESPTA (<https://www.unihohenheim.de/respta/climate.php>)

4.5.4 Hydro-Climatic Zones

Ghana has three hydro-climatic zones — the Coastal basin system, the Volta basin system, and the South-Western basin system. The Coastal basin system is the driest, with a mean annual rainfall of about 900 mm. The rainfall is controlled by the movement of the tropical rain belt (also known as the Inter-Tropical Convergence Zone, ITCZ), which oscillates between the northern and southern tropics over the course of a year. The Volta basin system, covering the northern part of the country, has a mean annual rainfall of about 1000 mm in the savannah area and about 1500 mm to 2000 mm in the forest area. The South-Western system is the most humid part of the country, with mean annual rainfall between 1500 mm and 2000 mm.

4.5.5 Land Cover Land Use of Coastal Regions

Rapid urban sprawl is widespread and most evident around large cities and on the coast, where built-up areas are starting to merge. The built-up areas have increased coastal regions, especially Greater Accra, Central and Volta Regions (Figure 8). The urbanization process is mainly linked to economic growth, commercialization, and industrialization, as well as rural-urban migration and globalization. At the heart of this urbanization process in Accra is the Greater Accra Metropolitan Area (GAMA), which has evolved from a group of coastal fishing

communities to become the economic hub of Ghana, attracting people from all over the country and other parts of the world.

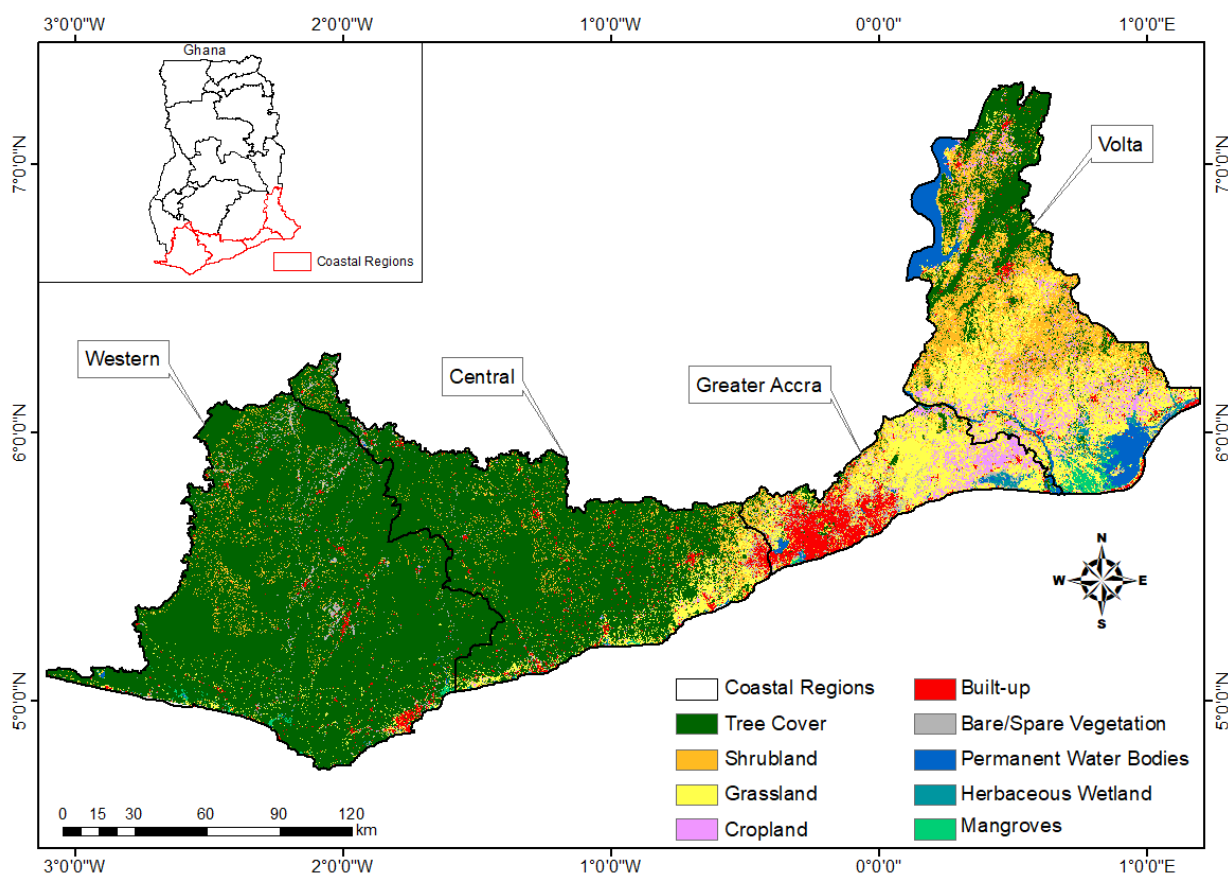


Figure 8: Land Cover and Land Use Map of the Coastal Regions of Ghana

Source: Green WaterHut (2022)

4.5.6 Ghana's Coastal Geology

Ghana's coast comprises several rock formations of different eras. These range from the earliest, the Precambrian, to the Quaternary period (Benneh and Dickson, 1988; Lawson, 1956; and Lewis, 1964). The geology of the various parts of the coast determines the resistance to erosion processes. Soft geological formations such as the unconsolidated Quaternary materials in the southeast, and the shale in the Accra area, are less resistant than stronger geological formations like the granite complex at Dixcove and Cape Three Points. Table 11 and Figure 9 show the various geological units, rock type and the geological age from the youngest to the oldest.

Table 11: Geological Units, Rock Type and Geological Age Along Ghana's Coast

Geological units	Rock type/character	Geological era/age: million
Extreme east coast formation	Soft (e.g., clay, loose sand & gravel)	Cainozoic: Quaternary (1.8 m years to today)
Extreme west coast formation	Soft (e.g., clay, sandstone, limestone & shale)	Cainozoic: Cretaceous- Tertiary (65–1.8 m years)
Togo series	Mixture of hard and soft (e.g., quartzite, schist, shale & phyllites)	Mesozoic (248–65 m years)
Sekondian & accraian	Mixture of hard of soft (e.g., sandstone, shale & limestone)	Palaeozoic (543–248 m years)
Birimian	Hard (e.g., Granite, schist & quartzite)	Precambrian (2,500–543 m years)
Dahomeyan	Hard (e.g., gneiss & schist)	Precambrian (4,500–543 m years)

Source: Boateng (2009)

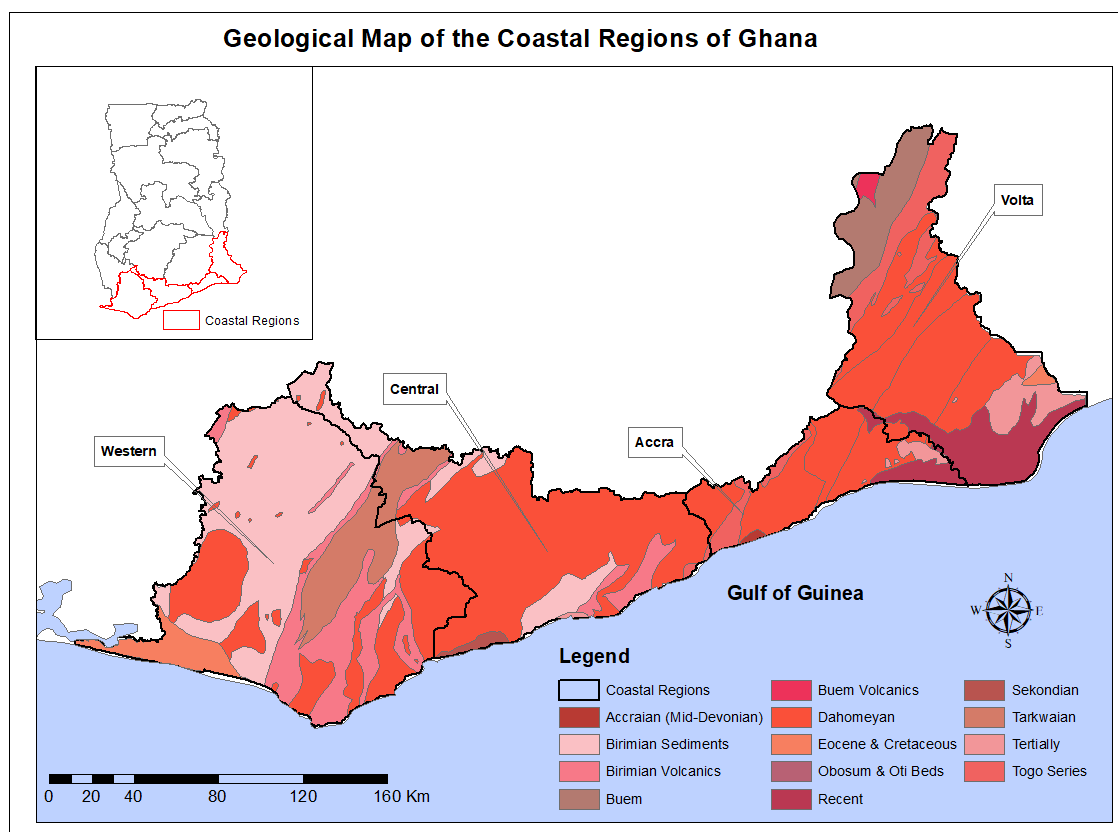


Figure 9: Geological Map of the Coastal Regions of Ghana

Source: Green WaterHut (2022)

4.5.7 River Basins and Coastal Systems

Ghana's coastal plain is crossed by several rivers and streams and drained by the Volta, South-Western and Coastal Rivers Systems (Figure 10). The South-Western Rivers System comprises the Bia, Tano, Ankobra and Pra Rivers. The Coastal Rivers System comprises the Kakum/Bruku, Ochi-Nakwa, Ayensu, Densu, Odaw and Tordzie/Aka Rivers. The Volta River System comprises the White, Black and Red Volta and Oti Rivers, which finally enter the Gulf of Guinea at Ada in southeastern Ghana.

- Pra Basin:** The Pra Basin is located in south-central Ghana. The Pra River, together with its tributaries, forms the largest river basin of the three principal south-western basin systems of Ghana (i.e., Ankobra, Tano and Pra). Its total basin area of approximately 23,200 km² extends through almost 55% of Ashanti, 23% of Eastern, 15% of Central and 7% of Western Regions. The main Pra River and its major tributaries—(Rivers Anum, Birim, Offin and Oda) take its source from the highlands of Kwahu Plateau in the Eastern Region and flow for some 240km before entering the Gulf of Guinea near Shama in the Western Region.
- Densu Basin:** The Densu River forms part of the Coastal Rivers System and serves as a source of drinking water for 74% of the population in Greater Accra, the capital of Ghana. The Densu Basin is generally low lying with undulating topography and isolated ridges forming the characteristic landscape features in many places. The Densu takes its source from the Atewa range and flows from its upstream sections in an easterly direction towards the Akwadum -Koforidua area, from where the river gradually changes its course and flows in a southerly direction into the Weija reservoir - one of the two main sources of water supply for the Accra metropolitan area. When the Weija reservoir is full, excess flow discharges into the Densu delta

lagoon and saltpans complex, which constitutes one of Ghana's internationally recognized protected areas (Ramsar sites), before discharging into the Bay of Guinea (Atlantic Ocean) some 10 km west of Accra. The Densu River belongs to the Coastal River System group and the basin encompasses an area of about 2,600 km². The total length of the Densu River is about 120 km, and its main tributaries are the Pompon, Kuia, Adeiso, Dobro and Nsaki rivers. From the source to the Gulf of Guinea, the Densu River traverses upper Birimian rocks (phyllites, schists, tuffs and greywackes) in the upper reaches, middle Birimian rocks (granites and granodiorites) in the middle segments and Togo series (quartzites, shale and phyllites) in the lower portions. The soils are mainly well-drained, friable, porous, loamy savanna ochrosols mostly red or reddish brown in colour. They are generally low in nutrients, especially phosphorus and nitrogen. In the northern parts of the Basin are forest Ochrosol, red or reddish brown, orange-brown or brown in colour with an adequate amount of nutrients. Water quality in the Densu River is adversely affected by inappropriate waste disposal, agrochemicals, and degradation of the riparian zone (among others).

- **Ankobra Basin:** The Ankobra River belongs to the Western River System and covers an area of about 8,460 km². The river takes its source from the hills north of Basin dare (near Bibiani) and flows for about 260 km mostly due south before it enters the Gulf of Guinea at Asanta, a few kilometres west of Axim. Its chief tributaries are the Mansi and the Bonsa rivers, and much of its basin is shared with the Tano River to the west.

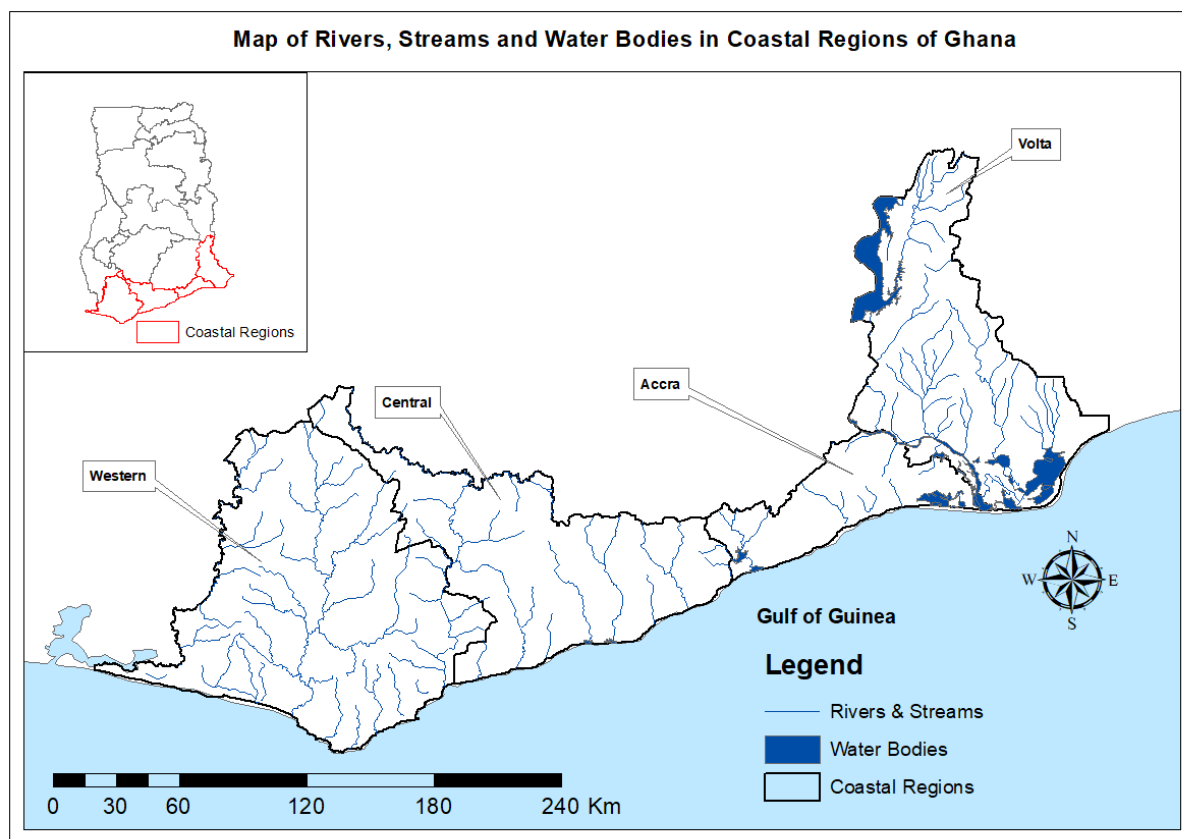


Figure 10: Map of Rivers, Streams and Water Bodies in Coastal Regions Region

Source: Green WaterHut, 2022

4.5.8 Ghana's Coastal Regions Biodiversity

In general, Ghana has a total of 3,600 species of flora and there is only one known gymnosperm, the West African cycad (*Encephalartos barteri*), which is indigenous to Ghana. Current records reveal that there could be as many as 221 species of amphibians and reptiles, 728 species of birds (15 species of waterbirds occur in internationally-important numbers) and 225 mammalian species. The country's threatened species include 4 species of marine turtle

(of which one is locally extinct) and 3 species of crocodile. There are 7 threatened bird species, including 4 endemics to the upper Guinea forest block. There are three species of frog: Baumann's reed frog (*Hyperolius baumanni*), lime reed frog (*Hyperolius fusciventris*), Bobiri reed frog (*Hyperolius sylvaticus*), and one lizard species, the false agama (*Agama sylvanus*) which is endemic to Ghana. There are three aquatic biodiversity areas in Ghana. Marine, fresh water and brackish water. About 392 marine species of organisms comprising 347 fish species have been recorded. Ghana's freshwater fish fauna includes 157 species, of which 9 are endemic and declining overall, especially those species sensitive to pollution.

4.5.8.1 Coastal Wetlands, Lagoons and Estuaries

Coastal habitats are important for their biodiversity as well as for rare and endangered species. About 90 lagoons or marine and brackish wetlands exist along the coastline of Ghana. Five (5) coastal wetlands (Keta Lagoon Complex, Songhor, Sakumo, Densu Delta and Muni-Pomadze lagoons) (Table 12) support internationally 3 important populations of 12 species of migratory waterbirds, as well as 3 species of globally threatened marine turtles, have been designated as Ramsar sites. Ghana's coastal wetlands, however, are threatened by high volumes of plastic, industrial and domestic waste that choke breeding habitats for fish, birds and other wildlife, which have an adverse impact on tourism. Again, among the competing land uses resulting in wetlands loss and degradation include agriculture, industrial development and housing.

Other notable wetlands, estuaries and lagoons include the Amanzuri, Korle, Kpeshie, Butre, Narkwa, Fosu lagoons, as well as Pra, Ankobra and Whin estuaries. These wetlands, estuaries and lagoons with their associated mangrove stands serve as breeding and nursery areas for a wide variety of marine species. However, none of these lagoons is under any protection by national legislation. Traditional methods of conservation exist for a number of lagoons and wetlands within the country. These lagoons are considered as deities, and this affords the lagoons and their resources protection. The traditional protection methods include days, periods and seasons of closed fishing and restrictions on fishing methods, gear and fishers.

Table 12: Coastal Ramsar Sites in Ghana

Name and Site Number	Location	Area (km ²)	Description	Proposed Project Activity
Keta Lagoon Complex (567)	5°55'N, 0°50'E	1,010.22	Open lagoon with brackish water influx from Volta River. Coastal savannah grasses with patches of trees and shrubs. Largest seabird populations of all coastal wetlands of Ghana.	Specific sites and interventions will be identified based upon robust community engagement and stakeholder involvement in order to catalyse a national program of action to address long-standing issues of flooding and erosion in the area. Additional activities in the Keta area will include mangrove reforestation and protection, with specific attention to mangrove areas that are threatened by saline intrusion due to coastal erosion and sea level rise degrading the narrow sandbar separating the mangrove habitat from the sea.
Songor (566)	5°45'N–6°00'N, 0°20'E–0°35'E	511.33	Closed lagoon with high salinity, and a large mudflat with scattered mangroves.	Not yet considered as a priority site
Sakumo (565)	5°30'N, 0°08'E	13.6	Brackish lagoon with narrow connection to the sea. Main habitats are the open lagoon, surrounding flood plains, freshwater marsh, and coastal savannah grasslands.	Not yet considered as a priority site

Densu Delta (564)	5°30'N, 0°15'E	58.9	Sand dunes, lagoons, salt pans, marsh, and scrub. Scattered stands of mangroves with extensive areas of open water.	The project will explore potential flood control measures that reduce risk rather than transfer risk. For improved management of coastal erosion, the project will support measures including the restoration and fixation of sand dunes within the delta, including revegetation, beach nourishment, and works including but not limited to temporary groyne systems (e.g., removable semi-rigid webbing/fencing). The project will also support the protection and restoration of mangroves and coconut trees where possible, critical for fishery health and bird nesting ground, respectively, as well as supplemental income generation for local communities.
Muni-Pomadze (563)	5°23'N, 0°40'E	94.6	Sand dunes, open lagoon, degraded forest and scrubland. Lagoon opens into the sea during the rainy season.	Not yet considered as a priority site

4.5.8.2 Coastal Mangroves

Mangroves in Ghana cover about 140 km² (UNEP, 2007), and are limited to very narrow, non-continuous coastal lagoons and estuaries, notably from the Ivory Coast border to the Cape Three Points; and in the east, bordering the fringes of the lower reaches and delta of the Volta River (UNEP, 2007; Spalding et al, 2010; Gordon and Ayivor, 2003). There are six species of mangroves in Ghana. These are *Acrostichum aureum*, *Avicennia germinans*, *Conarcarpus erectus*, *Laguncularia racemosa*, *Rhizophora harrisoni*, and *Rhizophora racemosa*. *Rhizophora racemosa* tends to dominate the open lagoons while *Avicennia germinans*, *Conarcarpus erectus*, *Laguncularia racemosa* and *Acrostichum aureum* are often associated with closed lagoons with elevated salinity (UNEP, 2007; Ajonina, 2011). Mangroves in Ghana play very important economic and ecological roles in the country, especially in the surrounding communities. The national economic value for mangrove related harvesting and contribution to marine fisheries alone has been estimated as \$600,000 per year (Ajonina, 2011; Gordon et al, 2009). Mangroves fulfil important functions in terms of providing wood and non-wood forest products, coastal protection, conservation of biological diversity, provision of habitat, spawning grounds and nutrients for a variety of fish and shellfish, and salt production. Over the years, mangroves have been exploited by the local populations mostly for wood and food. People who live in mangrove areas get wood (for fuel, building materials, etc.), fish, crabs, snails and oysters either directly from mangrove or its associated environment (Gordon and Ayivor, 2003; Spalding et al, 2010, Ajonina, 2011). Ghana's mangrove ecosystems are known for the associated biodiversity they support. They are well noted for the provision of habitat for high concentrations of birds, mammals, amphibians, reptiles, fish and inveterate species. They also serve as habitats, sanctuaries and breeding grounds for migratory birds. Despite the immense contributions of mangrove ecosystems to the local populations and the country as a whole, their health and survival continue to be undermined. Between 1980 and 2006, the country lost about 24% of its mangroves (UNEP, 2007). Some documented threats to mangroves include population increases leading to the overexploitation and the ultimate conversion of mangroves into other land uses, mostly the development of urban centres and industry; engineering in the rivers and coasts such as the construction of dams and sea walls; and land-based sources of marine pollution (UNEP, 2007).

4.5.8.3 Forest Reserves and Protected Areas in Coastal Regions

The coastal regions hold about 69 of the country's forests and protect area reserves (Figure 11). The following are the notable parks and reserves within the coastal regions of Ghana but not directly within the area of project influence:

- ***The Kalakpa Nature Reserve*** is located in the Volta Region, southwest of Mount Adaklu, and east of Gbeto. The Nature Reserve is one of the few surviving Guinean Savannah grasslands in West Africa. The game reserve covers an estimated 325 sqkm and has a spectacular combination of forests on the hills found in the middle of the reserve and along rivers and grasses on the plains of the reserve. More than 8 seasonal rivers flow into the Game reserve southwards, forming patches of riverine forest canopy, which is a habitat for several species of birds and wild animals. It is a birding paradise with over 200 species of birds and was recently declared one of the world's most important sites for birds. It is one of the few places in the region where indigenous animals associated with the vegetation can still be found. The Kalakpa Game Reserve abounds with the following animals; red-riverhog, buffalo, bushbuck, waterbuck, kob, oribi, black duiker, grey duiker and red flanked duiker, the common monkeys found are baboon, patas monkey, green monkey, spot-nosed monkey and black and white colobus. Local attractions include the scenic beauty of the numerous hills in the reserve (Zitoe, Koffitoe, Kadanga etc.). Kadanga hill is believed to be the ancestral home of the people of Abutia. Attractions also include the colourful culture of the Abutia people.
- ***The Kobo River Forest Reserve (KRFR)*** is located in the Volta Region and falls within the south-eastern dry semi-deciduous fire-prone zone of Ghana. It occupies a total land area of 13,598 ha and extends approximately 38.1 km.
- ***Achimota Forest Reserve*** is located in Greater Accra in the heart of the city, and serves as a place for prayer camps, camping and walking. Achimota Forest, an important national asset, has been subject to encroachment and excessive degradation. The estimated terrain elevation above sea level is 76 metres.
- ***The Yenku Forest Reserve*** is located in Winneba in the Central Region of Ghana and serves as the traditional hunting grounds of the Effutu people during the 'Aboakyir Festival' (Deer Hunting), which is usually celebrated between May and June each year. The Yenku Forest has been traditionally conserved for over 300 years by the people of Efutu Traditional Area to protect the bushbuck population because of the important role it plays in their annual festival. The Yenku forest is a clear example of biodiversity forming the basis of the cultural heritage of a group of people. Therefore, losing the ecosystem will mean a loss of cultural heritage. The Reserve is vulnerable to fierce and destructive annual wildfire outbreaks.
- ***Kakum National Park*** is located in the coastal environs of the Central Region of Ghana, covers an area of 375 square kilometres. The area is covered with tropical forests. The uniqueness of this park lies in the fact that it was established at the initiative of the local people and not by the State Department of wildlife which are responsible for wildlife preservation in Ghana. The most notable endangered species of fauna in the park are the Diana monkey, giant bongo antelope, yellow-backed duiker and African elephant. It is also an Important Bird Area recognized by the Bird Life International, with the bird area fully overlapping the park area. The bird inventory confirmed 266 species in the park, including eight species of global conservation concern. One of these species of concern is the white-breasted Guinea fowl. Nine species of hornbill and the grey parrot have been recorded. It is very rich in butterflies as well, and a new species was discovered in 1993. As of 2012, the densest population of forest elephants in Ghana was located in Kakum National Park.
- ***Cape Three Points Reserve*** is located near Princess Town in the Western Region of Ghana and occupies a total area of 51,102 km². The scenic beauty of the area and proximity of forest to the sea (c.3 km from the coast) make it nationally unique. The site has a series of small hills with altitudes varying between 91–152 m and is drained by only one river, the Nyan. The eastern part of the reserve adjoins rubber plantations and there are farms in the surrounding unreserved forest, while seven occur in the reserve itself. Although there has been some illegal felling of trees for fish smoking, a large proportion of the reserve (some 3,200 ha of the northern part) remains intact. The reserve has been extensively studied botanically, with plant collections dating from as far back as 1780. The mean annual rainfall in the area is 1,400 mm. Three globally-threatened bird species are known to occur in this forest- the "near threatened" hornbill *Ceratogymna elata*, the "vulnerable" greenbulls *Bleda eximius* and *Criniger olivaceus*, which are uncommon but characteristic of

this type of primary forest. The reserve is at risk from encroachment and poaching, the reserve has a wide variety of tree species, butterflies, monkeys and birds.

- **The Ankasa Conservation Area** is located in the Western Region, near the border with Côte d'Ivoire. It incorporates the Nini Suhien National Park in the North, and the Ankasa Forest Reserve in the South. The park is approximately 500 square kilometres and consists largely of tropical evergreen rainforest. The Ankasa Conservation Area is the only wildlife protected area in Ghana that is located in the wet evergreen tropical high rainforest belt. The Ankasa, Nini, and Suhien Rivers pass through the park and are known for their rapids and waterfalls. The forest has the most biological diversity of any in Ghana, with over 800 vascular plant species, 639 butterfly species, and more than 190 bird species. Animal life includes the elephant, bongo, leopard, chimpanzee, Diana monkey, and other primates. Apart from the forest reserve, which was selectively logged until 1976, the rest of the protected area is almost intact.

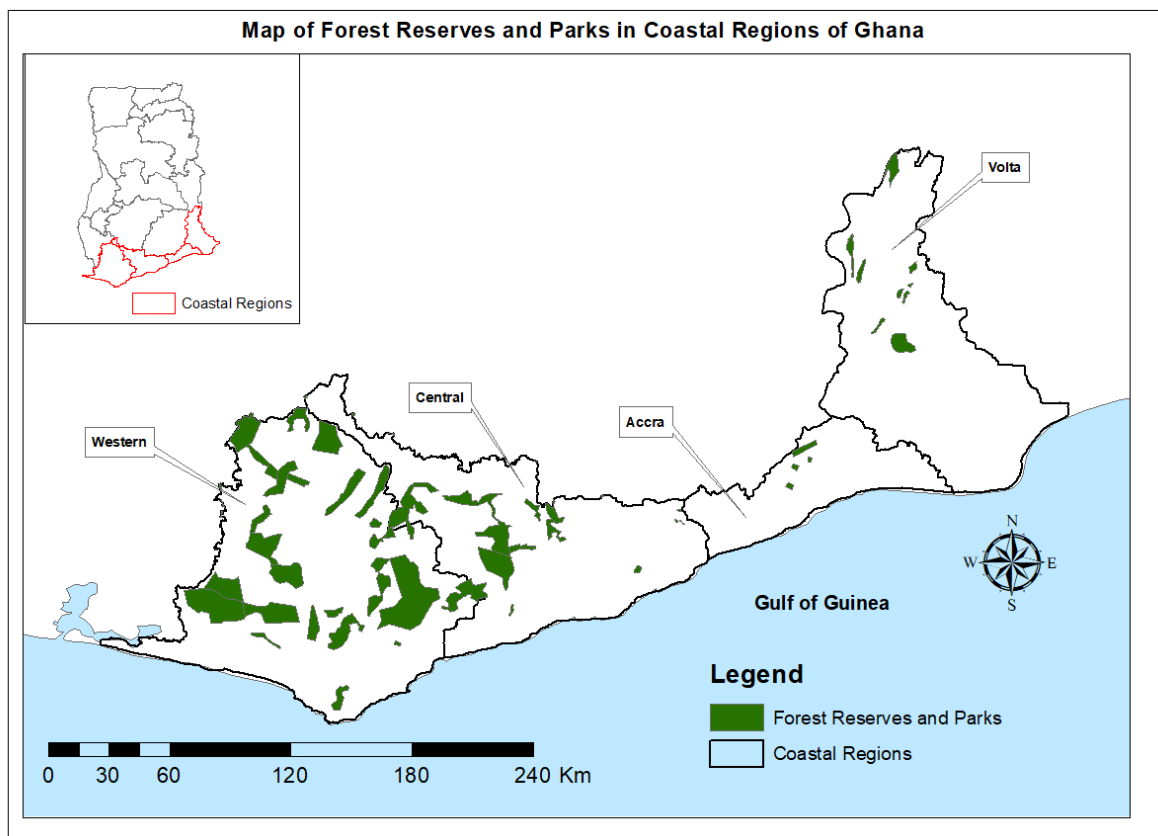


Figure 11: Map of Forest Reserves and Parks

Source: Green WaterHut, 2022

4.5.8.4 Fish

The commercially important small pelagic fish in the coastal and offshore waters of Ghana include round sardinella (*Sardinella aurita*); flat sardinella (*S. maderensis*); European anchovy (*Engraulis encrasicolus*); and chub mackerel (*Scomber japonicus*). These species are important commercially as they represent approximately 80 percent of the total catch landed in the country (approximately 200,000 tonnes per annum). In terms of biomass, acoustic surveys have shown that the two sardinella species and the European anchovy represent almost 60 percent of the total biomass in Ghanaian waters (FAO 2010). The large pelagic fish species include the tuna, billfish and some sharks. Key tuna species are skipjack tuna (*Katsuwonus pelamis*), yellowfin tuna (*Thunnus albacares*) and bigeye tuna (*Thunnus obesus*) (FAO 2010). These species are highly migratory and occupy the surface waters of the entire tropical and sub-tropical Atlantic Ocean. They are important species in the ecosystem as predators and prey, as well as providing an important commercial resource for industrial fisheries.

4.5.8.5 Marine Turtles

Ghana's coast provides an important nesting and feeding habitat for five species of marine turtles, namely green turtle (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), leatherback (*Dermochelys coriacea*), olive ridley (*Lepidochelys olivacea*) and loggerhead (*Caretta caretta*). Green, leatherback, hawksbill and loggerhead turtles are all included in the Memorandum of Understanding on measures for the conservation of the sea turtles of the Atlantic Coast of Africa. The IUCN Red List classifies hawksbill turtles as Critically Endangered, green and loggerhead turtles as Endangered and olive ridley and leatherback turtle as Vulnerable (IUCN, 2018). These species are also listed as protected species under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on Migratory Species (CMS).

4.5.9 Coastal Zone Vulnerabilities in Ghana

Sea level rise is projected to exacerbate shoreline recession, particularly on sandy shores, inundating low-lying coastal areas and increasing the salinity of estuaries and aquifers⁴. These physical changes can have significant impacts on socio-economic activities within the coastal zone. Coastal habitats will be lost, biodiversity could be adversely affected, and livelihood impacted, especially in areas inhabited predominantly by fishermen and farmers. Sea level rise, along with the projected increase in extreme weather events, make the choice of location of new construction and key infrastructure of critical importance to both urban planners and decision-makers. Coastal erosion and flooding are particularly serious in Greater Accra, where sea level rise increases erosion intensity and raises the chance of flooding by 20%.

4.6 Social Baseline

This section describes the socio-economic characteristics of the project area.

4.6.1 Traditional Authorities

Groups of villages or communities are governed by Traditional Authorities who are the custodians of local tradition, morals, and traditional practices. The traditional system of authority is managed at a national level through the Ministry of Chieftaincy and Culture. The role of the Ministry is to preserve, sustain and integrate the regal, traditional and cultural values and practices. At the local level, the Paramount Chiefs are the traditional heads of the people and custodians of the land, and they carry great local influence. Each Chief will have a Traditional Council, which is composed of the elders who carry out the instructions of the chief and safeguard traditional customs and knowledge about an area for future generations.

4.6.2 Household Size

Overall, Ghana has 8,345,414 households and the average household size is 3.6 individuals (2021 Population and Housing Census). The Greater Accra Region has 1,698,009 households and the average household size is 3.2. The Western Region has 619,329 households and the average household size 3.3. The Central Region has 837,054 households and the average household size 3.3. The Volta Region has 488,476 households and the average household size is 3.3 (Table 13).

Table 13: Household and average household size

Locality/Region	Number of Households	Average Household Size
Ghana	8,345,414	3.6
Greater Accra	1,698,009	3.2
Western	619,329	3.3
Central	837,054	3.3
Volta	488,476	3.3

Source: Population and Housing Census, 2021

⁴ Ghana National Communication to the UNFCCC

4.6.3 Literacy

The overall literacy rate for people 15 years and older, in Ghana, is 72.2% compared to 81.7% for the four Coastal regions, which varies from a minimum of 74.8% in the Western region to the maximum of 88.1% in the Greater Accra region. Literacy rates for this category are higher among males than females. For instance, the national male literacy rate for this age category is 78.4%, compared to 66.3% for females. Greater Accra has the highest male literacy for this age category (92.2%), while the Western region has the lowest male literacy rate (80.2%). Among females, the Volta region has the lowest female literacy rate (67.6%) among all the Coastal regions, while the Greater Accra has the highest female literacy rate (84.2%) (Table 14).

Again, urban centres have the highest literacy rates compared to rural areas. The national literacy among 15 years and older in the urban areas is 81.8% and 58.3% in the rural areas and 86.3% for urban areas and 69.8% for rural areas of Coastal regions. At the regional level, the Greater Accra region recorded the highest literacy rates for both urban and rural areas with 89.1% and 76.2%, respectively. The Volta region recorded the least literacy rates for urban areas (81.2%) among the Coastal regions, while the Western Region recorded the least literacy rates for rural areas (65.0%) among the coastal regions.

Table 14: Population 15 Years and Older by Literacy Status, Sex, Type of Locality and Region

Literacy Status	Ghana	Western	Central	Greater Accra	Volta	Coastal Regions
All localities						
<i>Both Sexes</i>						
Not Literate	27.8%	25.2%	22.7%	11.9%	24.9%	18.3%
Literate	72.2%	74.8%	77.3%	88.1%	75.1%	81.7%
<i>Male</i>						
Not Literate	21.6%	19.8%	15.7%	7.8%	16.1%	12.8%
Literate	78.4%	80.2%	84.3%	92.2%	83.9%	87.2%
<i>Female</i>						
Not Literate	33.7%	30.8%	28.9%	15.8%	32.4%	23.6%
Literate	66.3%	69.2%	71.1%	84.2%	67.6%	76.4%
Urban						
<i>Both Sexes</i>						
Not Literate	18.2%	16.6%	18.2%	10.9%	18.8%	13.7%
Literate	81.8%	83.4%	81.8%	89.1%	81.2%	86.3%
<i>Male</i>						
Not Literate	12.6%	11.8%	12.6%	7.0%	11.5%	9.0%
Literate	87.4%	88.2%	87.4%	93.0%	88.5%	91.0%
<i>Female</i>						
Not Literate	23.3%	21.4%	23.3%	14.7%	25.1%	30.2%
Literate	76.7%	78.6%	76.7%	85.3%	74.9%	69.8%
Rural						
<i>Both Sexes</i>						
Not Literate	41.7%	35.0%	29.1%	23.8%	29.5%	30.2%
Literate	58.3%	65.0%	70.9%	76.2%	70.5%	69.8%
<i>Male</i>						
Not Literate	34.2%	28.4%	20.3%	17.5%	19.6%	22.1%
Literate	65.8%	71.6%	79.7%	82.5%	80.4%	77.9%
<i>Female</i>						

Literacy Status	Ghana	Western	Central	Greater Accra	Volta	Coastal Regions
Not Literate	49.0%	42.2%	37.2%	30.0%	38.0%	37.8%
Literate	51.0%	57.8%	62.8%	70.0%	62.0%	62.2%

Source: Population and Housing Census (2021)

4.6.4 Poverty

Overall, between 2006 and 2017 Ghana's national poverty level reduced from 31.9% to 23.4%. The Greater Accra Region has consistently had the lowest poverty headcount since 2006. In 2017 the poverty incidence of 2.5 percent in the Greater Accra Region was about 21 percentage points lower than the national average. The incidence of poverty in the Western Region reduced from 22.9% in 2006 to 21.1% in 2017. The incidence of poverty in the Central Region reduced from 23.4% in 2006 to 13.8% in 2017. The incidence of poverty in the Volta Region remained the same 37.3% from 2006 to 2017 (Table 15).

Table 15: Poverty Incidence by region, 1992-2013⁵

Locality/Region	Poverty Level (%)			Change 2006 - 2017
	2006	2013	2017	
Ghana	31.9	24.2	23.4	-8.5
Greater Accra	13.5	5.6	2.5	-2.5
Western	22.9	20.9	21.1	-1.8
Central	23.4	18.8	13.8	-9.6
Volta	37.3	33.8	37.3	0

Source: Population and Housing Census (2021)

4.6.5 Employment Status of the Population

According to the 2021 census, 59.7% of the national population of individuals between 15 and 64 years (18,554,520) are economically active, 51.8% are employed, 8% are unemployed and 40.3% are outside the labour force. Among the coastal regions, the Greater Accra region recorded the highest proportion of economically active population (66%), and the Volta region recorded the least at 57.6%. Though the Volta region had the least proportion of its economically active population unemployed for both sexes (7.1% for males and 8.4% for females)—compared with the Western region (9.2% for males and 8.8% for females), the Greater Accra region (8.4% for males and 8.5% for females), and the Central region (7.7% for males and 8.4% for females)—it also had the highest proportion of this population outside the labour force for both sexes (38.1% for males and 46.2% for females). This is compared to the 39.3% (35.5% for males and 42.8% for females) for Central region, 38.5% (33.2% for males and 44.0% for females) for Western region, and 34% (28.9% for males and 38.9% for females) for Greater Accra region (Table 16).

Table 16: Employment Status of the Population 15 Years and Older by Coastal Region and Sex (%)

Locality/Region	Employed			Unemployed			Not in labour force		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Ghana	65.0	66.9	63.3	6.0	5.4	6.4	29.1	27.7	30.3
Greater Accra	61.2	62.5	60.2	8.2	9.1	7.4	30.6	28.5	32.4
Western	67.1	69.4	65.0	6.4	5.5	7.3	26.4	25.1	27.7
Central	69.1	70.6	68.0	5.5	4.2	6.5	25.4	25.3	25.5
Volta	73.4	75.1	71.9	3.6	2.7	4.4	23.0	22.1	23.7

Source: Population and Housing Census (2021)

⁵ The Ghana Poverty and Inequality Report: Using the 6th Ghana Living Standards Survey 2016, By Edgar Cooke (Ashesi University College, Ghana); Sarah Hague (Chief of Policy, UNICEF Ghana); Andy McKay (Professor of Development Economics, University of Sussex, UK)

4.6.6 Economic Characteristics of Coastal Ghana

Over 60% of major industries (manufacturing, refinery, mining, port and harbour, textile and smelting), urban settlements (Accra, Tema, and Takoradi), tourism, heritage and conservation sites are located in the coastal zone. The primary commercial activity along Ghana's coastal town and communities is fishing. Other commercial activities are salt production, stone and sand winning, recreational activities, agriculture and, more recently, commercial activities relating to the oil and gas sector, especially in the Western region.

About 22.4% of the employed individuals of 15 years and above in the Coastal regions are employed in the "Wholesale and retail trade; repair of motor vehicles and motorcycles" industry. This is followed by "Agriculture, forestry, and fishing", 18.5%; "Manufacturing", 8.1%; "Accommodation and food services", 6.6%; and "Transportation and storage", 6.6%. Males dominate in Agriculture, forestry, and fishing (20.7%), Wholesale and retail trade; repair of motor vehicles and motorcycles (12.6%), and Transportation and storage (12.2%). Females, on the other hand, dominate in Wholesale and retail trade; repair of motor vehicles and motorcycles (33.6%), Agriculture, forestry, and fishing (16.0%), and Accommodation and food services activities (12.0%) (Table 17).

Western Region. Agriculture (including forestry and fishing) is the major industry in the Western region, employing 35.4%. This is followed by wholesale and retail; repair of motor vehicles and motorcycles (15.7%), Manufacturing (6.9%), Mining and quarrying (6.1%), and Transportation and storage (5.5%).

Males dominate in Agriculture, forestry, and fishing (38.9%), Mining and quarry (10.0%), and Transportation and storage (9.7%), whereas the females dominate in Agriculture, forestry, and fishing (30.9%), Wholesale and retail trade; repair of motor vehicles and motorcycles (26.6%), and Accommodation and food service activities (10.5%).

Greater Accra. The five industrial activities that employ the most individuals in this population group in the region are "Wholesale and retail trade; repair of motor vehicles and motorcycles", 61.0%; "Manufacturing", 19.1%; "Transportation and storage", 16.8%; "Accommodation and food service", 16.3%; and "Construction", 16.2%. "Agriculture, forestry, and fishing" is the seventh most important industry, employing about 3.9% of the population group.

Males dominate in Wholesale and retail trade; repair of motor vehicles and motorcycles (17.2%), Transportation and storage (13.7%), and Construction (13.0%), whereas females dominate in Wholesale and retail trade; repair of motor vehicles and motorcycles (39.1%), Accommodation and food service activities (12.9%), and Manufacturing (8.1%).

Central. The industry that employs the most individuals from 15 years and above in the region is Agriculture, forestry, and fishing (30.5%). This is followed by Wholesale and retail trade; repair of motor vehicles and motorcycles (19.2%), Manufacturing (6.9%), Education (6.7%), and Accommodation and food services activities (6.4%).

Males in the Central region dominate in the agriculture, forestry and fishing (33.9%), Construction (11.7%), and Transportation and storage (11.6%) industries. On the other hand, females dominate in Wholesale and retail trade; repair of motor vehicles and motorcycles (30.1%), Agriculture, forestry and fishing (26.9%), and Accommodation and food service activities (11.7%).

Volta. Agriculture, forestry and fishing is the largest industry in the Volta region, employing (33.2%). This is followed by the Wholesale and retail trade, repair of motor vehicles and motorcycles (16.9%), and Manufacturing (9.7%).

Whereas males dominate in Agriculture, forestry and fishing (36.5%), Transportation and storage (10.6%), and Construction (9.8%), females dominate in Agriculture, forestry and fishing (29.6%), Wholesale and retail trade; repair of motor vehicles and motorcycles (26.8%), and Manufacturing (11.1%).

4.6.6.1 Fishing

The marine fisheries and consequently the fishing fleet can be classified into four main groups, artisanal fishing fleet, nearshore and inshore fishery vessels, the offshore/distant water vessels, and the tuna fleet. Artisanal and nearshore fishery is the fishing practice undertaken by the largest number of people, with fishing serving as an important aspect of coastal communities' livelihoods. For example, the fisheries sector in total accounts for around 60 percent of the national animal protein supply, and fish and seafood account for 16 percent of total household spend on food (Koranteng, 1998; Antwi-Asare and Abbey 2011).

Artisanal fishery is mainly operated from beaches by means of wooden canoes. There are three types of canoe in Ghana ranging from 3 to 5 m small dugout canoes mainly propelled by paddle, through medium 6 to 11 m wooden canoes propelled by paddle, sail and outboard engine, to large 12 to 18 m wooden canoes mainly motorized by outboard engine (Doyi, 1984). Approximately 50 to 60 percent of the canoes are powered by outboard motors with engine power of less than 40 hp (FAO 2010; Kwadjosse 2009). Some artisanal vessels that are better equipped may operate at ranges of up to 120 miles from harbour (de Lesteng, 2007). Crews for the larger canoes range between 4 and 30 people, depending on the canoe size and fishing gear. This fleet operates different fishing gears as hook and line and beach seines used to exploit demersal fishes. They also use drift gill or beach seines nets. The main species they target are sardinella species, seabreams, snappers and groupers, among others.

The inshore/nearshore fishing fleet consists of locally built wooden vessels fitted with inboard engines of up to 400 hp ranging between 8 m and 37 m in length. Vessels with lengths less than 12 m are referred to as small-sized while those between 12 and 22 m are referred to as medium-sized vessels (FAO 2010).

There are about 300 inshore vessels, operating from seven landing centres, the larger centres being Takoradi, Tema, Elmina and Sekondi and the smaller centres being Apam, Axim, Mumford (IFS 2011). Currently this sector is estimated to land about 2% of the total marine fish production (Kwadjosse 2009). The inshore fleets are mainly multi-purpose and operate as purse-seiners during the upwelling periods and switching to bottom trawling for the rest of the year. Most purse-seine nets measure 400 to 800 m long, are 40 to 70 m deep and have a mesh size of approximately 25 to 40 mm. Bottom trawl gear has a mesh of 40 mm at the end of the net (cod end), 45 m head rope and 40 m foot rope. The fishermen in this category can stay offshore for three to five days depending on the availability of catch and, as such, carry ice for preserving fish, and they have a range of up to 200 nautical miles (de Lesteng, 2007).

The industrial fishing fleet is composed of trawlers, shrimpers and tuna boats that may remain at sea for periods that last up to one month. According to FAO (2014) the fleet in Ghana includes approximately 60 trawlers and about 29 tuna boats. As deep-sea vessels, they are required by the Fisheries Act of 2002 (Act 625) to operate outside the Inshore Exclusion Zone (IEZ), that is, in waters greater than 30 m depth (or 12 nautical miles), but as they generally cannot trawl in depths greater than 75 m, due to the state of disrepair of vessels and engines, their operational area is limited to areas between these two depths. The tuna fleet operates throughout the Gulf of Guinea. The geographic range for Tuna fishery is between 20 nautical miles (nm) and 200 nm (exclusive economic zone) EEZ. Artisanal fishermen operate by means of canoes from open beaches where landing facilities are usually not well developed. There are numerous landing sites along the coastline, and each will be under the control of a Chief fisherman.

A typical industrial vessel landing site is equipped with a landing berth, net mending sheds, fish discharge sheds, fish market, offices and a boatyard. Tema Fishing Harbour is the main landing site for industrial vessels, though Takoradi harbour also has berthing facilities for industrial vessels. Together, the industrial vessel landing sites reported 86,454 tonnes, or just over one quarter of total marine fish output in 2002.

Inshore landing sites would typically include some of the following: berthing bay, boatyard, boat repair facilities, net mending shed, workshop for repair and maintenance of outboard motors and marine engines, net drying area and fish market. The most important landing sites for inshore vessels are Tema Fishing Harbour, Takoradi fish landing

facilities, the old Sekondi Fishing Harbour, and the Albert Bosomtwe Fishing Harbour. Together, the inshore landing sites reported 7785 tonnes, equivalent to about 3% of marine fish output, in 2002.

Typically, artisanal landing sites are characterized by a dearth of the facilities available at the industrial and inshore vessel landing sites. Important artisanal landing sites are Teshie, Jamestown, Chorkor, Shama, Axim, Elmina, Winneba, Mumford, Akplabonya, Adina, Atiteti, Abutiakope and Moree. Together, the artisanal landing sites are estimated to have accounted for 20 0769 tonnes of fish, equivalent to 69% of total marine fish output in 2002.

4.6.7 Coastal Cultural Heritage

The monuments that make up Ghana's material cultural heritage include colonial-era structures as well as homes with traditional Ghanaian design and construction. Artefacts like pots, stools, musical instruments, fabrics, clothing, leather crafts, weapons, tools, sculptures, masks, jewellery, and ritual dolls are included in the moveable cultural heritage. Numerous archaeological discoveries are also included in Ghana's tangible cultural heritage. shrines and rituals are central for peoples' religious and cultural identity.

Heritage Monuments

Ghana has rich coastal heritage sites along its coastline. The UNESCO has documented 32 forts and castles along Ghana's coast as World Heritage Sites. These forts and castles, founded between 1482 and 1786, and spanning a distance of approximately 500 km along the coast of Ghana between Keta in the east and Beyin in the west, were links in the trading routes established by the Portuguese in many areas of the world during their era of great maritime exploration. The castles and forts were built and occupied at different times by traders from Portugal, Spain, Denmark, Sweden, Holland, Germany and Britain. They served the gold trade of European chartered companies. Latterly they played a significant part in the developing slave trade, and therefore in the history of the Americas, and, subsequently, in the 19th century, in the suppression of that trade.

There are three Castles (Cape Coast, St. George's d'Elmina and Christiansborg at Osu, Accra), 15 Forts (Good Hope at Senya Beraku; Patience at Apam; Amsterdam at Abandzi; St. Jago at Elmina; San Sebastian at Shama; Metal Cross at Dixcove; St. Anthony at Axim; Orange at Sekondi; Groot Fredericksborg at Princess town; William (Lighthouse) at Cape Coast; William at Anomabu; Victoria at Cape Coast; Ussher at Ussher town, Accra; James at Jamestown, Accra and Apollonia at Beyin), four Forts partially in ruins (Amsterdam at Abandzi; English Fort at British Komenda; Batenstein at Butre; Prinzensten at Keta), four ruins with visible structures (Nassau at Mouri; Fredensborg at Old Ningo; Vredenburg at Dutch Komenda; Vernon at Prampram and Dorothea at Akwida) and two sites with traces of former fortifications (Frederiksborg at Amanful, Cape Coast and Augustaborg at Teshie, Accra).

The basic architectural design of the Forts was in the form of a large square or rectangle. The outer components consisted of four bastions/batteries or towers located at the corners, while the inner components consisted of buildings of two or three storeys with or without towers, in addition to an enclosure, courtyard or a spur. Many have been altered, during their use by successive European powers, and some survive only as ruins. UNESCO has designated three of these castles, namely Cape Coast Castle, St. George's Castle and St. Jago Fort at Elmina, as World Heritage Sites (Wellens-Mensah et al. 2002).

Heritage Festivals

Festivals are typically when the people's rich cultural heritage is most evident. The Volta Region is renowned for its colourful festivals. The Anlos people celebrate the legendary Hogbetsotso festival, which translates to "festival of Exodus" from the Ewe language, while the people of Wli hold a special festival to thank God for the gift of water. Locals perform the traditional Borborbor dance as chiefs, dressed in vibrant regalia, are recognized by their subjects at the festival's conclusion. The vibrant dancing and singing of the Volta festivals serve as a continual reminder of the area's enormous diversity of tribal history and culture.

Homowo (hooting at hunger) is a harvest festival celebrated by the Ga people who are natives of the Greater Accra Region. It is characterised by rituals such as the sprinkling of “Kpokpoi” (the festival dish) to the gods and ancestors for spiritual protection, a procession of twins through the principal streets, traditional drumming and dancing, and general merrymaking. A month before the celebration, there is a ban on noise making. Homowo is celebrated at different times by different communities. This is because it is linked to the harvesting of new maize. The Kplejoo festival is peculiar celebrated by the Tema people and is celebrated around Easter time around March or April each year.

The Central Region’s culture is depicted through its many exciting festivals which are held throughout the year. Some of the best known festivals are ‘Bakatue’, literally the opening up of Benya Lagoon into the sea, which symbolised the beginning of the fishing season for the people of Elmina; ‘Edina Buronya’, a native version of Christmas celebrated by the people of Elmina on the first Thursday of the New Year; ‘Aboakyer’ or game hunting, one of the most famous festivals celebrated by the chiefs and people of Winneba on the first Saturday in May; and ‘Fetu Afahye’ celebrated with a durbar of chiefs by the people of Cape Coast on the first Saturday of September. Another famous festival is ‘Odambea’ celebrated on the last Saturday in August in Saltpond Traditional Area, and reflecting a migration of the local people centuries ago.

In the Western Region, the Ahanta and Nzema both celebrate the traditional Kundum festival. Kundum festival may be regarded as a harvest festival, as well as a period for remembering the dead, cleansing the community and setting new goals for the coming year.

4.6.8 Coastal Tourism

The cultural heritage sites and beaches are great resources for coastal tourism development. They attract a large number of domestic and international tourists. However, coastal tourism contributes to the threats to the coastal and marine ecosystems through tourism-related pollution and contamination.

4.6.9 Disability

The 2021 Census data on persons with disabilities in Ghana has not been released by the Ghana Statistical Service. However, 2010PHC data indicates that there are about 737,743 persons with some form of disability, representing 3.0 percent of Ghana’s total population. The data also show that there are more females (52.5%) than males (47.5%) with some form of disability. Volta Region has the highest proportion of population with disability in Ghana (4.3%) and the highest among the coastal regions, Central Region (3.4%), Western Region (2.8%) and Greater Accra Region (2.6 %). Visual or sight impairment (40.1%) is the most common disability, followed by physical challenges (25.4%), emotional/behavioural problems (18.6%) and intellectual malfunctioning (15.2%). Visual or sight impairment is also the most common form of disability among both males (38.0%) and females (42.0%).

Table 17: Employed Population 15 Years and Older by Industry, Sex, and Coastal Region

Industry	All Regions			Coastal Regions			Western			Central			Greater Accra			Volta		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
Agriculture, forestry and fishing	33.0%	36.6%	28.8%	18.5%	20.7%	16.0%	35.4%	38.9%	30.9%	30.5%	33.9%	26.9%	3.9%	4.9%	2.8%	33.2%	36.5%	29.6%
Mining and quarrying	1.1%	1.9%	0.2%	1.4%	2.4%	0.3%	6.1%	10.0%	1.1%	1.0%	1.8%	0.2%	0.7%	0.5%	0.1%	0.3%	0.4%	0.3%
Manufacturing	6.7%	5.9%	7.7%	8.1%	7.5%	8.7%	6.9%	5.3%	8.9%	6.9%	5.3%	8.7%	19.1%	9.0%	8.1%	9.7%	8.4%	11.1%
Electricity, gas, steam and air conditioning supply	0.5%	0.9%	0.1%	0.7%	1.3%	0.1%	0.6%	1.0%	0.1%	0.6%	1.1%	0.0%	2.0%	1.5%	0.1%	0.5%	1.0%	0.0%
Water supply; sewerage, waste management and remediation activities	0.1%	0.2%	0.1%	0.2%	0.3%	0.1%	0.1%	0.2%	0.1%	0.1%	0.2%	0.1%	0.5%	0.3%	0.1%	0.1%	0.2%	0.1%
Construction	5.2%	9.1%	0.7%	6.3%	11.4%	0.6%	4.3%	7.3%	0.4%	6.3%	11.7%	0.4%	16.2%	13.0%	0.8%	5.3%	9.8%	0.5%
Wholesale and retail trade; repair of motor vehicles and motorcycles	18.7%	10.1%	28.8%	22.4%	12.6%	33.6%	15.7%	7.2%	26.6%	19.2%	9.0%	30.1%	61.0%	17.2%	39.1%	16.9%	7.5%	26.8%
Transportation and storage	5.2%	9.5%	0.2%	6.6%	12.2%	0.3%	5.5%	9.7%	0.2%	6.1%	11.6%	0.1%	16.8%	13.7%	0.5%	5.5%	10.6%	0.1%
Accommodation and food service activities	5.3%	1.5%	9.8%	6.6%	1.9%	12.0%	5.3%	1.3%	10.5%	6.4%	1.5%	11.7%	16.3%	2.5%	12.9%	6.0%	1.3%	10.9%
Information and communication	0.5%	0.7%	0.2%	0.8%	1.2%	0.4%	0.3%	0.4%	0.1%	0.4%	0.6%	0.1%	2.9%	1.9%	0.6%	0.3%	0.4%	0.1%
Financial and insurance activities	1.5%	1.6%	1.3%	2.0%	2.2%	1.8%	1.2%	1.2%	1.2%	1.2%	1.4%	0.9%	6.3%	3.0%	2.6%	1.1%	1.4%	0.7%
Real estate activities	0.1%	0.2%	0.0%	0.2%	0.3%	0.0%	0.1%	0.1%	0.0%	0.1%	0.2%	0.0%	0.5%	0.4%	0.1%	0.1%	0.1%	0.0%
Professional, scientific and technical activities	1.4%	1.7%	1.0%	1.9%	2.4%	1.2%	1.1%	1.4%	0.7%	1.2%	1.5%	0.8%	5.8%	3.4%	1.7%	1.0%	1.3%	0.7%
Administrative and support service activities	0.8%	0.9%	0.7%	1.2%	1.3%	1.0%	0.7%	0.8%	0.5%	0.7%	0.9%	0.5%	3.8%	1.8%	1.6%	0.6%	0.8%	0.5%
Public administration and defence;	1.7%	2.3%	0.9%	2.4%	3.3%	1.3%	1.6%	2.3%	0.7%	1.2%	1.8%	0.6%	7.6%	4.6%	2.0%	1.3%	2.0%	0.6%

Industry	All Regions			Coastal Regions			Western			Central			Greater Accra			Volta		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
compulsory social security																		
Education	5.9%	6.1%	5.7%	5.8%	5.6%	6.0%	5.0%	4.6%	5.5%	6.7%	7.3%	6.1%	11.8%	4.5%	6.2%	7.0%	8.2%	5.7%
Human health and social work activities	2.6%	1.9%	3.4%	2.7%	1.9%	3.7%	2.1%	1.3%	3.0%	2.3%	1.7%	2.9%	7.1%	2.2%	4.4%	2.6%	2.0%	3.3%
Arts, entertainment and recreation	0.9%	0.9%	0.8%	1.1%	1.3%	1.0%	0.6%	0.6%	0.6%	0.8%	0.9%	0.7%	3.2%	1.7%	1.2%	1.2%	1.4%	0.9%
Other service activities	8.3%	7.6%	9.1%	10.5%	9.9%	11.1%	7.0%	6.0%	8.2%	8.0%	7.4%	8.6%	30.3%	13.2%	14.1%	6.8%	6.4%	7.3%
Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	0.5%	0.3%	0.6%	0.6%	0.4%	0.8%	0.3%	0.2%	0.4%	0.3%	0.2%	0.4%	1.8%	0.5%	1.1%	0.4%	0.3%	0.6%
Activities of extraterritorial organizations and bodies	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%

Source: Population and Housing Census (2021)

4.7 Baseline Characteristics of Project Priority Sites

4.7.1 Korle Lagoon

Korle Lagoon has a surface area of approximately 0.127 square kilometres. It is located within the south-western part of the Accra Metropolis, with an elevation of about 7m above sea level. Three main waterways convey their flows into the Korle lagoon, namely Odaw stream, Kaneshie stream and the Agboghloshie stream. The Korle Lagoon is divided into the Upper lagoon extending from the Korle Lagoon Ecological Restoration Project (KLERP) interceptor to the Guggisberg Bridge and the lower lagoon, which extends from the Guggisberg bridge southwards to the Winneba bridge with its outfall into the ocean (Gulf of Guinea). The total surface area of the lagoon is 243,292m², with a length of 1.422km and an average width of 195.70m. The Korle Lagoon constitutes the principal outlet to the sea, as most drainage channels in the capital are connected to it before it finally enters the Gulf of Guinea (Figure 12). It is fed by the Odaw River, which flows through the suburbs of Accra, its catchment area covering 60% of the city. The wetland areas and banks of the lagoon are affected by informal settlement and rapid urban growth, so that they now host poor slum areas such as Korle Gonno, Korle Dunder, Adadinkpo and James Town. The lagoon, a major basin, receives floodwater from a catchment area of 400 square kilometres. The discharge water collects silt and debris as they are transported into the lagoon, which often blocks the main outlet to the sea. The flow rate is gradually reduced as a result of the blockage, depriving the lagoon water of oxygen. The interceptor weir was built as part of the KLERP. The aim of this project was to restore the ecological value of the heavily polluted Korle Lagoon, as well as providing an upgrade to the surrounding natural drainage system in general. However, due to various reasons the Interception Weir no longer functions as designed. Nowadays, the Interception Weir causes accumulation of solid waste and can cause a major obstruction during a flash flood as solid waste will likely block the weir. Solid waste accumulating behind the weir and bridges creates additional barriers and contributes to rising water levels. The weir causes backwater effects during high flows and exacerbating the floods upstream.

The lagoonal system, which could have been an attractive landscape and support socio-economic activities for local communities, have become one of the most polluted water bodies in Ghana. Large amounts of untreated domestic, industrial, and medical wastes which are discharged into surface drains have led to severe pollution in the lagoon and disrupted its natural ecology. The Korle Lagoon has become stagnant and is prone to flooding, which regularly affects large numbers of urban residents. Managing the volume of waste poses a major challenge for the city authorities, particularly, ensuring that all the waste generated is collected for disposal.

Flora: There is very little to no vegetation. The main patch of vegetation remaining in the project area is found on the island and boundaries of the Upper Korle Lagoon. Here, patches of the once abundant mangroves and other vegetation can be found and offer a resting place for birdlife.

Fauna: Various birds do inhabit the patches of vegetation around Korle Lagoon and the island in the lagoon could function as a resting place for migratory birds. Biney and Amuzu's study on migratory birds (1995) indicated that three species occurred in the environs of the lagoon at that time, with the mangroves along the shores serving as roosting places for wild ducks, egrets, and herons. However, the loss of mangroves and feeding opportunities has resulted in most other bird species going extinct at the location. No official recent bird surveys have been conducted in the area, but unofficial reports online noted the (potential) presence of the following birds (Table 18):

Table 18: Species of Birds Present Around Korle Lagoon

Bird Name	Scientific name	IUCN Status
Common Moorhen	<i>Gallinula chloropus</i>	Least Concern
Cattle Egret	<i>Bubulcus ibis</i>	Least Concern
African Pied Wagtail	<i>Motacilla aguimp</i>	Least Concern
Common Ringed Plover	<i>Charadrius hiaticula</i>	Least Concern
Laughing Dove	<i>Spilopelia senegalensis</i>	Least Concern
Pied Crow	<i>Corvus albus</i>	Least Concern
Pied Kingfisher	<i>Ceryle rudis</i>	Least Concern
Spur-winged Lapwing	<i>Vanellus spinosus</i>	Least Concern
Common Kestrel	<i>Falco tinnunculus</i>	Least Concern

Source: Margriet Hartman, Filip Schuurman, Jan Jurjen Schiphuis, Iris Dekker, Luuk Brinkman, Seth Larmie, Emmanuel Acquah, Patricia Antwi-Onyina, Ewuresi Opoku and Dziedzorm Sednam Amegashie, Kiki Siaw-Sapere, 2020, Environmental and Social Impact Assessment Deferred and Routine Maintenance Dredging Odaw Drainage Basin, Accra, Ghana

Water Quality: The results of the laboratory analysis to confirm the level of contamination of water media analysed for Korle Lagoon is presented in Table 19. The results are compared with the Canadian Environmental Quality Guidelines (CEQGs) –Protection of aquatic life and Target Water Quality ranges (TWQR).

Table 19: Water Quality Results compared with CEQGs and TWQR

Parameter	Results	WHO standard	CEQGs-protection of aquatic life	TWQR for protection of Aquatic Ecosystems
pH (pH Units)	6.89	6.5-8.5	6.5 – 9.0	
Apparent Colour (Hz)	7.50			
TSS (mg/l)	17.0	20-35		
TDS(mg/l)	28.50	250		
Residual Chlorine(mg/l)	<0.005			
Ammonia (NH ₄ -N, mg/l)	5.21	20		7
Nitrate (NO ₃ -N, mg/l)	0.052	3.0	13	
Phosphorous(mg/l)	0.274			
Free Cyanide (mg/l)	<0.001	2.0		0 - 0.1
Fluoride (mg/l)	<0.005	1.0	120	
Sulphide (mg/l)	<0.005			
Total Iron Mg/l	0.371			2
Zinc(mg/l)	0.110	0.5	7.0	
Lead(mg/l)	<0.005	0.01		1.0
BOD(mg/l)	29.5	500		
COD(mg/l)	105	1000		
Oil/Grease (mg/l)	2.50			
Arsenic (mg/l)	0.003	0.02	5	
Mercury (mg/l)	<0.001	0.05	0.026	0.04
Silver (mg/l)	0.247		0.25	
Cadmium (mg/l)	<0.002		0.09	0.4
Total Chromium(mg/l)	0.024			0 – 1
Copper (mg/l)	<0.010			
Selenium (mg/l)	<0.005	0.01	1	>0.14
Nickel(mg/l)	<0.001	0.07		
Manganese	16.3	0.50		

Source: Larmie 2019, Environmental Impact Assessment [EIA] Study for The Dredging in The Odaw Basin

Settlement: A particular problem with high socio-political significance at the Korle Lagoon is the major slum known as Old Fadama or Sodom & Gomorrah. The slum is located near the suburb of Agbogbloshie. Old Fadama occupies about 31 ha with a squatter community of estimated 30,000 people. In view of the precarious situation of the highly polluted Lagoon, the slum is believed to constitute its primary source of pollution, especially since the landfill opposite to Old Fadama was closed down and rehabilitated. However, alternative assessments say that only a small percent of the total pollution load entering the lagoon comes from the slum area (COHRE, 2004).

Still, the waste flows coming out of the slum through the Agbogbloshie drain and Odaw River are uncontrolled and ultimately end in the Korle lagoon. There is a local waste dump close to the lagoon, managed by the community without public support. Small-scale entrepreneurs provide independent sanitation services (public bathhouses, sachet water supply, waste transport) and obtain a livelihood out of providing these services but are possibly also polluting the lagoon. Since 1991, there have been repeated eviction actions in Old Fadama, in attempts to remove the settlers, who are still called 'outsiders' despite their extended tenure in the locale. The lagoon remains heavily polluted due to the incapacity of the government to work with the slum residents and their respective livelihoods. However, since the WACA ResIP II Project will support ecological restoration and redevelopment of the lagoon there is the risk that the government will further wish to relocate or forcibly evicting the marginalized slum residents. There is also potential economic displacement of the informal waste pickers that are active in solid waste collection of the material inflows that clog the Odow river and Korle Lagoon.

Culturally Sensitive: The lagoon occupies a central place in the history of Accra as a Ga settlement and continues to be a sacred site revered as a deity by the native Ga communities living around the area (Dakubu 1997; Grant 2009; Quayson 2014). During the colonial era, the British colonial administration's visions of turning the lagoon into a deep-water harbour and reengineering the lagoon as a malaria control measure clashed with the spiritual practices and beliefs of the local Ga populations for whom the lagoon was a sacred place (Roberts 2010). In the period (the 1960s) after Ghana's independence from British colonial rule, the government declared the area surrounding the lagoon as a green wedge to be appropriated into communal town parks mainly for leisure and recreation (Government of Ghana, Ministry of Housing 1958: 28).

The Korle Lagoon is culturally sensitive and is believed to inhabit a god and as such it is for example, 'forbidden' to have any form of contact with the lagoon on Saturdays. In May every year, traditional rites are performed in the lagoon prior to the Homowo festival which is the annual festival of the local Ga tribe. The chief priests need to be consulted about any activity to be carried out at the Korle Lagoon. Korle is a name of the lagoon goddess. It is believed that the Korle Lagoon, has a river goddess who dwells in it and that it has helped the people around that vicinity many years ago. If needed, ceremonies or rituals will be conducted prior to works. It is believed that corpses or dead bodies should not be used to cross the Korle bridge.

Future Activities in the Area: Dredging of the Korle lagoon is required to reduce flooding and provide improved flow in the existing channel system. The Odaw basin drainage channels have lost much of their potential natural hydraulic performance due to the build-up of sediments (about 1,084,091.42 m³) and solid waste materials over many years and with less than optimal dredging investments on an annual basis. The World Bank's funded Greater Accra Resilient and Integrated Development (GARID) Project (P164330) plans for the Deferred and Routine Maintenance Dredging of the Odaw Drainage Basin.



Material inflows that are clogging the Odow river and Korle Lagoon



The lagoon is heavily silted



Old Winneba Rd. bridge

Figure 12: Korle Lagoon (March 2022)

4.7.2 Keta Lagoon Complex Ramsar Site

The Keta Lagoon Complex Ramsar Site covers part of the Volta River estuary. It comprises several small islands and a complex of lagoons with varying salinity. The Lagoon is the largest of the over 90 lagoons that are found along the 550 km stretch of the Ghanaian coastline. This low-lying lagoon is 126.13 km in length, surrounded by settlements of several towns, flood plains and mangrove swamps. The Keta lagoon is separated from the sea by a narrow strip of sandbar. The dominant vegetation includes swamps, scrublands, and mangrove forests, which are heavily exploited by resident communities for fuel woods and commercial fishing.

Fauna: The site provides safe nesting grounds for the threatened olive ridley sea turtle (*Lepidochelys olivacea*), leatherback turtle (*Dermochelys coriacea*) and the green turtle (*Chelonia mydas*), and it is particularly important for the Nile monitor (*Varanus niloticus*) and the vulnerable West African Manatee (*Trichechus senegalensis*). It is considered the most important coastal wetland for birds in Ghana and supports over 72 resident and migratory bird species estimated to number over 100,000 individuals.

The common marine species in the lagoon are the mojarra (*Gerres melanopterus*), half beak (*Hyporhamphus picarti*) and the needle fish (*Strongylura senegalensis*). Juveniles of the flat sardine *Sardinella mardensis*, mullets *Mugil curema* and *Liza falcipinn* as well as *Caranx hippos* are also available. The endemic fishes in the lagoons are mostly cichlids. *S. melanotheron* is the dominant fish with *I. guineensis*, *I. zillii* and *H. fasciatus* also found in the catches.

Geology: The Keta-Anloga area lies in the Tertiary Eocene and Cretaceous geological formation which cover the south-eastern and south-western corners of the country. The sedimentary rocks covering the cretaceous rocks consist of clay, loose sand and gravel deposited at the mouth of major rivers and around the Keta Lagoon. The cretaceous rocks consist of sandstone, shale and limestone found at the extreme ends of the coast. Prospects for shallow groundwater are good in the cretaceous and tertiary sediments. However, the water tends to be saline in some cases.

Settlements: The lagoon is surrounded by many settlements. The towns include Anloga, Woe, Keta and Kedzi to the south, Aborlove Nolopi, Anyako and Anlo Afiadenyigba to the north, Kodzi, Alakple and Tregui to the west and Denu and Adina to the east. Seva is an island located in the Keta Lagoon. Other islands include Dudu with no human habitation and Netivi Kpota where there are coconut trees.

Problem of flooding: There is constant flooding of the area after heavy rains and also from the inflow of Kplikpa and Aka rivers into the lagoon. The Keta Sea Defence project has created a canal between the lagoon and the sea so that over flooded water can go through the canal into the sea.

Socio-economic activities: The lagoon and its Ramsar site contribute significantly to the economic wellbeing of the people. The lagoon supports the livelihood activities of hundreds of thousands of people. It constitutes an important source of livelihood for the people who live in its catchment areas and beyond the region. The main economic activities supported by the lagoon are farming, fishing and salt mining. Coconut trees abound close to the coastal areas from which coconut oil is extracted. An opportunity also exists for turning aquatic weeds harvested by women into bags, mats and other handicrafts that will provide alternative livelihoods to generate income especially for women. The Anlo- Keta area also abounds in native culture and tradition that could attract eco-tourists. Projects involving private and public partnership could help develop playgrounds and picnic areas, lagoon swimming facilities, sailing and fishing, cycling, beach volleyball and jogging as sports to attract local recreational tourism.

Culturally Sensitive: The practitioners of the traditional Anlo belief system have a strong spiritual attachment to the lagoon. It is believed that the lagoon has gods who must be worshiped if the people wish to get abundant catch. One of the gods is called 'Gbele' where the people of Anlo Afiadenyigba once every year perform some rituals for the lagoon. At times a live cow is deposited in the lagoon so that there could be a bumper harvest. The Bate Clan assert their relationship with Mama Bate, a sea Orisha, and claim responsibility for the expansion of the land around Keta as arising from this relationship with her.

Threats: Sea erosion and pollution are the major threats.

4.7.3 Densu Delta Ramsar Site

The Densu delta wetland is located at about 11km west of Accra and comprises of an open lagoon, salt pans, freshwater marsh and scrub and sand dunes. The wetland is fed mainly by the Densu River, which is dammed upstream (Weija Dam), to supply water to the city of Accra. The Delta covers an area close to 6,000 ha. It is located west of Dansoman, south of Mallam, McCarthy Hill and Aplaku, and east of Bortianor (Figure 13). The wetland receives water mainly from the Densu River, which supplies water to approximately half of the Accra metropolitan area. The southern section of the Delta is estuarine where it empties into the sea at different locations depending on the season. There are human settlements all around the wetland, a situation that has been compounded in recent times by the need for land for housing within the Accra metropolitan area. The loss of woody vegetation covers and an increase in the bare and built up area at the wetland imply an aggregate loss of critical habitats such as breeding sites of resident water birds (e.g., herons, long-tailed cormorant).

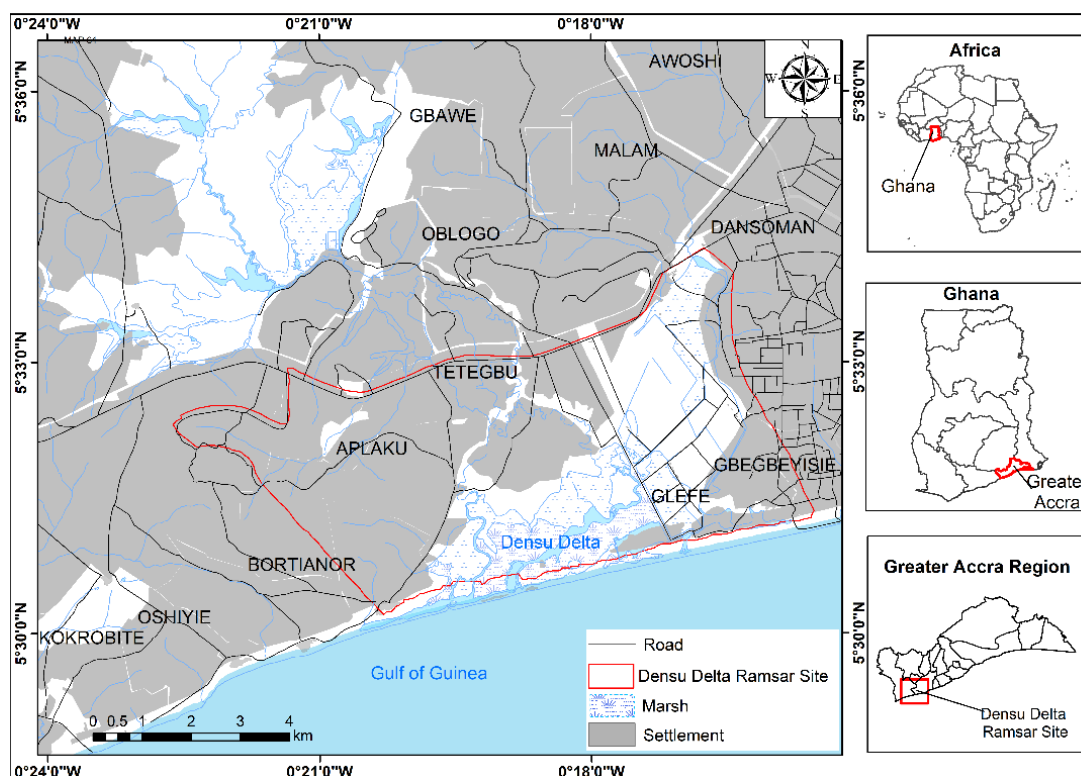


Figure 13: Densu Delta Ramsar Site

Source: Green WaterHut, 2022

Flora: Sparse mangroves stands are found in some areas around the estuary, while the freshwater parts of the wetland support stands of *Typha*, *Imperata* grasses, and *Cyperus* sedges. Densu Delta wetland is important for species of resident and migratory waterbirds.

Fauna: Sixty species of waterbirds have been recorded at this site with an estimated population of some 35,000 birds, including globally important numbers of eight species (*Tringa erythropus*, *Sterna maxima*, *Sterna sandvicensis*, *Sterna dougallii*, *Sterna hirundo*, *Sterna albifrons*, *Chlidonias niger* and *Egretta garzetta gularis*). The site is particularly important for roosting terns and is the second most important site for the rare *Sterna dougallii*. In addition to the species occurring in globally important numbers, the site supports significant populations of *Calidris ferruginea*, *C. minuta*, *Charadrius hiaticula* and *Egretta garzetta*. Three species *Glareola pratincola*, *Himantopus himantopus* and *Sterna albifrons* breed regularly at the site. The proximity to Accra and easy access around the site as result of the salt pan construction make the site attractive for bird watching. Three species of marine turtles *Lepidochelys olivacea*, *Chelonia mydas* and *Dermochelys coriacea* have been recorded nesting on the beach front of the site. Migratory birds are usually observed here between the months of November and March as they flee the cold and freezing temperatures of Europe and the Americas.

Geology: The geology consists of metamorphosed sedimentary rocks, namely; quartzite, schist, and phyllites, which may be incompetent and susceptible to fracturing upon stress. The rocks were first described by (Kesse, 1985), who assigned the name Akwapimian to these rocks.

Water quality: The Hydrochemical data of surface water for the Densu Delta presented in Table 20. Water samples are neutral to slightly basic pH of 6.4- 8.1 with a mean value of 7.51. The pH values recorded at all sampling points meet the USEPA criteria (6.5-9.0) for freshwater aquatic life (USEPA, 1982). Conductivity (EC) ranges from 150 to 3412.0 $\mu\text{S}/\text{cm}$. Conductivity is a measure of total dissolved solids and ionized species in water and it is a good indicator of major ions inorganic pollution. The range of Total Dissolved Solids (TDS) is from 80 to 1750 mg/L and salinity ranges from 0.01 to 14.83 ppm. The mean and median values of the Electrical Conductivity (EC) are 1636.42 $\mu\text{S}/\text{cm}$ and 1221.00 $\mu\text{S}/\text{cm}$ respectively. The standard deviation with respect to the

mean is 1066.76 μ S/cm. The difference may reflect the wide variation in activities and processes prevailing in the surface and sub-surface (Amadi and Amadi, 1990). Sodium levels were found to be very high with a mean of 2424.21; this could be due to its natural abundance in the earth's crust. Naturally Na⁺ may originate from rock-water interactions (Chapman, 1996). However other sources like the landfill site, salt mining site which are in the wetland and also proximity to the sea could also have accounted for the high concentrations of sodium. The potassium ion (K⁺) had a mean value of 39.90 and a median of 32.20 which higher than the WHO Limit (1998) for drinking water. The possible source of K⁺ could be from potassium salts in fertilizers used by farmers around the delta which have gotten in the wetland due agricultural run-offs. The mean concentrations of the trace elements in water in the various sampling points are presented in Table 20. It can be seen that all the elements are higher than their various WHO standards. Comparatively the Al concentrations are higher than all other elements. This might also be due to weathering of aluminium based minerals such as alumina in the riverbed. The values are higher than domestic water supply of 0 to 0.15 mg/L (Savory and Will, 1991). Arsenic (As) levels in the river have a range of 0.04 to 0.45 mg/L and a mean of 0.17 mg/L, the possible source may be from the landfill, or other anthropogenic activities upstream; this is because the geology of the area does not support availability of these ions; Cadmium (Cd), Zinc(Zn), Chromium(Cr), Vanadium(V), Manganese(Mn), Iron(Fe) and Copper (Cu), have concentrations varied between 0.02 to 0.18, 0.05 and 3., 0.01 to 0.08, 0.05 to 3.7, 0.11 to 6.71, 0.31 to 3.86 and 0.18 to 8.00 mg/L, respectively.

Table 20: Hydrochemical Data of Surface Water at Densu Delta

Parameters	Mean Results	WHO standard
Temp	26.33	22-29
pH	7.51	6.5-8.5
EC (μ S/cm)	1636.42	700
Sal (ppm)	3.80	
TDS (mg/L)	705.08	1000
Na ⁺ (mg/L)	2424.21	200
K ⁺ (mg/L)	39.90	30
Ca ²⁺ (mg/L)	46.88	
Mg ²⁺ (mg/L)	16.78	
Cl ⁻ (mg/L)	3906.58	250
SO ₄ ²⁻ (mg/L)	41.08	250
Alk (mg/L)	124.69	400
HCO ₃ ⁻ (mg/L)	153.24	
PO ₄ -P (mg/L)	0.11	<0.3
NO ₃ -N (mg/L)	0.37	50
BOD (mg/L)	4.02	<3.0
COD (mg/L)	9.60	250
Cd (mg/L)	0.11	0.05
As (mg/L)	0.17	0.005
Zn (mg/L)	2.05	-
Cr (mg/L)	0.04	0.05
Cu (mg/L)	2.53	0.05
V (mg/L)	0.53	-
Al (mg/L)	5.47	0.20
Mn (mg/L)	2.62	0.50
Fe (mg/L)	1.90	0.30

Source: Denutsui et. al. 2011, Assessment of Pollution into the Densu Delta Wetland Using Instrumental Neutron Activation Analysis, Research Journal of Environmental and Earth Sciences 3(6): 772-781, 2011

Socio-economic activities: The area is mainly being used for residential purposes (Tigme, 2005). Stone quarrying, fishing and peasant farming are some economic activities undertaken by majority of the inhabitants at these wetland areas. There are not much industrial activities in these areas, but the Bojo White Sand Beach Resort is one that attracts many people from all walks of life to the area. The immediate surrounding communities are predominantly fishing communities. Its location is in a cosmopolitan area with fast urbanization leading to encroachment in the northern parts of the wetland. Inhabitants of Bortianor, Tsokome, Tetegu, and Faana

communities use the water areas of the Delta for navigation and tourism purposes. These communities depend heavily on the estuary for commercial fishing, fuelwood harvesting and salt mining.

Threats: The main threat is urbanization, with uncontrolled and unauthorized housing development, resulting in complete habitat destruction and loss of the greater part of the floodplain and marshlands that were important for waders. Intensification of the salt mining activities and the persistent encroachment of the wetland for housing development appear to be exerting huge negative impact on the ecological condition of the wetland. This is manifested in the rampant variation in the population and species of migrant and resident waterbirds that roost at the site.

4.8 Baseline Characteristics of Other Potential Project Sites

Songor Ramsar Site

The Songor Ramsar Site is a closed lagoon with inundated mudflats, islands, broad sandy beaches and flood plains associated with the Volta River estuary. It is one of Ghana's wetlands that falls on the boundary of two flyways of water birds, the east Atlantic flyway and the Mediterranean flyway. The main wetland habitats include saline marshes with degraded mangroves, waterlogged grassland, riverine woodland, scattered thickets of shrubs and degraded coastal savannah characterized by farmlands, and eroded lands invaded by neem tree, fan palms, silk cotton trees and baobab trees. They serve as ideal feeding and roosting grounds for heron, egret, common greenshank, avocet, stilt, and other small waders and terns estimated at about 50,000 individuals, and as a reproduction site for fish species. The sandy beach plays host to the green sea turtle, leatherback sea turtle and the olive ridley sea turtle commonly found along the shores. Communities within the Site are engaged in fishing, farming and intensive salt extraction for their livelihoods. Tourism is another growing economic activity. Potential threats included coastal erosion and siltation.

Sakumo Ramsar Site

The Sakumo Ramsar Site covers an area of 1,364 hectares (3,500 acres) and is situated along the coastal road between Accra and Tema in the Greater Accra Region of Ghana. It comprises a coastal brackish-saline lagoon and the surrounding floodplains, freshwater marsh, coastal savannah grasslands with thicket vegetation, and a narrow sand-dune connection to the sea (Figure 14). Over 70 waterbird species, estimated to number 30,000 individuals, depend on the Site's resources during migratory and reproduction periods. Notable species include waders such as the spotted redshank and common greenshank (*Tringa erythropus* and *Tringa nebularia*), the collared pratincole *Glareola pratincola*, sandpipers, curlew, little stint *Calidris minuta*, the black-tailed godwit *Limosa limosa* and the black-winged stilt *Himantopus*, as well as terns such as *Sterna albifrons* and *Thalasseus sandwicensis*. The wetland is important for marine and freshwater fish species including the blackchin tilapia *Sarotherodon melanocheilus*, which represents about 97% of the fish population. The major threats are rapid population growth, urbanization, and the presence of sewage and domestic waste.

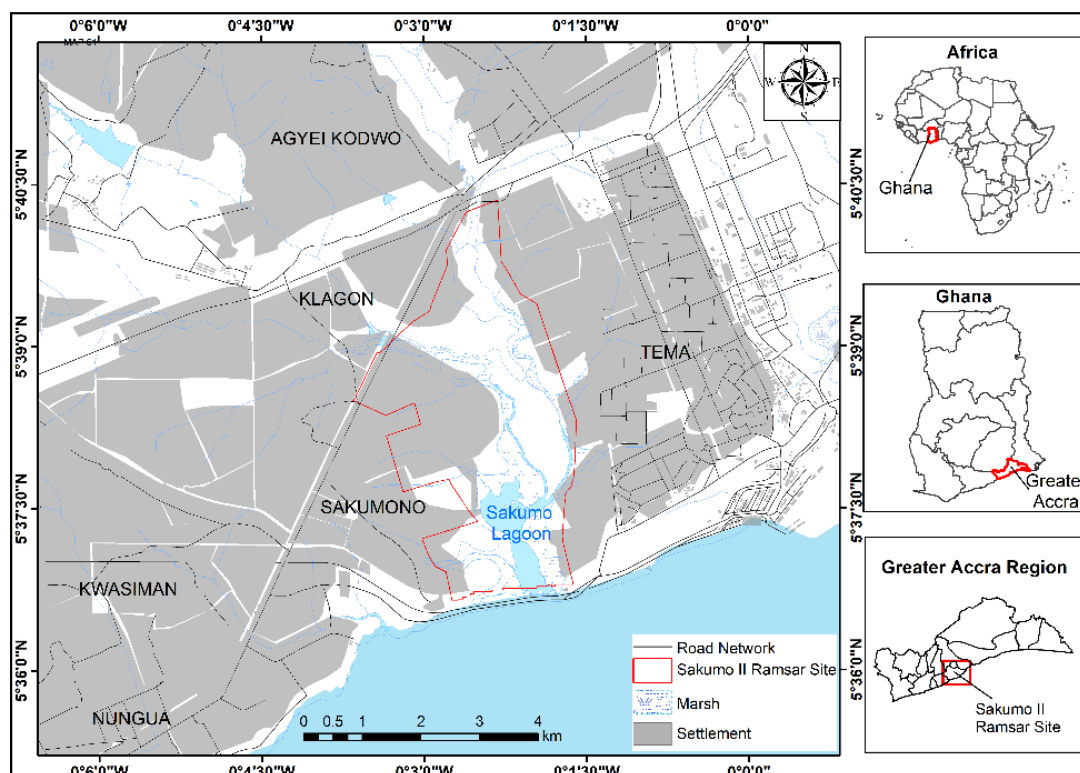


Figure 14: Sakumo Ramsar Site

Source: Green WaterHut, 2022

Muni-Pomadze Ramsar Site

The Muni-Pomadze Ramsar Site is located in Winneba in the Central Region of Ghana (Figure 15). It is made up of the Muni Lagoon, the surrounding flood plains and the adjacent sandy beach on the seafront. The site is characterized by sand dunes, degraded forest, scrub, farmland and marsh areas subject to tidal and seasonal inundation. The lagoon is a shallow, saline, semi-closed coastal lagoon, with a surface area of about 300 ha and is heavily fished during the lean season. The hill slopes facing the lagoon are fairly steep. The lagoon shoreline is covered by *Sesuvium portulacastrum*, *Paspalum virginicum* and *Sporolobus virginicus* in successive order up the dune side. The vegetation in the northern limits of the wetland included mangroves, with *Typha australis* and *Ludwigia erecta* and other typically freshwater hydrophytes occurring further inland. The vegetation in the upland areas is dominated by grassland, thickets and pockets of Eucalyptus and Cassia plantations. It provides feeding or staging habitats for migrating waders that spend the non-breeding season in Ghana and as roosting site for terns. Marine turtles' nest on the sandy shores, and an estimated population of about 23,000 water birds, including terns, waders, herons, and egrets, feed and breed in the wetland. It also contains a rich and diverse butterfly fauna, with about 75 species recorded. The eastern borders of the lagoon are covered by thick mangrove forests, which are exploited by local communities for commercial fishing and fuel wood. The narrow strip of the sand dune which separates the lagoon from the sea is mainly covered by coconut plantations which attract birdwatchers and tourists. Other human activities include grazing, farming and hunting. The main threats to the Site include rapid urbanization and encroachment.

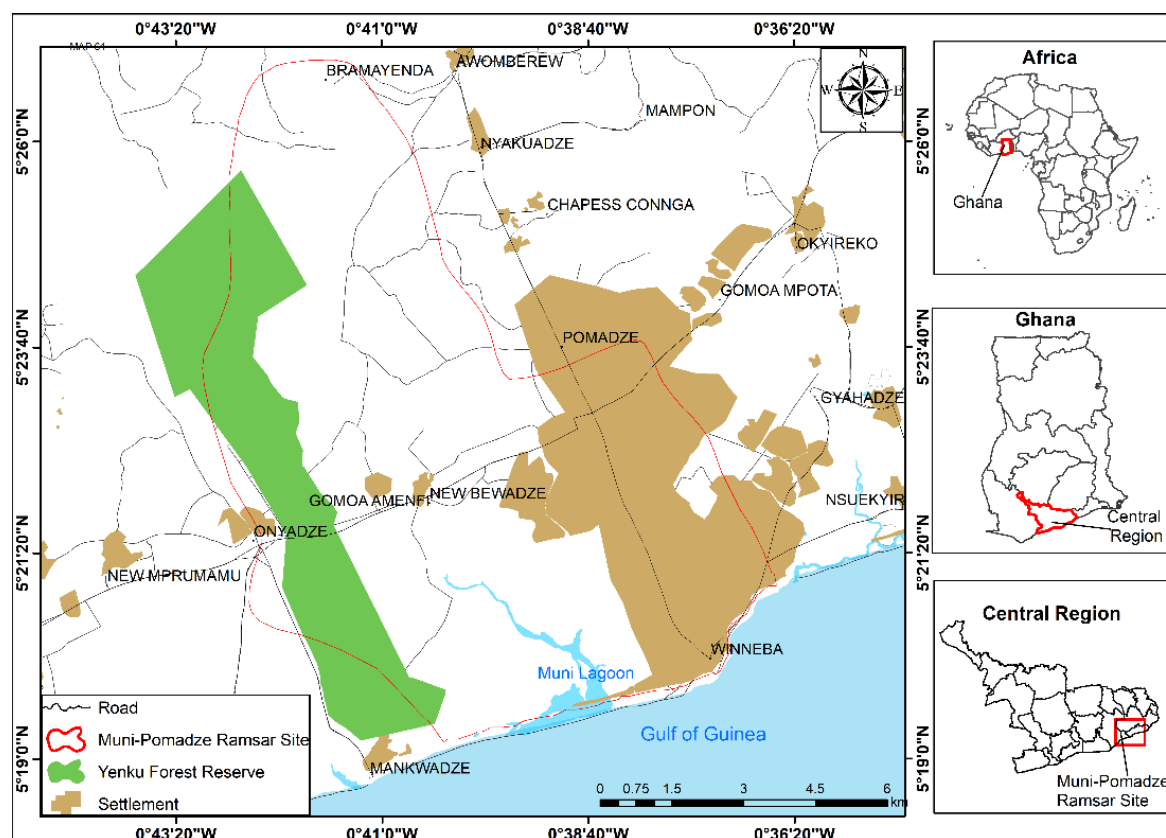


Figure 15: Muni-Pomadze Ramsar Site

Source: Green WaterHut, 2022

Amanzuri Wetland

The Amanzuri wetland is one of Ghana's most beautiful nature preserves, located in the Western Region. It is a complex of peat, swamp and mangrove forests, flood plains, and sandy shores with streams, rivers, freshwater lake, lagoons and the sea as environmental features. The Amanzuri catchment, including the coastal lagoon, estuary and Esiama beach which supports appreciable numbers of waterbirds. It is unique in Ghana, because it comprises several wetland categories and has the only known swamp peat forest and the largest stand of intact swamp forest in Ghana. The wetland is home to several species of plants and animals. Faunistic inventories have identified 27 species of mammals, including black-and-white colobus, mona and spot-nosed monkeys, forest squirrel and red riverhog, 26 species of reptiles and amphibians, including the slender-snouted crocodile *Crocodylus cataphractus* and the dwarf crocodile *Osteolemus tetraspis*, green mamba and black forest cobra, and 26 species of fish. The Amanzuri wetland has rich indigenous avifauna and hosts various migrant species; according to the inventories, a total of 105 bird species have been recorded, 65 of which are of global and national conservation interest. Due to its ornithological importance, the area has been classified as an Important Bird Area, and it also meets the criteria of the Ramsar Convention as Wetland of International Importance. However, its official designation as Ramsar site is still pending. Another characteristic of the site which further enhances its importance in terms of biodiversity is that the coastal areas constitute nesting sites for various marine turtle species, such as the rare leatherback turtle *Dermochelys coriacea*, Green turtle *Chelonia mydas*, and Olive ridley turtle *Lepidochelys olivacea*. In terms of flora, 33% of the 237 plant species identified are endemic to the wetland.

The key economic activities in the Amanzuri area are fishing, both in the wetland and at sea, local gin production (apeteshie), coconut processing, small-scale farming of crops such as coconut, oil palm, cassava, maize, cocoa and plantain, fish smoking, and small-scale trade. The freshwater fishery is particularly productive due to habitat heterogeneity.

The key threats to the conservation of biodiversity in the area are the breaking down of traditional approaches to resource management (such as the local taboos) and the spread of the giant aquatic grass *Vossia cuspidata* resulting

from eutrophication of the waters, which affects fish productivity. On the coast, consumption of sea turtle eggs by local inhabitants is a key threat. Other activities that are theoretically controlled by the existing by-laws but do occasionally occur are slash and burn agriculture, grassland burning for pasture, logging for fuel wood, and hunting.

Kpeshie Lagoon

The Kpeshie Lagoon is situated at La, a peri-urban township 11 km East of Accra. It is characteristically located on a low lying plain i.e., between Whittler Baracks corridor, on the eastern side and the La -Trade Fair corridor to the west where it forms a marshy zone. The lagoon was originally fed by the sea making the area hydrographic. The Lagoon has four wetlands with various inlets, however, as a result of siltation and pollution, the third and fourth segments have become extinct with isolated mangrove. The Lagoon in the past has served as a major fishing ground for the local fishermen. The Kpeshie Lagoon is threatened by human activities and large portions of the lagoon are being reclaimed and sold to individuals for residential and business development purposes. Extensive portions of the lagoon have been filled with sand, construction debris and garbage ready to be sold to prospective buyers.

Whin Estuary

The Whin Estuary is in the Ahanta West District of the Western Region of Ghana. The estuary orients itself oblique to the sea, relative to the shoreline at its narrow mouth. It is a shallow system with a few deep areas. The Takoradi Airport is located about 1.5 km north-east of the estuary. The surrounding communities depend on the Whin Estuary for their livelihoods, mainly finfish and shellfish harvesting. Fishers from Adakope, Kokompe, New Amanful and sometimes the residential estate area, also known as Beach Road, obtain their livelihood and income from the estuary. The Whin estuary supports a diverse fish community. Fish species of marine origin dominate the fish biota in the estuary. These include *Liza falcipinnis*, *Liza dumerilii*, *Mugil bananensis*, *Mugil cephalus*, *Mugil curema*, and *Sardinella maderensis*. Oyster harvesting is the main shellfish-targeted fishery in the estuary. Other shellfish include mussels, shrimps, and some estuarine gastropods. The Whin Estuary is experiencing human-induced disturbances or threats such as uncontrolled mangrove cutting, sewage pollution, sand winning, and farming activities.

Nakwa Lagoon

The Narkwa Lagoon is located south of the Ekumfi Narkwa community in the Ekumfi District of the Central Region of Ghana. Narkwa lagoon is formed by the flow of one of the two main tributaries of the Okye River which discharges into the sea through the lagoon. Conservatively, the lagoon covers about 110 ha of estuarine and littoral vegetation (mainly mangroves) in the north-eastern section of the lagoon. The mangrove cover fringing the north-eastern bank of the lagoon is not dense but with little exploitation; thus, it could be described as being moderately healthy. The lagoon serves as an important food source for the local people whose primary occupation is artisanal marine fishing. A salt factory situated north of the community draws water from the lagoon for salt production. Fish species of the lagoon are often used for subsistence, unlike the catches from the sea that are commercially sold, and some kept for home consumption. Important food fish of the lagoon include finfish such as black chin tilapia *Sarotherodon melanotheron* and shellfish such as the bloody cockle *Anadara senilis* and mangrove oyster *Crassostrea tulipa*. They're under threat due to anthropogenic human activities, mainly from mangrove cutting, resulting in physical loss of the ecosystem. A study conducted by Obodai, E.A. et al (2011) concluded that the Nakwa lagoons is polluted with Pb, As, Cd and Hg⁶.

Pra River Estuary

The Pra River Estuary, which is the second largest estuary in Ghana and is located in the Shama District of the Western Region of Ghana. It has about 1,000 ha of connecting marshlands, mangrove swamp and floodplains. The estuary has several hectares of adjoining wetlands which provide resources for communities living along the banks. The estuary is approximately 100m wide at the point of entry into the sea and is an area of high landscape value covering a biologically rich and diverse ecosystem comprising mangrove forests, salt marshes and swamps.

⁶ <https://ir.ucc.edu.gh/xmlui/bitstream/handle/123456789/5682/concentrations-of-heavy-metals-in-two-ghanaian-lagoons.pdf?sequence=1&isAllowed=y>

The estuary is characterized by extensive mangrove forest which offer ecosystem services and provide habitat for animal species such as birds and reptiles.

The Pra estuary is a multi-species fishery, comprising marine, brackish water and freshwater fin and shellfish. A total of thirty-two (32) species from nineteen (19) families have been identified in the Pra river estuary. Twenty (20) species belonging to eleven (11) families have also been documented to occur in the associated wetlands. Of the 32 species sampled from the estuary, 24 were marine, the commonest being grey mullets *Liza falcipinnis*, *Liza dumerilii*, *Mugil bananensis* and *Mugil curema* (Mugilidae), the marine catfish *Arius latiscutatus* (Ariidae), *Ethmalosa fimbriata*, the threadfin *Galeoides decadactylus* (Polynemidae), the snapper *Pomadasys peroteti* (Haemulidae), and the pink shrimp *Penaeus notialis*. The brackish water fishes identified were mainly the black-chinned tilapia *Sarotherodon melanotheron* (Cichlidae), the mudskipper *Periophthalmus barbarus* (Gobiidae), and the crab *Goniopsis pelii* (Grapsidae). Of all the species identified within the estuary and wetlands, the Black-Chinned Tilapia *Sarotherodon melanotheron* has been prioritised to be the most economically viable species to concentrate management actions on.

The estuary provides important fishery resources for fringing communities. The fishery is declining due to over-exploitation of the fisheries resources through illegal and unsustainable fishing practices, siltation of the river and degrading water quality attributable to illegal mining activities. Other threats include over exploitation of mangroves and agricultural activities along the river. Human-induced degradation, in addition to other factors have accelerated the decline in fish harvested from the Pra River and its associated tributaries.

Flooding is a major phenomenon that adversely impacts and degrades the natural environment within the Pra River estuary. Flooding which occurs during the raining season normally leads to some communities getting cut off or isolated from social and economic interactions with others. Erosion is also common in most communities. In 2017, three incidences of rapid erosion combined with storm events caused the Anlo Beach community to be completely cut off with all access road inundated. These developments led to the decision by the Shama District Assembly to consider and prioritise resettlement of the entire community in their Medium Term Development Planning (MTDP).

Fosu Lagoon

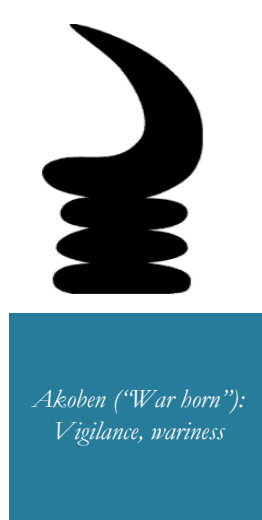
The Fosu Lagoon is situated in Cape Coast, the Central Region's capital city, Ghana. The geographical coordinates of the lagoon are 5°6'8.98"N, 1°15'8.58"W; 5°6'38.71"N, 1°15'49.11"W; 5°6'21.81"N, 1°15'45.34"W; and 5°6'33.60"N, 1°15'24.98"W. It has a surface area of 97.3 acres. The average water depth of the lagoon is 1.6 metres. It is bounded by the sea to the south and surrounded by different vegetation cover. The lagoon is a small, closed lagoon isolated from the sea by a barrier that is normally breached by heavy rain or manually as part of the typical Fetu festival activities witnessed by the people of Cape Coast. Currently, the fish composition of the lagoon indicates that there are five species: *Sarotherodon melanotheron*, *Heterobranchius bidorsalis*, *Pellonula leonensis*, *Liza falcipinnis*, and *Clarias gariepinus*. The land-cover in the Fosu lagoon catchment is dominated by introduced vegetation with little remnant areas of mangrove vegetation. The lagoon is surrounded by many sites that act as point sources for discharge of pollutants. This includes domestic waste discharges from a highly polluted area, a metropolis transport garage on the northern side of the lagoon, and an industrial waste discharge from mechanical workshops on the northeastern side. Drains from an educational institution and a nearby hospital, household dumping, and sewages characterize the environs of the lagoon. The human activities in the area are immense and eutrophication has caused massive sedimentation and especially in the more populated northern sector, one can walk many meters on waterweeds as the lagoon has been transformed into waste and marsh land. The lagoon is surrounded by numerous sites that serve as point sources for contaminant emission. The lagoon is threatened by domestic and industry waste discharges.

Ankobra River Estuary

The Ankobra River Estuary is located in the South-western part of Ghana flows about 190 km south to the Gulf of Guinea (Atlantic) just west of Axim through the tropical, evergreen wet forest. Its chief tributaries are the Mansi and the Bonsa rivers. The resources of the Ankobra estuary contribute significantly to the livelihood of the river communities and provide critical ecosystem services to the majority of the people living in the basin. However,

human activities such as mining, logging, farming etc. are threatening the estuary and resulting in the depletion of fishery resources, forests, water and mangrove ecosystems associated with the estuary.

5. ENVIRONMENTAL AND SOCIAL RISK AND IMPACTS IDENTIFICATION



This section gives an overview of the potential E&S benefits, risks and impacts that will be associated with the planning, construction and operational phase of the project activities.

5.1 Environmental and Social Benefits, Risks and Impacts

5.1.1 Environmental and Social Benefits

Overall, the project is expected to have positive environmental impacts by restoring coastal ecosystems, especially wetlands and mangroves, to reduce the risk of erosion and flooding. The restoration of these coastal ecosystems will enhance their ecological and other services or benefits they provide, including coastal protection, habitat for biodiversity, fish production, recreation, soil and sediments regulation, nutrient regulation, disturbance and natural hazards regulation and other economic, recreational, aesthetic and cultural values. The project is likely to yield benefits in terms of mitigating the coastal erosion problems in Ghana. It would also contribute to enhancing the ecological benefits of legally protected areas.

The project will provide direct economic and other benefits to the local people and contractors. The exact number of project workers who will be engaged in relation to the project is currently not known yet. But direct employment by the project and direct employment in the supply chain by contractors will have a positive social impact on those people employed, their families and their local communities from wages and other benefits. There will be potential for small entrepreneurs to supply goods (e.g., food, drink, small supplies). The social subprojects will provide socio-economic benefits to local communities. The project will also promote participation and empowerment of local people, women and vulnerable groups.

5.1.2 Environmental Risks and Negative Impacts

The WACA ResIP II Project Component 3 activities may have an impact on the physical and biological environment. The following are the potential impacts and risks that are anticipated from the construction and operation phases of the Project:

- **Impact on Ecosystems, fauna and flora:** The project will take place in a highly fragile coastal area of mangroves, with the potential of coastal flooding and erosion and the fact that poorly designed and/or poorly implemented interventions could exacerbate erosion downstream. Construction in wetlands, estuaries, or other sensitive ecosystems may destroy or significantly damage exceptional natural resources and the benefits they provide (ecosystem services). This damage may reduce economic productivity, impair essential ecosystem services (such as flood risk reduction, which may become increasingly important in some areas as climate change alters precipitation patterns), or degrade the recreational or cultural value of these resources.
- **Change in Topography:** The earthworks and construction of coastal infrastructure, such as the construction of breakwaters, seawalls, revetments, groynes, and dikes, have the potential to alter local topography.
- **Waste generation and handling:** Non-hazardous and hazardous wastes will be generated during the construction and decommissioning phases of the project implementation. Improper handling and disposal of waste to be generated from the project implementation could have an adverse impact on the environment.
- **Health and safety risks to workers and communities:** Potential Occupational, Health and Safety risks and hazards that can be associated with the construction of physical infrastructure, would include: the conduct of hazardous work and exposure to physical, chemical and biological hazards during construction activities such as use of heavy machinery, use of hazardous materials; working at height, exposure to chemicals (as paints, solvents, lubricants, and fuel), travel and working on steep and treacherous terrain, traffic accidents, excavations hazards, lifting of heavy structures, exposure to construction airborne agents (dust, silica, etc.), ergonomic hazards during construction, environmental hazards (snakes, wasps, bees,

etc.), welding hazards (fumes, burns and radiation), cuts, trips and falls, accidents resulting in serious injuries or fatalities. stress and fatigue due to frequent or excessive manual handling of loads, heavy equipment and machinery use and movement around them whilst at work, trips and fall hazards, exposure to noise and dust, falling objects, lack or inadequate or inappropriate use of personnel protective gear and or safety accessories for workers among others.

- **Impact on soils :** This may occur due to: compaction of soil during construction; erosion of unconsolidated, exposed and stockpiled soils during a rain event; disturbance and dispersion of soils due to movement of construction traffic and equipment, unconsolidated soils; damage to infrastructure and equipment; use of contaminated fill material originating from polluted dredged sediments or polluted terrestrial borrow pit material; contamination of soil due to spills or leaks of fuels, lubricants and / or chemicals stored and used on site; contamination of soil due to leaks from wastewater and effluent storage; contamination of soils due to poor storage and management of solid and liquid wastes prior to disposal; and contamination of the soils due to leaks of fuels and lubricants from construction vehicles and plant. Improper extraction of construction materials such as wood, stone, gravel, or clay may damage terrestrial ecosystems. Where sanitary facilities for construction crews are inadequate, waste may contaminate soil and subsoil resources.
- **Impact on air quality:** This may occur due to: dust generated from construction activities, including disturbance of the arid land surface; movement of construction vehicles on unsealed roadways; Wind blowing over unprotected stockpiled and exposed soils, particularly those that are unconsolidated; Loading and unloading of materials on site; emissions from uncovered truckloads; movement and placement of fill material; exhaust (and greenhouse gas) emissions from construction vehicles, plant, and machinery. Exhaust emissions are likely to include nitrogen oxides (NO_x), carbon monoxide (CO), sulphur oxides (SO₂), hydrocarbons (HC), ozone (O₃) and total suspended particulates (TSP); and Odours generated from exposed dredged material.
- **Noise and vibration:** This may occur due to the use of construction equipment, including excavation, piling and earthworks equipment; and trucks delivering fill material and other construction materials to the Project site; waste materials from the Project site; and vehicles transporting construction personnel to and from the Project site.
- **Impacts on hydrology:** Alteration of the site may change hydrology, for instance, drainage patterns and water tables, which, in turn, may alter access to water or result in increased flooding or higher runoff.
- **Sedimentation of surface water:** Removal of natural land cover, excavation, extraction of construction materials, and other construction-related activities may result in soil erosion and in many cases, unwanted soil deposition. Erosion can, in turn, lead to sedimentation in receiving waters. Sedimentation may reduce the capacity of ponds and reservoirs, increase flood potential, change water chemistry by introducing new nutrients, or substantially alter aquatic ecosystems by changing streambed, lakebed, and estuary conditions. During the dredging activities there will be temporary changes in water quality in the area around caused by the increase in suspended sediments. The main alterations will be brought on by the sediment as a result of rising suspended solids concentrations and modifications in water transparency and colour, which are mostly brought on by the movement of fine sediment particles.

Generation of contaminated sediments: Dredging activities at some of the sites especially the Korle Lagoon may result in exposure to polluted or contaminated sediments and may affect the aquatic ecosystem . That said, the ESIA conducted for another project on the dredging of the Odaw and the Korle Lagoon reports that Sediments are not contaminated with heavy metals, pesticides and hydrocarbons.

- **Generation and disposal of dredged material:** Waste to be generated include, solid waste i.e. plastics and metals, vegetative biomass and sediments. The disposal of dredged material at the disposal site can contaminate the soil and groundwater e at the disposal site.
- **Contamination of water resources:** Hazardous materials may be used in construction. Examples include solvents, paints, vehicle maintenance fluids (oil, coolant), and diesel fuel. If these are dumped on the ground or washed into streams, they may contaminate ground or surface water supplies. This may harm the health of the local community, as well as populations living downhill and downstream. Aquatic

and terrestrial ecosystems may also be damaged. Where sanitary facilities for construction crews are inadequate, human waste may contaminate water resources. In addition, even if materials are not used in construction, excavation activities can uncover previously contained hazardous materials and hazardous waste may be released from the site.

- **Increased traffic generation:** This has the potential to generate the following: Noise impacts from the Project site and along transport routes; Air quality impacts due to exhaust emissions from within the Project site and along transport routes; Increased rate of degradation of local roads due to increased traffic levels and a large number of larger, heavier vehicles; Poor internal traffic management could increase safety risks to construction personnel; Reduction in traffic efficiencies along the transport routes and roads surrounding the Project site.

5.1.3 Social Risks and Negative Impacts

Key social risks that may be associated with project activities include possible physical and economic displacement from the project activities in the short-term and losses of assets and/or income due to impacts from project activities; potential inter-communal conflict; potential labour influx that in turn may exacerbate the risks related to SEA/SH, Violence Against Children; social exclusion of vulnerable groups such as persons with disabilities, the landless, elders and youth in the consultations process and access to benefits and development opportunities. Other risks include potential for child labour; community health and safety concerns; social fragmentation and disruption of traditional livelihoods. The following were considered in relation to the potential aspects and impacts of the construction and operation of the Project:

- **Lack of broad community support:** When not enough attention is paid to disclosure and public consultation, stakeholders' expectations of a project can be inaccurate and unrealistic. Affected stakeholders may consider themselves uninformed or excluded from the engagement process. All of this can lead to a lack of broad community support, which in turn can result in a lack of social license to operate, delays in permitting and to construction schedules, and conflicts that are costlier to treat than prevent. To manage this risk, the project has developed a Stakeholder Engagement Plan to provide the framework for engagement. Beyond the SEP, the project will support the establishment of a two-tier citizen platform: i) a national level CSO platform which will be represented in the WACA ResIP II SC and TC; and ii) a sub-national level community platform. The platform objective is to ensure project interventions are consistent with adaptation goals of communities, strengthen citizen voice in decision making, and strengthen linkages between local and national level policy goals around sustainable blue practices. Again, the project will emphasize communities as active agents of change rather than passive recipients. Social subprojects will be designed and implemented utilizing a community driven development (CDD) approach whereby communities most affected by development decisions, with their local knowledge and potential for collective action, are supported with opportunities and resources to determine and realize their priorities. Social subprojects will be implemented to spur job growth and provide opportunities for livelihood diversification, increase the adoption of community-led resource management schemes, and to strengthen the role of women in the management of coastal resources. These subprojects will emphasize community control over planning decisions based on the principles of CDD, i.e., enhancing transparency, encouraging participation, localizing accountability, building local capacity, and enhancing equity.
- **Project-induced in-migration /influx of workers:** Project-induced in-migration can substantially change the community in which the project operates. Factors that contribute to a higher rate of in-migration are: (1) scale of projects; (2) proximity of the project to large settlements; (3) lack of capacity to meet project needs for workforce and materials locally; and (4) speculation regarding the benefits and opportunities on the part of the community, among others. In-migration can cause changes in local community dynamics, as well as pressure on local infrastructure. SEA/SH and STDs risks can intensify within local communities when there are large influxes of male workers from outside the area. Focus on local hiring and sourcing, investment in local training and infrastructure, and clear communications regarding real opportunities should be considered.
- **Displacement and involuntary resettlement:** Land acquisition and restrictions on land use can cause economic or physical displacement of communities, leading to delays or interruption of project activities,

difficulties in community relationships, and even legal battles. If land use rights and property ownership are not understood correctly or good-faith negotiations are not carried out or honoured, the affected community can halt the progress of the project. It is important that local land use and access to resources and services are considered during resettlement planning to avoid the breakdown of social safeguards and encourage mutual and sustainable solutions.

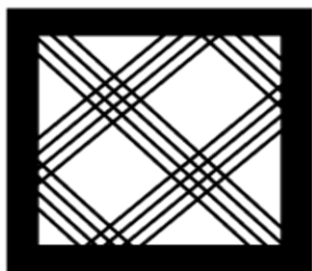
- **Poor worker management:** The workforce is an essential part of a project's success. If working conditions are not good, labour rights are not protected, or workers are exposed to unnecessary health and safety risks, the workers' health and well-being will be jeopardized. This can cause wider social effects within the families of workers and local community, as well as problems for the employer due to reduced productivity. There can also be abuse of power, including SEA/SH in hiring, employment, and retention practices. Hiring and employment practices that seek to increase the number of women in different employment positions – from skilled labour within contractors (i.e. engineers) to community engagement officers – can expose women to incidents of sexual exploitation (pressure to perform sexual acts in exchange for work), harassment, or violence; for example, when moving about communities and/or engaging with male leaders and/or community members.
- **Increased community disease or accidents:** A construction project presents inherent risks to communities' health and safety, through the use of hazardous materials, heavy machinery, and demolition. Immigration of workers could result in harm to the local community, most notably through the propagation of diseases (through vectors or contact with workers). Management through training on correct procedures, communications, signage, maintenance, and monitoring is essential to ensure the protection of the community from these risks.
- **Removal of or damage to tangible cultural heritage:** Many subproject sites are flagged to be culturally sensitive and cultural heritage are likely to be impacted by the project. These heritages will be identified prior to start of construction during the planning and engineering design phase, and planners will be required to consider alternatives to avoid impacts on cultural heritage. If risks are still probable, the project will bring in an appropriate specialist, such as an archaeologist, palaeontologist, or anthropologist, to oversee the rest of the project to ensure correct protection procedures. The project will have procedures in place to manage chance finds to minimize disturbance of unforeseen cultural heritage finds (see Section 6.2).
- **Disproportionate impacts to persons in poverty and vulnerable groups:** A new project is often perceived by a community as a vehicle for opportunity, through the jobs it will generate and the service it will provide. These positive effects, however, need to be aligned with local realities to be truly realized. Construction, management, and opportunities to optimize benefits should be planned accordingly, considering the unique realities of each location, including the presence of vulnerable groups, the extent of poverty, and equity. Children, the poor, the disabled, women and youth can be affected by the project in different ways. Women, girls and other marginalized groups such as people with disabilities, unmarried women/girls, women and girls associated with armed groups, displaced individuals and families and minority ethnic/tribal groups are more likely to be invisible or hidden in community consultation and engagement processes. The project will ensure specific engagement with these groups, which is essential to understanding those effects and implementing adequate measures to respond to them.
- **Use of Child Labour and Forced Labour:** Use of child labour and forced labour under this project have been identified as risks as children may be used to gain wage income or people could be forced to do work under duress.

Table 21: Impact Matrix of Project Activities

Activity / Potential Impact	Duration		Magnitude			Extent		
	Long	Short	Low	Moderate	High	Local	Regional	National
Biological Impacts:								
Direct impact on ecosystem	X			X		X		
Fish and invertebrate displacement		X		X		X		
Birds and mammals		X	X			X		
Impacts on mangroves and other plants		X	X			X		
Habitat fragmentation	X		X			X		

Activity / Potential Impact	Duration		Magnitude			Extent		
	Long	Short	Low	Moderate	High	Local	Regional	National
Physical Impacts:								
Increased air pollution		X		X		X		
Increased noise pollution		X		X		X		
Sedimentation of coastal and marine environment		X		X		X		
Increased water pollution (oils, solid waste etc.)		X		X		X		
Increased accident potential		X		X		X		
Visual aesthetics		X		X		X		
Generation of wastes		X		X		X		
Erosion and contamination of soils		X		X		X		
Transport:								
Potential spillage of material and harmful substances (oils, gasoline etc.)		X		X		X		
Increased road traffic, congestion and road wear		X		X		X		
Refuelling, storage and maintenance of vehicles and heavy equipment		X		X		X		
Transport of dredge materials		X		X		X		
Construction Crew:								
Solid waste management		X		X		X		
Workers' safety: injuries and accidents		X		X		X		
Labour influx. Increased number of workers in the area and associated risks		X		X		X		
Socioeconomics								
Impact on local livelihood such as fishing and farming		X		X		X		
Affected Structures	X			X		X		
Reduced access to fishing area		X		X		X		
Impact on commercial, retail, tourism and other services such		X		X		X		
Sexual Exploitation and Abuse and Sexual Harassment		X		X		X		
Cultural heritage		X		X		X		
Child labour		X	X			X		

6. ENVIRONMENTAL AND SOCIAL RISK ASSESSMENT AND MANAGEMENT PROCEDURES FOR SUBPROJECTS



*Nkyimu (Cross divisions):
Skillfulness, precision.*

This section describes the process for ensuring that environmental and social risks and impacts for subprojects are adequately identified, analysed and addressed. Again, it outlines the processes of the preparation, approval and implementation of environment and social instruments for the subprojects. Further, the section outlines the procedures on chance finds and incident and accident reporting.

6.1 Environment and Social Due-diligence Procedures for Subprojects

Step 1. Subproject Identification: Screening is the first stage of the environmental and social (E&S) due diligence process, and the purpose is to identify E&S risks associated with the proposed subprojects as well as measures to mitigate adverse impacts. The screening is done based on initial baseline data and subproject proposal. The E&S specialists at the PIU will be involved from the beginning of subproject planning and will make sure that information required for

Environmental and Social screening are included in subproject proposal. This will include but is not limited to the subproject location, components, sensitive areas, land ownership and land tenure in the project area, project size etc.

Community Orientation & Eligibility Assessment for Social Subprojects: For community social subprojects, as the first step in the E&S management process, the NGO/CSO that will serve as a Community Facilitator (CF) would discuss the Negative List of ineligible activities (Annex 12) with communities at the time of initial orientation so that the subsequent consultations with communities to analyse their local development problems and identify possible social subproject concepts would take these ineligible activities into account. The CFs will undertake an eligibility assessment of the proposed subproject ideas using the Negative List to confirm consistency with these guidelines. The CF will submit the outcome of the eligibility screening to the PIU for confirmation.

Technical Assistance Activities: The project will ensure that the consultancies, studies (including feasibility studies), capacity building, training, and any other technical assistance activities under the Project, including, inter alia, the Environmental and Social Impact Assessment, the Resettlement Action Plan are carried out in accordance with terms of reference acceptable to the World Bank, that are consistent with the ESSs. Thereafter ensure that the outputs of such activities comply with the terms of reference.

Step 2. Subproject Site-specific Screening: The site-specific screening will be carried out by the Environmental and Social Specialists at the PIU. When considering a subproject activity, E&S specialists will review the project against the Project Screening Checklist in Annex 2 at the earliest possible opportunity to highlight potential E&S risks and impacts that may arise and, in turn, potential impacts on schedule, scope, and budget. The aim of the checklist is to prompt consideration of a full range of E&S impacts that may occur during the implementation of a construction project and that require further mitigation, specialist input, or support. E&S screening needs to follow specific procedures, so all the subprojects follow the same process.

Key contributions of the screening process are to: (a) facilitate informed decision making by providing clear, well-structured, factual analysis of the effects and consequences of proposed actions and (b) influence both project selection and policy design by screening out environmentally and/or socially unsound proposals, as well as modifying feasible actions.

For community social subprojects, the CF will screen the subproject using the Environmental and Social Screening Checklist in Annex 2 at the earliest possible opportunity. To ensure that the screening form is completed correctly in the various project locations, environmental and social training will be provided to the CFs. The CFs will submit the outcome of the eligibility screening to the PIU for confirmation. The E&S specialists at the PIU may conduct site visits and consultations to collect additional information.

The E&S specialists will prepare a screening report which will provide the project environment and social category based on criteria established under national regulations and World Bank ESF.

Step 3: Assigning the Appropriate Risk Classification: After analysing the data contained in the environmental and social screening form, the E&S Specialists at the PIU, in consultation the World Bank's E&S Specialists, will assess whether a subproject can be classified as High, Substantial, Moderate, or Low risk as follows:

- **High:** Subprojects that include activities with potential significant adverse social and environmental risks and impacts that are irreversible, unprecedented and/or which raise significant concerns among potentially affected communities and individuals as expressed during the stakeholder engagement process as part of the screening. High Risk activities may involve significant adverse impacts on physical, biological, socioeconomic, or cultural resources, and may have the potential to aggravate existing situations of fragility or conflict, adversely affect human rights, lead to extensive environmental degradation and/or contribute to cumulative impacts. The examples include, (i) may adversely impact critical habitats, (ii) involve significant displacement and/or resettlement, (iii) produce significant quantities of greenhouse gases, (iv) may adversely impact the rights, lands, resources of communities, or (v) other circumstances that reflect potentially significant adverse impacts. Projects will adhere to the requirements and recommendations of the applicable management plans. High Risk projects will require enhanced support from the World Bank. For community social subprojects, high risk projects will likely be ineligible, and it is unlikely that WACA ResIP II Project would support such projects. The WACA ResIP II Project may support a community social subproject which is high-risk only on special considerations or in the exceptional case.
- **Substantial:** subprojects that include activities with potential adverse social and environmental risks and impacts that are more varied or complex than those of Moderate Risk projects but remain limited in scale and are of lesser magnitude than those of High-Risk projects (e.g. reversible, predictable, smaller footprint, less risk of cumulative impacts). Substantial Risk projects may also include those with a varied range of risks rated as "Moderate" that require more extensive assessment and management measures.
- **Moderate:** Subprojects that include activities with potential adverse social and environmental risks and impacts that are limited in scale, are largely reversible and can be identified with a reasonable degree of certainty and readily addressed through application of recognized good international practice, mitigation measures and stakeholder engagement during project implementation.
- **Low:** Subprojects that include activities with minimal or no adverse social or environmental risks and impacts.

Step 4: Determination of E&S Instruments Required: Following the risk classification, the Environmental and Social Specialists at the PIU, in consultation with the World Bank E&S Specialists, will recommend that for:

- **High-risk subprojects:** A comprehensive environmental and social impact assessment (ESIA), including development of applicable Environmental and Social Management plans,
- **Substantial-risk subprojects:** Scoping and assessment may determine that a scoped, fit-for-purpose Environmental and Social Impact Assessment (ESIA) may be required in order to ensure that the risk management requirements are appropriately addressed.
- **Moderate-risk subprojects:** An Environmental and Social Management Plan is undertaken to identify the impacts associated with the proposed development and the means of mitigation. The ESMP should assess all potential environmental and socio-economic risks and address their impacts. The ESMP should guide the project design. The ESMP should not comprise statements of a general nature but instead should provide substantive and indicative information on the proposed measures to mitigate all adverse environmental impacts as well as on the opportunities for environmental enhancement so as to enable a proper assessment.
- **Low-risk subprojects:** Further assessment of potential adverse social and environmental risks and impacts is not required. However, the social and environmental management principles (i.e. Do-No-Harm, leave no one behind; human rights; gender equality and women's empowerment; sustainability and resilience; and accountability) and stakeholder engagement requirements still apply to subproject activities.

Again, the subproject will adhere to the Environment, Social, Health and Safety measures and guidelines outlined in the table 22 under section 7.

Step 5: Project Registration with EPA

Prior to the preparation of any site-specific E&S instrument, the MESTI Project Implementing Unit (PIU) will facilitate the registration of the proposed subproject by filling and submitting an Environmental Assessment Registration Form to EPA. This will pave the way and begin formal engagement with the EPA on the environmental permitting process. This is the initial registration required under L. I. 1652. of any undertaking which has the potential to impact negatively or positively on the environment as outlined in schedule 2 of the LI.

Upon submission of subproject registration particulars and information to the EPA, the PIU shall collaborate with the EPA to undertake a physical visit to the proposed project site to conduct an initial environmental and social assessment taking into consideration factors such as:

- Location, size and likely output of the undertaking;
- Technology intended to be used;
- Concerns of the general public, if any, and in particular concerns of immediate residents, if any; and
- Land use and other factors of relevance to the particular undertaking to which the application relates.

Following the field visit with EPA, the PIU shall prepare and submit a Screening Report to EPA. The PIU shall continue to liaise with the EPA and the World Bank to take a decision by placing the sub-project at the appropriate level of environmental assessment. This decision, as prescribed by the Ghana EIA procedures, is expected within 25 days of receiving the Registration Form and could be any of the following:

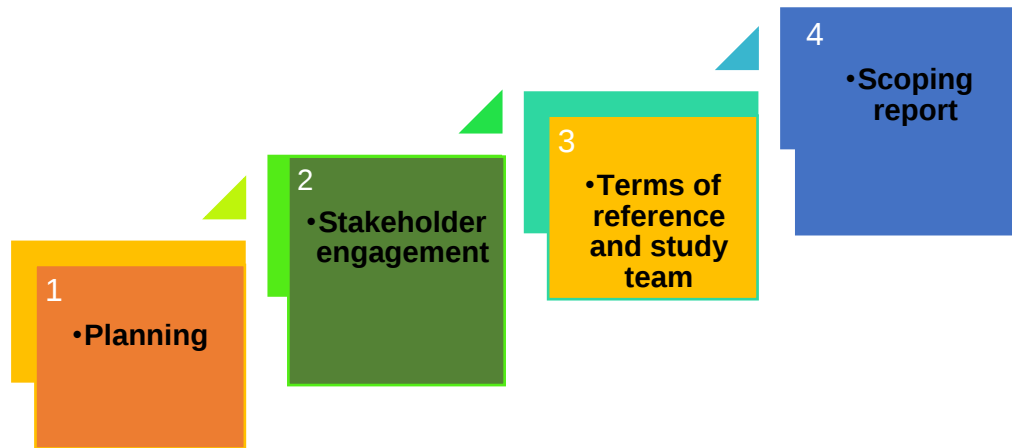
- **Objection to the project:** Where the EPA on the initial assessment reports that it objects to the application, the agency shall indicate a non-acceptance of the application and the undertaking shall not be commenced or where it is in existence, be discontinued
- **No objection to the project:** Where the EPA on the initial assessment determines the project will have only minor environmental and social risks, the agency will approve the application and provide a 'no objection'. The Agency will issue in respect of the undertaking an environmental permit.
- **Preliminary Environmental Report:** Where the EPA upon consideration of an application decide that there is the need for a preliminary environmental assessment to be submitted in respect of the application, the EPA shall request the MESTI PIU to submit a preliminary environmental report on the proposed undertaking. A preliminary environmental report submitted must contain details other than information submitted with the original application for the environmental permit and should state specifically the detailed effects of the proposed undertaking on the environment. Where the EPA, upon receipt of a preliminary environmental report, is satisfied that a significant adverse environmental impact is likely to result from the activities of the undertaking, the MESTI PIU shall be asked to submit an environmental impact statement on the undertaking in order that the environmental impact of the proposed undertaking can be assessed.
- **Environmental Impact Statement:** Where the EPA upon consideration of an application decide that there is the need for an environmental impact assessment to be submitted in respect of the application, the EPA shall request the MESTI PIU to submit an environmental impact statement on the proposed undertaking which shall be outlined in a scoping report to the EPA. A scoping report shall set out the scope or extent of the environmental impact assessment to be carried out by the applicant and shall include draft terms of reference, which shall indicate the essential issues to be addressed in the environmental impact statement.

In cases where the World Bank requires the PIU to undertake an Environmental and Social Impact Assessment, but the EPA requires Preliminary Environmental Report or provides a 'no objection', the PIU would have to comply with the World Bank requirements.

Step 6: Scoping and Preparation of Terms of Reference

The second major step in Environmental and Social Management is scoping. Scoping is a systematic exercise that sets out the scope or extent of the ESIA to be carried out by the applicant and shall include draft terms of reference, which shall indicate the essential issues to be addressed in the environmental impact statement. The scoping stage determines significant issues that the E&S assessment will address.

Process of the scoping: The next figure presents Scoping steps include planning, stakeholders' consultation, and preparation of terms of reference. The process for scoping is as follows:



Planning the scoping: Through a planning session, MESTI must start with the following:

- Identification of all parties that should be involved in the process (authorities, beneficiaries, parties likely to be affected and other stakeholders);
- Definition of the roles and responsibilities of the identified parties,
- Compilation of background information to enable effective involvement by authorities and selected parties;
- Identification of the most effective strategies for communicating to all parties;
- Preparation of background information document (including objectives and description of the activity, legal aspects and setting of the project, environmental opportunities and constraints, predicted environmental and social impacts, public involvement and timetable of the process) to enable concerned parties to understand the nature of the proposed activity and identify key issues;
- Identification of key decision points and the type of information required from each stakeholder; and
- Legislative requirements relevant to the project also need to be clarified.
- Preparation of Scoping Notices

Stakeholder engagement: The EPA requires that proponents give notice of the proposed undertaking to the relevant Ministries, government departments and organisations and the relevant Metropolitan, Municipal or District Assembly. In this regard, MESTI will organize consultations with all groups and institutions concerned by the subproject project to identify key issues. A range of techniques can be used to facilitate participation for all. These will include workshops, focus group meetings with specific stakeholders, media releases, telephone/emails and meetings with key individuals. The predicted impacts/risks will also be prioritized by evaluating the potential significance of concerns raised from both a technical and a subjective perspective, taking into account the needs, values and importance of the affected environment to stakeholders. The consultations will be guided by the Stakeholder Engagement Plan prepared for the project and national COVID-19 protocols at the time. EPA also requires proponents to advertise in at least one national newspaper and a newspaper, if any, circulating in the locality where the proposed undertaking is to be situated and make available for inspection by the general public in the locality of the proposed undertaking, copies of the scoping report.

Preparation of terms of reference (TOR): MESTI will prepare and submit for clearance to the World Bank the TOR for the site-specific Environmental and Social Impact Assessment. Since the WACA ResIP II Project is a High-risk project the World Bank's Regional Safeguards Adviser will have to clear the TOR. MESTI will ensure

that: (i) all issues to be addressed in the environmental and social assessment and in any special study to be undertaken are included in TOR and, (ii) feedback from consulted stakeholders is incorporated in the TOR as well as into the environmental assessment process. The TOR should also include the requirement for the study team based on key risks and issues to be assessed during the environmental and social study. Sample ToRs for ESMP and ESIA studies are given in Annex 9 and Annex 10, respectively. The type of expertise needed in the ESIA team for will vary with the location and magnitude of the project but should, in any case include:

- Environmental Specialist and Team leader with extensive experience in environmental impact assessment, environmental legislation and hands-on knowledge of biodiversity, land management and aquatic ecosystems;
- Social Development Specialist; and
- Biodiversity expert.

Selection of an independent consultant or consultancy firm: Following the clearance of the TOR, MESTI will engage the services of an independent consultant or consultancy firm to undertake the ESIA.

The selection of ESIA experts should be guided by the team's overall experience and/ or reputation in ESIA or related assignments; the appropriateness of the team (including balance of professionals/ expertise, allocation of responsibilities), as well as the formal/ academic qualifications including professional affiliation. For Environmental experts, Engineers, Surveyors/valuers. Professional certification or affiliation should be strongly considered for ethical concerns.

Scoping Report: The independent consultant under the guidance of the PIU will prepare and submit a screening report to EPA. The EPA will, upon receipt of a scoping report examine it and inform the applicant within 25 days of the receipt of the report whether it is acceptable or not acceptable. Where a scoping report is accepted by the Agency, it will inform the applicant to submit an environmental impact statement based on the scoping report. Where a scoping report is not acceptable by the Agency, the applicant shall be advised by the Agency to revise the report as appropriate and re-submit it if he so desires.

Step 7: Preparation of the ESIA

The ESIA (or other relevant instruments) will be prepared in close coordination with the teams in charge of the feasibility studies (or multi-sector investment plan) so that E & S aspects are built into the design of the activities to be financed. The Environmental and Social Impact Assessment will assess the potential direct and indirect impacts of the undertaking on the environment and social setting at the pre-construction, construction, operation, decommissioning and post-decommissioning phases. Additionally, potential changes in social, cultural and economic patterns will be dealt with within the ESIA. The ESIA will also include an Environmental and Social Management Plan (ESMP) in accordance with the Environmental Assessment Regulations of 1999 (LI 1652) to ensure that the project activities are carried out in an environmentally and socially safe and sustainable manner. The ESMP will outline management commitment and measures, action plan for implementation of mitigation measures and a monitoring plan to ensure the sustainable implementation of the proposed sub-project. An estimated budget for the implementation of the ESMP will also be included. The ESIA report will follow the following format:

- Description of the study area;
- Description of the sub-project;
- Policy, legal and regulatory context;
- Analyses of Project Alternative
- Environment and social baseline;
- Identifying potential impacts of proposed sub-projects;
- Process of public consultations;
- Grievance Redress Procedures
- Development of mitigation measures and a monitoring plan, including estimates of costs and responsibility for implementation of surveillance and monitoring activities; and

- Annexes

Step 8: Review of the ESIA

MESTI will submit the ESIA to World Bank and EPA for review. The EPA and World Bank laid down procedures for review of ESIA will be followed. In addition, all EPA laid down procedures for public noticing and feedback will be adhered to. If policy discrepancy exists in some domains, World Bank policies will override national policies and regulations. When MESTI submits the draft ESIA to the EPA, it will be reviewed by a cross sectoral National Environmental and Social Impact Assessment Technical Review Committee (ESIA/TRC) made up of representatives of relevant Ministries, Departments and Agencies as determined by the EPA after a preliminary review of the pertinent environmental and social issues associated with the project. The ESIA reports will be disclosed electronically on the external website of MESTI, Ministry of Works and Housing (MWH) and the World Bank. Hard copies of the of ESIA Report will be made available at MESTI, MWH, District Assemblies and project sites.

Step 9: Public Hearing, Consultations and Disclosure

Public consultations will be carried out during the screening process as well as in the preparation of the ESIA and on the draft ESIA. According to the procedures governing the ESIA, public information and participation must be ensured during the scoping period and the preparation of the Environmental and Social Impact Assessment. Generally, the Ghana EIA Procedure requires the EPA to hold a public hearing as part of an Environmental Impact Statement review where:

- the expected environmental impacts are considered extensive and far reaching;
- there is great adverse public reaction to a proposal; and
- there will be relocation or dislocation of communities

Step 10: Review and Approval of the ESIA

When acceptable, the World Bank and EPA will approve the ESIA. When the EPA approves the ESIA, a permit will be issued.

Step 11: Preparation of Bidding Documents

The contractor selection process would involve a multidisciplinary team, including the E&S Specialists, with the primary responsibility of including ESMPs into the bidding documents. The first step in the contractor procurement process is the preparation of a Request for Proposal (RFP) preparation. This RFP is typically prepared by procurement staff with input from the Project Coordinator, technical specialists and E&S specialists and lawyers. Sometimes a request for information (RFI), “expression of interest,” and/or a qualification questionnaire is issued prior to an RFP. RFIs are typically brief and include limited information. They are used to determine market interest and solicit preliminary information on potential vendors or contractors, and potentially create a shortlist of contractors from whom to issue RFPs. MESTI will develop an evaluation criterion that will be established alongside the bid packages and that these are included with the package so that prospective bidders can see early on the relative weightings of the environmental, social, and health and safety aspects of their proposal.

Step 12: Contractor's Mobilization and Preparation of Contractor Environmental and Social Management Plans (C-ESMPs) and Occupational Health Safety Plans

As part of the mobilization process, the contractors would be required by MESTI to provide details including (but not limited to) past Environmental, Health and Safety (EHS) performance; number and qualifications of ESHS personnel; occupational health and safety procedures and controls; Human Resource policies, codes of conduct, and grievance mechanism controls, including means to address harassment and other forms of Gender-based violence (GBV) plus prior, reported incidents of SEA and GBV; and supply chain management as criteria for inclusion on such lists. The number of documents and level of information and detail that are requested from contractors shall be commensurate to the scope of work and other specific features that the contractor is being prequalified against. A sample codes of conduct to be followed by the contractor Preventing GBV and Violence against Children (VAC) are given in Annexes 7 and 8.

Step 13: Preparation and Implementation of C-ESMPs by Contractor

The PIU will ensure the identification of E&S plans to be developed by the contractor. The project will list in the E&S conditions of the contract all E&S management plans and associated documentation (C-ESMP, LMP, OHS) that must be prepared or refined and implemented by the contractor and require that these documents be submitted for client review and approval within an agreed timeline relative to the project schedule, contractor mobilization, and commencement of work. Provision of E&S personnel and resources allocated to the contract or service. The project will include the requirement that appropriate resources and key E&S personnel be appointed as part of the contract, throughout project implementation, or during the period in which their services are needed to manage and implement E&S requirements. It is recommended that conditions for the replacement of key personnel should be acceptable to MESTI. The contract should have adequate ESHS personnel to implement the C-ESMP. The contract should have an Environmental Officer, Social Development and Gender Officer, and a Safety Officer.

Step 14: Contractor Management, Oversight and Reporting

Through the bidding process, the PIU through the supervision consultants would ensure that contractors employ qualified E&S personnel to oversee E&S performance and that contractor staffing and resources are commensurate with the magnitude and timing of work and potential E&S risks. MESTI would also approve documentation, including training programs, to ensure all staff are aware of E&S commitments and their part in meeting them. The E&S Specialists at the PIU through the supervision consultants will monitor contractor E&S performance and ensure the contractor monitors its own and all subcontractors' E&S performance throughout construction, including mobilization, the main construction phase, and demobilization. Clear responsibilities and reporting lines are essential to avoid duplication of effort or, conversely, gaps in monitoring. If operations are carried out under contract, or some work is performed by subcontractors, the client and contractor will monitor E&S performance during operations as well. The project will require contractors to report on an agreed frequency their E&S performance and metrics (which shall include relevant information and data from subcontractors, as applicable). Timely reporting of E&S performance and results enables the client to identify opportunities for improvement, prevent poor performance issues, and assist contractors if remedial action is to be taken.

6.2 Chance Find Procedures

A chance find procedure is a project-specific procedure that outlines the actions to be taken if previously unknown cultural heritage is encountered. It is also defined as potential cultural heritage (or paleontological whether movable or immovable objects, sites, structures, group of structures and natural features and landscapes that have archaeological, historical, religious and other cultural significance. Cultural heritage resources may include:

- Artefacts, whole or partial, such as ceramic sherds, stone items, glass fragments, bone, shell, metal, textiles, and plant and animal remains.
- Features associated with human occupation such as trash dumps, middens, hearths and structural remains.
- Prehistoric or historic human remains found in formal graves, cemeteries, or as an isolated occurrence.

Both national regulations and World Bank Environmental and Social Standards, especially ESS8: Cultural Heritage, recognize the importance of the preservation of cultural heritage for current and future generations. Project activities under component 3 may impact unknown cultural heritage. Therefore, the purpose of this chance find procedure is to provide MESTI, its contractors and subcontractors with the appropriate response guidelines to be applied if previously unknown cultural heritage is encountered. This Chance Find Procedure takes into consideration international best practices such as WB ESS8, 1972 UNESCO Convention on the Protection of World Cultural and Natural Heritage (World Heritage Convention) and Ghana's policy on cultural resources protection. Thus, Chance Find Procedures (CFPs) are part of MESTI's E&S instruments that may have relevance during Project implementation. The Procedure applies to potential cultural heritage objects, features or sites identified as a result of construction activities in the project area and its surroundings.

6.2.1 Chance Find Process

If any person discovers a physical, cultural resource, such as (but not limited to) archaeological sites, historical sites, remains and objects, or a cemetery and/or individual graves during excavation or construction, the following procedures shall be applied:

1. Stop the construction activities in the area of the chance find;
2. Notify the Resident Engineer, who in turn will notify MESTI and the responsible local authorities immediately (within 24 hours or less);
3. Install temporary site protection measures (warning tape and stakes, avoidance signs), inform all Contractor personnel of the chance to find if access along the right-of-way or other work area is restricted and strictly enforce any no-go area needed to protect the site;
4. Document the find through photography, notes, and maps (collect spatial data) as appropriate and prepare and maintain an initial Chance Find report (for all possible Chance Finds, cultural heritage or not); include spatial data for use in the cultural heritage database and GIS system;
5. The Ministry of Tourism, National Museums and Monument Board and the responsible District Assemblies will be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; these include the aesthetic, historic, scientific or research, social and economic values;
6. If the Authorities confirm the Chance Find is a cultural heritage, MESTI will initiate a consultation with communities and local authorities on mitigation measures and treatment procedures;
7. Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance), conservation, preservation, restoration and salvage;
8. If a Chance Find is a verified cultural heritage site, MESTI shall prepare a final Chance Find report including required the treatment plan;
9. Implementation of the decision concerning the management of the finding shall be communicated in writing by the relevant local authorities;
10. While the required treatment is on-going, MESTI will coordinate with the Contractor the contractor, sub-contractors and relevant District Authorities as well as local communities, keeping them informed as to the schedule and status of investigations, treatment and informing them when the construction may resume.
11. Construction works could resume only after permission is granted from the responsible local authorities concerning the safeguard of cultural resources;

6.2.2 Chance Find Documentation

The Ministry of Tourism, National Museums and Monument Board, and the Responsible District Assemblies, MESTI, contractors and subcontractors' staff are required to maintain records of monitoring, Chance Finds, and Chance Find response measures executed. These will include:

- Daily monitoring records indicating areas and activities monitored; reported Chance Finds and the results of any evaluations.
- Weekly reports summarizing reporting period activities, including Chance Finds, assessments and evaluations, internal and external communications and instructions and supporting photographic documentation (or other reference materials as appropriate). An additional report aimed at fulfilling any specific Ministry requirements is also anticipated.
- Monthly reports summarizing monitoring and evaluation results, the status of any site treatment measures required, instructions to the Contractor, and other internal and external communications. Additional monthly reporting may be required by the authorities.

6.2.3 Cultural Heritage Training

All Project personnel are required to receive and comply with the Code of Conduct and receive training and demonstrate competency in (1) the identification of Chance Finds cultural heritage sites, objects, or features and (2) Chance Finds management procedures; that is, those actions that are required in the case of a suspected Chance Find. This training will be incorporated into the overall induction process for Company, Contractor, and Subcontractor personnel and will include a quick reference hand-out. All employees must be aware of the Ghana

Policy and WB ESS 8 related to cultural Heritage that makes it illegal and forbidden to disturb or remove cultural heritage objects offsite for personal gain. Disciplinary action will be taken against any personnel who violate this requirement.

6.2.4 Reporting and Communication

Chance find monitoring, review and reporting will form part of ESIA/ESMP monitoring activities for the project. Contractors and Sub-contractors shall report all records on observational monitoring, protection measures, complaints, and damages to the Resident Engineer on a monthly and a quarterly basis. The Resident Engineer shall report their supervision records and the Contractor's records to MESTI, which in turn will inform relevant authorities on a case-to-case basis and on a quarterly basis.

6.2.5 Implementation Arrangement for Chance Find

The implementation arrangements and responsibilities of the Chance find procedures shall be as follows:

Stakeholder	Responsibility	Responsible person
MESTI	- Provide overall coordination; - Lead consultation with relevant authorities and local communities; - Implement the treatment plan and provide the required funds; - Monitor the implementation of chance finds procedures; - Prepare required reports;	E&S specialists PIU Coordinator
Contractors and sub-contractors	- Stop the construction activities in the area of the chance find; - Install temporary site protection measures; - Inform the client and document chance finds;	Civil engineer/ Site foreman
The Ministry of Tourism, National Museums and Monument Board, Responsible District / Local authorities	- Conduct verification of chance finds; - Approval of the treatment measures in consultation with stakeholders; - Provide the authorization to resume works in the chance finds area;	In charge of Sport and culture
Local communities	- To attend consultation meetings; - To provide required information; - Participate in treatment measures	Local Population

6.3 Incident and Accident Reporting

In case of occurrence of an incident or accident related or having an impact on the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers, the implementing agency shall:

- As soon as reasonably practicable, but no later than 48 hours after having been informed of the occurrence of such incident or accident, inform the Bank by any electronic means of its nature, or circumstance and any effect or impact resulting or likely to result there from;
- As soon as reasonably practicable, but no later than twenty (20) days after such incident or accident, provide the Bank with a summary report that includes a description of the incident or accident, and the measures, if any, that the Borrower is taking or plans to take to address it and to prevent any future similar event; and
- Keep the Bank informed of the on-going implementation of the said measures and plans.

MESTI will ensure that:

- Accidents and grievance logbooks are placed in all construction sites;
- The supervision consultants' monthly progress report provides details on accidents;
- All regular progress reports to the Bank include information on accidents and incidents;
- Any severe injury (requiring off-site medical care) or fatality incident is reported to the Bank within 24 hours with basic information, and a detailed incident report is submitted within 10 working days. The incident report will cover the following:

- a. root cause analysis and
- b. corrective action plan on
 - i. immediate mitigation measures in case of continuing danger (e.g., fencing, signboard, guards)
 - ii. compensation to the affected family based on a clear rationale;
 - iii. risk assessment and correct application of ESHS management procedures, and
 - iv. medium- and long-term mitigation measures including enhancement of safety measures, audits, and additional training.

The Incident Reporting Form is given in Annex 6.

7. ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS MITIGATION AND MONITORING PLAN



Nkonsonkonson ("Chain links"): Unity, human relations

This section provides a generic Environmental and Social Management Plan (ESMP), which prescribes appropriate mitigation measures to avoid, minimise and reduce negative impacts. It further prescribes an E&S monitoring plan to guide the implementation of the WACA ResIP II project.

7.1 Environmental and Social Management Plan

The ESMF has identified the likely impacts of the subprojects on the physical, natural and socio-economic environment of the Project area. For each subproject activity, the PIU will ensure that the E&S screening is undertaken, which will help decide to prepare site-specific instruments, either an Environmental and Social Impact Assessment (ESIA) or an Environmental and Social Management Plan (ESMP). An ESIA will also include an ESMP.

To achieve continuous improvements in the environmental and social performance of the Project, this generic Environmental and Social Management Plan (ESMP) has been prepared (Table 22) in conformity with the requirements of Ghana's EA Regulations (LI1652). The ESMP prescribes appropriate mitigation and enhancement measures to avoid, minimise and reduce negative impacts, and to promote opportunities for the enhancement of positive impacts. It will serve as an action plan or framework for project environmental management and is aimed at providing a holistic approach to the management of environmental and social impacts during the design, construction and operation of the proposed roads under the Project. The development of the ESMP is in line with Regulation 24 of LI 1652.

The ESMP is a dynamic document subject to similar influences and changes as are wrought by variations to the provisions of the project specification. Information contained in this current version should be reviewed and updated. An Environmental and Social Management Plan (ESMP) for site-specific will be established. Therefore, mitigation measures below shall be included in ESMP's developed for each construction site depending on the identified environmental and social impacts.

Recognizing the value of ecosystem services to communities and people's livelihoods, the project will avoid or minimize impacts on these services and put in place appropriate mitigation measures. The presence of ecosystem services and a project's impacts on any such services will be explored during the screening process, the consultation process, and the baseline data collection process. The project will engage communities in identifying and delineating ecosystems, land use, and ecosystem services, as the presence of such services may not be immediately obvious.

Table 22: Generic Environmental and Social Management Plan

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
BIODIVERSITY MANAGEMENT				
Minimize disturbance to sensitive habitats	Planning	- Collect baseline data (e.g., flora and fauna, year-round and seasonal habitats, wildlife corridors) - Identify sensitive receptors including legally protected area or other sensitive locations of international or regional importance such as wetland, or forests with high biodiversity values	- Screening documentation - Ecological baseline description, including photographs and species lists	MESTI, E&S Consultants
Ensure invasive species are not introduced to the area	Engineering and design	Survey of the site prior to the commencement of site establishment to identify critical/sensitive biodiversity areas and to inform the implementation of targeted mitigation measures, carried out by an ecologist	- Site inspection records - Documentation of sensitive habitats, invasive species, and watercourses on site	MESTI, Engineering Design Consultants
Address vegetation reinstatement		- Minimize clearance of trees and other vegetation to the extent possible and schedule to avoid the peak period for breeding birds and fauna species - Avoid fragmentation of areas of vegetation - Keep working corridors as narrow as practical and marked with protective fencing where construction corridors run through dense vegetation - Minimize the size of laydown areas	- Identification of quarries / procurement locations for sand, gravel, etc. - Evaluation of site plan and laydown areas to minimize vegetation removal, habitat fragmentation, and ecological impact - Tree inventory (tree removal) - Identification of approved borrow pits	
	Preconstruction	- Require appropriate procedures (licensing) for felling of trees, appropriate removal of material to avoid risks of fire - Artificial lighting used on construction sites and other project facilities at night should be shaded and directed downwards to avoid light spillage and disturbance to nocturnal birds, bats, and other wildlife - Prohibit excavation of sand and gravel from watercourses and lakes or other sensitive ecosystems - Wherever possible use existing quarries rather than opening new ones - New quarries and deposits must be approved and supervised by the appropriate authority - Conduct pre-construction clearance surveys, to be undertaken by an expert - Implement noise and light disturbance mitigation measures - Develop habitat restoration and removal plan including invasive species procedure as appropriate - Ensure imported soils and aggregates are from known sources - Develop and implement soils and vegetation rehabilitation plan	- Borrow pit extraction and closure plan - Monitoring records - Noise and light management plans - Habitat restoration and removal plans - Soil and aggregate source records - Site soil and vegetation reinstatement plan	MESTI, Contracting Entity

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
	Construction	• Monitor for invasive species • Introduce a ban on the removal of flora and hunting of wild animals and birds • Educate workers about existing legislation and penalize workers involved in poaching • Restrict public access to site (e.g., fencing, signs, on-site guard) • Restrict noisy activities and lighting • Revegetate disturbed areas with native species • Secure permits for borrow pit extraction sites	• Monitoring records • Documentation of noise and light disturbance limitation activities • Documentation of control of and education about the removal of flora and hunting of wild animals and birds • Revegetation and reclamation / restoration efforts • Community grievances • Evidence of borrow pit restoration and closeout. • Post closure monitoring (first after restoration is complete and again after the establishment of vegetative cover)	Contracting Entity, Supervising and Monitoring Consultant
AIR QUALITY MANAGEMENT				
Minimize dust emissions Minimize fugitive gas emissions	Planning	• Identify any sensitive receptors from the outset • Obtain baseline air quality information	• Screening documentation • Historic air quality records • Potential project impacts, where relevant	MESTI, E&S Consultants
	Engineering and design	• Minimize extent of material handling, and avoid double handling • Design, install, and apply a simple, linear layout for material-handling operations to reduce the need for multiple transfer points • Use mobile and fixed-belt transport and conveyors to haul materials by trucks through internal roads (enclosed rubber-belt conveyors for dusty materials are recommended in conjunction with cleaning devices) where practicable • Point stationary site emission-generating equipment (e.g., generators) and vehicles away from sensitive receptors	• Design drawings/plans • Documentation of nearby receptors • Documentation of material handling assessment • Background information on emission-generating equipment	MESTI, Engineering Design Consultants
	Pre-construction	• Consider the prevailing wind direction when sitting stockpiles to reduce the likelihood of affecting sensitive receptors • Plan site layout – machinery and dust-causing components (e.g., access roads, stockpiles) should be located away from the site boundary and sensitive receptors where practicable	• Design drawings/plans • Assessment of winds and site layout • Relevant management plans	Contracting Entity
	Construction (Earthworks, material handling)	• Provide personal protective equipment (PPE) such as dust masks to workers on-site, where dust levels are likely to be excessive • Locate activities and rock/earth stockpiles away from sensitive receptors • Cover, seed, or fence stockpiles to prevent wind whipping	• Number of complaints log • Number of complaints resolved or addressed	Contracting Entity, Supervising and Monitoring Consultant

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
		• Bund and seal topsoil and subsoils stockpiles • Keep stockpiles for the shortest possible time • No bonfires or burning of waste material • Seal or re-vegetate completed earthworks as soon as reasonably practicable after completion • Ensure all vehicles carrying loose or potentially dusty material to or from the site are fully sheeted • Use well-maintained vehicle/construction fleet to minimize emissions • Minimize dust-generating activities • Schedule dust creation activities during humid and low-wind times of day and when the likelihood of children or bystanders near the site is low • Use water as a dust suppressant where applicable (e.g., use towed water bowsters with spreader bars) and ensure an adequate water supply • Avoid leaving vehicles or equipment idling or running when not in use • Minimize movement of construction traffic around site • Compact and periodically grade and maintain haul roads and internal roads • Visually monitor dust episodes and dust clouds. Record any exceptional incidents that cause dust, either on- or off-site, and the action taken to resolve the situation in the logbook • Notify line managers if dust suppression systems are ineffective or if project activities are creating air quality problems • Implement community grievance mechanism to enable reporting of air quality issues • The staging area and immediate surrounding roadways should be dampened every 4-6 hours or within reason to prevent a dust nuisance and on hotter days, this frequency should be increased. • Minimize cleared areas to those that are needed to be used. • Cover equipment when not in use and/or wet construction materials to prevent a dust nuisance. • Where unavoidable, construction workers working in dusty areas should be provided and fitted with N95 respirators.	• Daily visual site observations of materials handling for the duration of the construction period • Vehicle maintenance records Exceptional dust-generating incident log • Documentation of dust-minimizing material handling	
SURFACE WATER AND GROUNDWATER MANAGEMENT				

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
Minimize impacts on natural water resources and prevent contamination risks	Planning	- Undertake preliminary hydrogeological studies, or at least define the natural drainage characteristics of the area and hydrologically link to the site (e.g., natural flow paths for surface water runoff should be identified on a plan). Identify sensitive receptors (e.g., potential receiving water bodies for the runoff, groundwater protection zones, archaeological features, receiving water body environmental designations) - Conduct or refer to a local water (surface/groundwater) resources assessment (i.e., consider the quantity and quality available, including current uses) - Collect baseline data e.g., analysis on water sources - Understand what discharges are likely to be generated	- Preliminary hydrological studies and water resources assessment - Hydrological/water quality baseline (against which construction monitoring outcomes can be compared) - Screening documentation for sensitive receptors	MESTI, E&S Consultants
	Engineering and design	- Design storm water drainage systems in line with country technical norms, and to take account of future climate variability, floods, risk of pollution and ecological linkages - Control surface water runoff by constructing temporary drainage channels terminating in sediment traps, sediment ponds, or soak-away ponds as appropriate (infiltration or evaporation) - Consider climate-resilient designs - Minimize hard surfaces, which can lead to flooding or increased runoff rates to areas. Consider opportunities to harvest and use rainwater close to where it falls - Consider the need to put measures in place to filter out pollutants (sediment or chemical) - Understand the details of any required off-site works and consents	- Design drawings/plans - Storm water drainage designs - Runoff management plans - Percentage hard surface cover	MESTI, Engineering Design Consultants
	Pre-construction	- Develop a construction method statement that considers to varying degrees: - Effluent management (e.g., treatment methods, dilution, containment and removal) - Spill management (e.g., stop spread of spill, stop spill seepage, absorb spill, remove contaminated materials/soil) - Sedimentation and erosion control (e.g., use of straw/agricultural waste bales, silt traps, drainage ditches) - No groundwater extractions without prior approval /permits from the WRC	- Documentation of effluent management plan, spill management plan, borrow pit extraction plan, and sedimentation and erosion control plan - Relevant water extraction permits - Documentation of community grievance mechanism	MESTI, Contracting Entity

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
		• Prepare a borrow pit extraction plan (e.g., location, quantity to be extracted, method of extraction, nearby vegetation to protect, method for preventing disease vectors if pit is flooded, decommissioning of pit) • Implement community grievance mechanism		
	Construction	• Adopt some basic management features to protect water courses: ✓ No borrow pits within 50 m of a watercourse ✓ No direct discharges to surface watercourses ✓ No discharge of contaminated substances to surface watercourses • Manage silt-laden run-off from sites, especially during the rainy season • Site compounds away from sensitive water features • Undertake equipment and vehicle maintenance off-site, where feasible, to prevent the potential for releases and spills of oils/solvents/hydrocarbons, or at least 50 m from watercourses • Undertake water quality monitoring at key discharge points • Notify a line manager if permitted discharges produce pollution or flooding • Address any damaged or leaking pipework or connections immediately • Regularly check site drainage, settlement, and water treatment systems to ensure they are working properly • Monitor weather forecasts to identify potential weather events impacting discharges • Undertake spill response drills regularly • Maintain appropriate spill clean-up equipment on-site (e.g., straw/agricultural waste bales, sand, shovels/earth movers) • At source, the contractor is required to wash the stones/ boulders, identify, and remove unsuitable stones. • At site, stones brought in are to be checked on site before they go in the water. Any stones that enter the water with these 'soft parts' that have escaped these checks will be a negligible source of fine sediments. • A sediment basin should be constructed onsite at the staging area in order to intercept storm water before it is discharged to the sea,	• Water quality and discharge monitoring records • Documentation of spill response drills • Documentation of periodic review of pipework, drainage, and water treatment equipment • Water quality data and daily visual observations (at all discharge points) • Incident log	Contracting Entity, Supervising and Monitoring Consultant

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
		Monitoring of the water quality of the area should be conducted regularly during and after construction up to a period of one month after completion.		
NOISE				
Avoid nuisance generated by construction or operation noise related to a development Avoid noise nuisance from day and night operations affecting closest sensitive receptors	Planning	- Identify sensitive receptors - Consult with local communities to identify specific events that may be sensitive to noise (e.g., religious or cultural events)	- Screening documentation with all receptors within 1 km noted (rural) - Documentation of local consultation	MESTI, E&S Consultants
	Engineering and design	- Prioritize the selection of quiet equipment in the selection process - Concentrate noisiest types of work into as short a period as possible and during the least disruptive times of the day (e.g., before or after school or market hours, not during nearby events or meetings) - Specify allowable times for construction activities (e.g., weekends, non-market days) - Inform nearby dwellings on the timing and duration of works and when the noisiest stages are likely to occur (ongoing through the process) - Prepare a site-specific noise control plan - Design noise barriers or other noise attenuation into the design if necessary	- Documentation of public notices - Baseline noise data (for future comparison) - Assessment of need for noise barriers or noise attenuation - Documentation of activity schedule preparation	MESTI, Engineering Design Consultants
	Pre-construction	- Select low-noise equipment with lower comparative sound power levels where possible - Examine equipment on a daily basis for defects prior to the start of work; under no circumstances should defective equipment be used - Position equipment as far as possible from sensitive areas - Locate static equipment (e.g., generators) behind screening vegetation or infrastructure to break the line of sight from receptors - Brief site operatives on keeping noise to a minimum - Identify and implement appropriate PPE requirements (e.g., earplugs) - Screen facility with trees or fencing to control noise - Conduct spot monitoring at the commencement of activities using a sound level meter at the nearest residential properties/sensitive receptor; compare against standards - Place barriers or shrouds close to the main sources of noise to limit the spread of noise - Where possible, plan for one-way traffic systems to minimize vehicle and equipment reversing	- Project activity schedules - Relevant management plans, including noise control plans - Documentation of community grievance mechanism	MESTI, Contracting Entity

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
	Construction	- Display warning signs about high noise levels around site boundary - Record and investigate complaints using a sound level meter via the community grievance mechanism. - Avoid unnecessary revving of engines - Require equipment to be switched off when not in use - Limit noisy activities to daytime working hours where possible	- Daily site audit reports (including confirmation that noise reduction measures are in place, e.g., signs, silencers) - Number of community noise grievances - Noise monitoring data that indicate noise is within range - Site operation log (recording start and stop time of work) - Record of notification to community of noisy work activities.	Contracting Entity, Supervising and Monitoring Consultant
	Construction traffic	- Limit vehicle speeds on-site and on access roads, particularly close to the households (e.g., install speed bumps, traffic signs) - Manage traffic to avoid the need for traffic to queue up - Schedule timing of deliveries to avoid disturbance to local receptors. - Maintain access roads to minimize discontinuities in the road surfaces that may give rise to vehicle body noise and rattle (e.g., grading, road crowning, appropriate drainage ditches) - Where possible, organize delivery routes to minimize potential nuisance to local receptors - Use equipment that has low noise emissions as stated by the manufacturers. - Use equipment that is properly fitted with noise reduction devices such as mufflers, especially in areas with sensitive receptors such as the stockpile area. - Operate noise-generating equipment during regular working hours (e.g., 8 am – 5 pm) to - reduce the potential of creating a noise nuisance during the night. - Construction workers operating equipment that generates noise should wear earplugs	- Delivery logs - Documentation of adherence to project activity schedule - Number of transport related grievances	Contracting Entity, Supervising and Monitoring Consultant
TRAFFIC AND TRANSPORT MANAGEMENT				
Minimize road hazards, congestion, and damage to road infrastructure	Planning	- Identify sensitive receptors - Collect baseline data - Route-alignment assessment	- Screening documentation - Documentation of baseline data collection - Route-alignment assessment	MESTI, E&S Consultants
	Engineering and design	Design layout of site to minimize the number of vehicle movements required	- Design drawings/plans - Documentation of coordination with relevant authorities	MESTI, Engineering Design Consultants

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
		- Schedule construction and select appropriate vehicles (e.g., based on loads) to minimize traffic movements - Take traffic and transport issues into consideration during the procurement process - Where the project may contribute to a significant increase in traffic along existing roads or where road transport is a significant component of a project, the following measures should be implemented: - Minimize pedestrian interaction with construction vehicles - Coordinate with emergency responders to ensure that appropriate first aid is provided in the event of accidents - Use locally sourced materials, whenever possible, to minimize transport distances - Locate secondary project components such as worker accommodation close to project sites and arrange worker bus transport to minimize external traffic - Employ safe traffic control measures, including road signs and flag persons to warn of dangerous conditions	- Schedule of project activities - Transport management plan (TMP) - Assessment of local sources for project materials	
	Pre-construction	- Contractors to develop a detailed transport management plan (TMP) - Upgrade sections of local roads in accordance as practicable and necessary - Implement a community grievance mechanism - Raise awareness of upcoming traffic impacts and risks (e.g., signage, communications with local authorities, community groups, and local media)	- TMP - Records of awareness-raising activities and grievance mechanism	MESTI, Contracting Entity
	Construction	- Adopt best transport safety practices across all aspects of project operations with the goal of preventing traffic accidents and minimizing injuries suffered by project personnel and the public. Measures should include: - Emphasizing safety aspects among drivers (e.g., wearing a seatbelt, not passing vehicles on bends in the highway, slowing at least 300 m in advance of villages or where children are) - Improving driving skills and requiring licensing of drivers (e.g., driver training, driving tests) - Adopting limits for trip duration and arranging driver rosters to avoid overtiredness	- Driver training records (once) - Monitoring and inspection records - Number of accidents and nature (pedestrians being hit, vehicles colliding or rolling) - Records of safety training - Documentation of execution of TMP	Contracting Entity, Supervising and Monitoring Consultant

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
		○ Avoiding dangerous routes and times of day to reduce the risk of accidents (e.g., no driving after dusk) ○ Implement speed restrictions for all project-related traffic ○ Regularly maintain vehicles and use manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure ○ Report accidents and statistics by the contractor ○ In the case of a traffic accident, contact the Police Motor Transport and Traffic Directorate (MTTD) ○ Regularly inspect and maintain roads used by construction traffic ● Repair damage to road surfaces and other road infrastructure (e.g., fill in potholes) ● Ensure that a traffic management and safety plan is developed prior to the construction phase and implemented. ● Prohibit trucks from travelling in a convoy. ● Prohibit trucks from parking along the public roadway. ● Schedule delivery during off-peak as practical as possible. ● Put in place suitable traffic controls at the entrance to the site. ● Ensure that a traffic management plan is developed and implemented. ● take the following steps to mitigate or reduce accidents on the roads leading to the site: ○ Place appropriate traffic warning signs along the main road for the duration of the construction and operational period, informing road users of a construction site entrance ahead and instructing them to reduce speed ○ Utilise Flagmen to minimize the likelihood of accidents when heavy units are entering the roadway.		
LAND CONTAMINATION, SOILS, MATERIALS, AND WASTE MANAGEMENT				
Reduce the use of raw materials and potentially finite or scarce resources	Planning	● Collect baseline data (soil quality) ● Identify sensitive receptors ● Seek ways to reduce raw material consumption, including ● Reuse material on site ● Use recycled product in material (fly ash in cement; recycled tire rubber for accessibility ramps; flooring, roofing; crushed industrial waste as aggregate (e.g., in road construction)	● Screening documentation ● consumption and waste generation reduction analyses ● Procurement and delivery policies	MESTI, E&S Consultants
Appropriate soil handling and disposal				

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
Safe handling, storage, and disposal of waste Prevention of leaks, spills, and environmental incidents		• Use recycled glass or debris in place of sand • Design water harvesting for future irrigation use • Use renewable energy solutions • Substitute raw materials or inputs with less hazardous or toxic materials wherever economically and technically feasible • Waste prevention: identify opportunities to prevent waste production in the first place (packaging) • Waste management planning: identify and characterize the source of all waste streams from the project with the proposed final disposal option • Designate temporary on-site waste storage facilities, where necessary • Ensure appropriate on-site waste sorting and storage		
	Engineering and design	• Identify waste handling facilities close to the project to accept/treat waste (e.g., approved by local government) • Review the locally available reuse/recycling facilities to ensure they can accept the waste streams • Implement procurement measures such as ordering the correct amount of materials to be delivered when needed, reducing the amount of packaging used by suppliers, and establishing a take-back system with suppliers	• List of nearby waste handling and disposal facilities and the types of wastes each can accept • Documentation of raw material	MESTI, Engineering Design Consultants
	Pre-construction	• Reuse materials on site wherever possible, particularly with respect to excavated materials • Implement good housekeeping and operating practices, including inventory control to reduce the amount of waste resulting from materials that are out of date, off-specification, contaminated, damaged, or surplus • Construct fuelling bays and workshops/garages, including storage facilities floors, of impervious materials. and wastes from such facilities to be captured with oil interceptors • Designate an equipment wash-down area on site (e.g., on top of absorptive material that can be easily removed, surrounded by straw/agricultural bales to absorb runoff) or avoid washing equipment on site • Carefully remove any topsoil and overburden (rock or soil) from each of the proposed spoil disposal sites, stockpile nearby, and preserve for eventual use as rehabilitation material once the spoil disposal sites are no longer required	• Site visit monitoring records • Site waste management plan • Site plans with designated wash down and waste storage areas • Designated waste handling facilities for each waste category • Contingency plan	MESTI, Contracting Entity

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
		- Develop and implement a detailed waste management plan as appropriate - Develop an emergency response plan/pollution incident control plan (contingency plan)		
	Construction	- Establish a procedure for reporting any environmental incidents related to spills/leakages and how to deal with any spills/leakages - Identify and implement appropriate PPE requirements - Provide specialist training in appropriate procedures to persons with hazardous materials or waste management responsibilities - Maintain an inventory of hazardous materials and specific procedures/controls - Maintain available copies of material safety data sheets (MSDS) for all hazardous substances used during the project on site - License (as necessary), cover, bund, and maintain waste and hazardous materials storage areas - Store all fuels and oils in appropriate tanks away from watercourses, and inspect storage tanks regularly - Skips and bins should be strategically placed within the staging area. - The skips and bins should be adequately designed and covered to prevent access by vermin and minimise odour. - The skips and bins should be emptied regularly to prevent overfilling. - Disposal of the contents of the skips and bins should be done at an approved disposal site. - Waste boulders should be removed from the site once rejected. Excavated material used in transport should be taken back to quarries etc. - Provide portable sanitary conveniences during construction for the workers to control sewage waste. A ratio of approximately 25 workers per chemical-treated mobile toilet should be used. - The specific layout will be a requirement of the contractor.	- Waste management area set up including clearly demarcated signs (once) - Check storage practices follow MSDS requirements - Waste monitoring/ tracking records (weekly) - No accumulated waste materials on-site (daily inspections) - Documentation of waste management training - Hazardous material inventory and control procedures - Necessary licenses for waste and hazardous material storage - Number of incidents (spills)	Supervising and Monitoring Consultant
SOCIAL MANAGEMENT				
Engage, consult, and inform stakeholders	Planning	- Consult with relevant stakeholders to understand the local context and key risk areas - Inform stakeholders of project plans - Provide forums and opportunities for stakeholders to raise concerns, perceptions, and considerations in response to the plans	% of stakeholders identified during scoping that were consulted on local context and key risk areas - Number of concerns, perceptions, and considerations from stakeholders received	MESTI, E&S Consultants

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
	Engineering and design	- Engage with stakeholders in defining, discussing, or deciding on design alternatives/mitigation measures/site selection - Identify and engage with vulnerable groups, consider them in project design (e.g., elderly or infirm populations, non-household heads, those without land title), speak with them separately and together with community leaders)	- Number of inputs from stakeholders incorporated into project plans % of stakeholders identified during scoping that were consulted on engineering and design - Number of concerns, perceptions, and considerations from stakeholders received - Number of inputs from stakeholders incorporated into project plans - Number of inputs from vulnerable groups considered in project design - Documentation of vulnerable groups' considerations in project design	
	Pre-construction	- Provide clear, understandable, up-to-date, reliable information throughout all phases. Use materials, language, and approaches appropriate to each group to share project design, foreseen impacts, timeline for key activities, mitigation and compensation measures, roles and responsibilities, and other relevant information - Address key concerns, questions, and interests of stakeholders	- Number of communications activities carried out - The number and types of stakeholders reached - Amount of feedback received and response to feedback	MESTI, Contracting Entity
	Construction	- Monitor impacts and management strategies through stakeholder engagement; develop and apply improvement mechanisms as necessary - Periodically inform stakeholders of the progress of key activities, results of mitigation implementation, and updates on concerns raised	- Number of improvements suggested by stakeholders incorporated into the construction process - Number of communication activities carried out	Contracting Entity, Supervising and Monitoring Consultant
Direct communication between project implementer/developer and community through grievance mechanism	Planning	- Provide open, free, accessible, anonymous communication lines between stakeholders and project - Ensure that all communications are responded to in a timely manner, that records are kept, and resolutions / suggestions incorporated - Resolve grievances formally, efficiently, respectfully	- Number and types of grievances received and response time - Number of improvements or modifications incorporated into management practices because of grievances and communications	
LAND ACQUISITION AND RESETTLEMENT				
Safeguard the well-being and improve livelihood of those whose land is acquired involuntarily	Planning	Avoid the need for displacement by developing an understanding of local land use and property ownership	Documentation of local context	MESTI, E&S Consultants
	Engineering and design	Consider land use and property ownership in designs and site selection (e.g., community, private, church/religious, or government land)	Number of meetings with communities/families that are anticipated to experience displacement to discuss land use and property ownership in designs	MESTI, Engineering Design Consultants

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
		- Produce baseline information about the population that will experience physical or economic displacement (collect information through multiple site visits, as concerned groups may not be available on the first visit) - Engage with project-affected people and affected communities, including any host community members, to design the resettlement/compensation plan - Establish resettlement/compensation grievance mechanism - Ensure clear, direct communication and information throughout the resettlement/compensation impact identification and planning processes	- Documentation of baseline information - Documentation of engagement process - Documentation of grievance mechanism system - Number and types of grievances received and response - Number of communications activities carried out	
	Pre-construction	- Implement resettlement/compensation (preferably in-kind) plan as designed - Continue ensuring clear communication and implementation of resettlement grievance mechanism	- Number of internal and external monitoring and evaluations of the resettlement process - Number of affected properties, displacement impacts, according to resettlement plan - Documentation of communication process - Documentation of grievance mechanism system - Number and types of grievances received and response	MESTI, Contracting Entity
	Construction	- Monitor implementation of resettlement action plan - Continue ensuring clear communication and implementation of grievance mechanisms	- Documentation of resettlement / livelihood restoration activities through internal monitoring, external monitoring, and evaluation as appropriate - Number of communication activities carried out - Number and types of grievances received and response	MESTI, Contracting Entity
COMMUNITY HEALTH AND SAFETY				
Protect community public health	Planning	Avoid disturbing communities or creating health and safety risks to the community by understanding local community dynamics and any community resources related to subsistence or public use that may be impacted	Documentation of understanding of local community dynamics and affected resources	MESTI, E&S Consultants

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
	Engineering and design	- Identify risks and hazards to community health and safety and define procedures to avoid or manage them - Identify potential emergency situations and develop emergency response procedures in a plan - If security personnel will be hired, develop a security plan based on a risk assessment, ensure correct screening and training processes as well as use-of-force procedures, and produce a memorandum of understanding with national police forces as required	- Health and safety procedures in place - Emergency response plan Security plan - Security personnel procedures in place	MESTI, Engineering Design Consultants
	Pre-construction	- Identify potential short-term disturbances to community (such as noise, dust, traffic, circulation of workers) and define measures to minimize them (scheduling, trainings, maintenance, or use of alternatives and communications) - Communicate necessary information regarding community health and safety to community and to workers - Train workers regarding community interactions and health and safety procedures - Train relevant staff and service providers in emergency response	- Measures to minimize disturbances in place - Number and types of communication activities and participants - Number and type of trainings, content, and participants - Documentation of security plan implementation results - Number of grievance issues involving security personnel that are raised and resolved	MESTI, Contracting Entity
	Construction	- Implement community health and safety procedures - Implement disturbance minimization procedures - Continue trainings and communications - Carry out emergency drills with relevant parties - Monitor health and safety concerns and occurrences and respond when necessary - Monitor security personnel	- Documentation of implementation of procedures - Number and types of complaints received from host communities regarding avoidable disturbances - Resolution of complaints - Number and types of trainings, content, and participants - Number and types of communications activities and participants - Number of emergency drills - Number of monitoring activities to verify disturbance in the communities - Number and types of health and safety occurrences documented and resolved - Number of security personnel monitoring activities	Contracting Entity

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
			Number and types of issues involving security personnel raised and resolved	
LABOUR PROTECTION				
Protect the workforce	Planning	Prohibit forced labour and child labour at all project stages	Documentation showing commitment to and enforcement of this prohibition	MESTI, E&S Consultants
	Engineering and design	- Ensure main project proponent has a human resource policy - Include a project labour commitment in tenders and contracts	- Human resource policy - Project labour commitment	MESTI, Engineering Design Consultants
	Pre-construction	- Ensure non-discrimination, equal opportunity, and equal pay in hiring and employment processes - Ensure workers' rights through fair terms and conditions of employment evidenced in contracts - Verify third-party and supply chain companies to ensure avoidance of forced and child labour and adequate management of occupational health and safety risks	- Hiring and contract documentation - Number of third-party monitoring assessments of supply chain and workers	MESTI, Contracting Entity
	Construction	- Implement and monitor upholding of labour rights, use of contracts outlining working terms, appropriate management of overtime to avoid its excessive use, timely and relevant pay, and provision of fair, safe, and healthy working conditions - Identify and respond to any issues. Incorporate any improvements into the management system.	- Human resources procedures documentation - Regular workforce profiles - Documentation of monitoring activities and results - Number of labour protection issues raised and resolved - Number of improvements incorporated into the management system	Contracting Entity
Direct communication between company and workers through grievance redress mechanism	Engineering and design through construction	- Provide open, free, accessible, and anonymous communication line between workers and project employer - Ensure that all communications are responded to in a timely manner, that records are kept, and that resolutions or suggestions are incorporated. - Resolve grievances formally, efficiently, and respectfully. Monitor to ensure that retaliation or differential treatment does not occur because of labour grievances.	- Documentation of grievance mechanism system - Number and types of grievances received and response - Number of improvements/modifications incorporated into management practices because of grievances/communications - Documentation of monitoring activities and results	MESTI, Engineering Design Consultants
CULTURAL HERITAGE MANAGEMENT				
Protect cultural heritage	Planning	Identify cultural heritage in the project area as well as potential for finds including abandoned cultural buildings in poor condition.	- Documentation of consultation activities - Cultural heritage identified through documentation	MESTI, E&S Consultants

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
		- Consult with relevant stakeholders to identify cultural heritage and uses. Examples include medicinal plants, shrines, graves, homes of community leaders, and sacrificial or worship sites. - If critical cultural heritage exists in the proposed project area, consider alternate locations. - Seek to understand more than one perspective, as perspectives may change where political interests change. - Identify partners associated with nearby heritage sites that may assist in protecting the cultural value of a site.		
	Engineering and design	- Avoid impacts on cultural heritage through design and location alternatives - Consider whether a building can be modernized/upgraded rather than replaced - Engage with the local community to design best management and protection measures; if impact is unavoidable, use removal as the last priority - If there are cultural heritage sites used by communities in the project area, avoid any project-related impacts on them. If unavoidable, follow the agreed-upon FPIC process	- Documentation of alternatives studied - Documentation of the engagement process and its consistency with Free, Prior, Informed and Consent (FPIC) principles	MESTI, Engineering Design Consultants
	Pre-construction	- Discuss management plans with local communities and negotiate approaches to management, especially if future co-management is envisioned - Establish protection and management procedures and train workers - Define procedures for chance finds (unexpected cultural heritage finds discovered on-site, e.g., archaeological remains) during construction (chance-find procedure), and train workers on the chance find procedure - When safe, provide alternative access to cultural heritage sites or resources if construction will restrict access	- Protection, management, and chance-find procedures established - Number of training, number of participants, content - Identification of alternative access routes - Communications materials - Numbers of communications, participants, stakeholder groups	MESTI, Contracting Entity
	Construction	- Implement agreed-upon procedures and measures, monitor implementation - Continue communications - In the case of chance finds, consult with a qualified archaeologist or specialist before continuing work	- Documentation of monitoring activities, including chance finds - Numbers of non-compliance cases and resolutions - Communications materials - Numbers of communications, participants, stakeholder groups	Contracting Entity

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
Manage health and safety risks	Planning	- Review risks and try to control the hazard at the source (e.g., is working from heights or confined spaces necessary?) - Review potential for site-specific risks that may pose health and safety issues (e.g., flood risk requires the location of critical equipment in room other than basement, existing contamination risk) - For rehabilitation projects, make all reasonable efforts to establish whether there is any asbestos or lead present in an existing structure - Review construction schedule to minimize need for overtime or other worker welfare pressures	- Hazards risk assessment record - Laboratory analysis - Avoid disturbance of asbestos or lead without proper testing	MESTI, E&S Consultants
	Engineering and design	- Use tools to predict and evaluate health and safety risks - Provide sufficient budget to ensure good health and safety practices during construction - Identify risks and hazards to worker health and safety and define procedures to avoid or manage these risks - Review design with construction worker/team who has knowledge of the construction methods - Hold design review meetings at key stages - Identify potential emergency situations and develop emergency response plans - Set out basic health and safety obligations in contracts - Communicate residual risks to the implementation team /contractors on-site (e.g., the potential for hazardous materials, below-ground risks) - Where excavations for basements, deep drains, etc., are necessary, particularly if close to the site boundary, designers should highlight in the contract drawings that “temporary supports to all excavations must be provided by the contractor as necessary” - Consider designs that include measures for safe operation and maintenance, e.g., low maintenance painting specification, harness hook points for cleaning	- Health and safety procedures in place - Emergency response plans	MESTI, Engineering Design Consultants
	Preconstruction	- Undertake simple site risk assessment on site before commencing task or activity and then organize site set-up - Design the site layout (i.e., the location of structures) to avoid work, and mobile generators or other equipment movement, near overhead electric cables - Communicate necessary information regarding health and safety to workers	- Site risk assessment(s) - Site health and safety plan/map showing how site is organized and where emergency provisions are located - Communications materials utilized	MESTI, Contracting Entity

Objective	Activity/ Phase	Mitigation Strategies	Indicators or Outcomes	Responsibility
		• Train workers regarding health and safety procedures • Review capability of the workers (is additional training required to perform the activity or use planned materials?) • Has the area been demarcated to minimize risks to bystanders? • Train relevant participants in emergency response • Coordinate with relevant local authorities and emergency services providers • Request and plan with the local utility (electricity, telecom, etc.) providers to move overhead or buried cables in advance of the main contractor arriving on site • The relevant designer(s) should write to local utilities (electricity, water, telecom, etc.) to request drawings/ information regarding the nature and extent of the underground services in the area	• Number of communications activities, number of participants, number of different stakeholder groups • Number of trainings, number of participants, content of trainings • Documentation of coordination with relevant local authorities and emergency services providers • Maintain incident log (near misses, accidents, incidents including reportable incidents and fatalities)	
	Construction	• Implement health and safety procedures, including the provision of PPE, correct signage, and barricades where necessary • Continue trainings and communications • Carry out toolbox talks and emergency drills with relevant parties for workers • Monitor health and safety concerns and record all occurrences and noncompliance • Implement basic site housekeeping measures to improve site safety (e.g., cordon off hazardous areas, set up waste management area, demarcate driving and pedestrian traffic areas, check electricity connections, keep site clear to remove slip, trips and fall hazards, lock hazardous liquids in storage room/container). • Structural frames: minimize connections at height by facilitating off-site and/or ground level assembly; facilitate ground slab construction before frame erection for use by mobile work platforms for bolting up	• Documentation of implementation of procedures • Number of training, number of participants, training content • Communication materials utilized • Number of communication activities, number of participants, number of stakeholder groups addressed • Documentation of emergency drills • Documentation of monitoring • Number of health and safety occurrences documented and resolved	Contracting Entity

7.2 Environmental and Social Monitoring

Environmental and social monitoring will allow for measures to be implemented in time to prevent or avoid negative impacts. The monitoring of environmental and social parameters specific to the Project is necessary as it enables the confirmation or otherwise of potential impacts identified during the ESMF and enables the continuous availability of environmental data for assessing potential problems likely to occur in the future following project implementation. The monitoring is expected to adhere to standard principles of being holistic and comprehensive, scientifically rigorous, adaptive and robust, inclusive and collaborative as well as being transparent and accessible.

Following the award of civil works contract and commencement, the Environmental and Social Safeguards Team of the PIU within MESTI in collaboration with the Contracting Entity should commence monitoring. The designated authority in charge of monitoring should also be given the authority to stop work (the project) in the event of identified and verifiable risks to the environment and human health. The successful implementation of the monitoring program will depend on the commitment and capacity of the Environmental and Social Safeguards Team and other third parties (institutions) to implement the program effectively.

The main environmental media that will be impacted by the Project and that may present health (socio-economic) concerns are air, land and water. The monitoring should thus include but not limited to the following components:

- Air quality
- Noise levels
- Effluent and water discharge quality

These components should be monitored throughout the life of the Project or contract period (beginning at the start of construction). The results of the monitoring program and the effective communication of issues identified will provide the opportunity for adopting appropriate control measures that will enhance the Project's benefits. Monitoring will also involve periodic review of construction and maintenance activities to determine the effectiveness of the recommended mitigation measures.

7.2.1 Monitoring and Reporting of Environmental and Social Indicators

Air Quality Monitoring

Air quality monitoring should be undertaken on an ad hoc basis during the construction to ensure that pollution is curbed early to minimize dissipation and monthly monitoring throughout the Project's lifespan, beginning right before construction commences. Monitoring should be conducted for the following parameters (gases and particulates):

- NO₂
- SO₂
- CO₂
- CO
- PM₁₀
- TSP

Assessments based on the results of the monitoring should be done in line with Ghana Standard on Environment and Health Protection - Requirements for Ambient Air Quality and Point Source/Stack Emissions (GS 1236:2019), as shown in Table 4. This is to confirm that emissions to air do not result in pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards.

Noise Level Monitoring

Noise level monitoring should be conducted on ad hoc basis during the construction and monthly throughout of the Project's lifespan. Monitoring should be done in selected communities in close proximity to the construction area to determine non-exceedance to established Ghana Standard on Health Protection - Requirements for Ambient Noise Controls (GS 1222:2018), as shown in Table 3.

Effluent and Water Discharge Quality Monitoring

Effluent and water discharges will be monitored in strict adherence to relevant legislations and guidelines, including recommendations set out in the Ghana Standards Environment Protection-Requirements for Effluent Discharge (GS 1212:2019) which provides maximum permissible effluent discharge concentrations for a number of parameters as shown in Table 5. Other physicochemical and bacteriological parameters could be monitored, including the presence or otherwise of any heavy metals. Included here will also be periodic monitoring for any system leakages and chemical discharges that could potentially impair any receiving environmental media. A periodic (e.g., weekly) leak detection and repair monitoring program will be implemented. Effluent and water discharge quality monitoring will be on a continuous basis as some parameters may need to be monitored on a daily basis, others on weekly or monthly timescales.

Land and Surface Water Pollution / Degradation

Construction activities may impact nearby surface waters. As such a monitoring program will be implemented in this regard and will involve periodic (weekly) visual observations and recording/documentation of any land-based impacts such as soil erosion and land degradation/contamination, volumes and rate of various waste streams generated, etc. Also, ad hoc testing using a portable testing device will be conducted on the water bodies and periodic (monthly) soil and surface water sampling and quality testing will be conducted for some selected locations in line with recommended industry guidelines and recommendations. Parameters to be monitored will include pH, temperature, Dissolved Oxygen (DO), conductivity, odour, colour, turbidity, Total Suspended Solids (TSS), Total Dissolved Solids, oil/grease, Nitrate, Ammonia, Phosphate, Magnesium, Chloride, Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), Total Coliforms, Faecal Coliforms, E. Coli, etc. Heavy metals and/or toxic parameters such as Lead, Arsenic, Chromium, Copper, Iron, Zinc, Cadmium, Mercury, Cyanide, Nickel, Silver, etc will also be monitored on a monthly timescale. Appropriate industry standard sampling, testing (laboratory) and reporting processes and procedures will be adhered to, and information made available to the EPA as and when needed. Water quality results should be assessed against national and international guidelines such as the Ghana Standards Authority (GSA) standards/ or the World Health Organization (WHO) Drinking Water Guidelines as shown in Table 23 below.

Table 23: Quality Guidelines for General Industries

Parameters	GSA / EPA	WHO Guidelines
Colour (TCU)	200	15
Conductivity (uS/cm)	1500	400
pH	6 – 9	7-8.5
Temperature (°C)	≤3 Above ambient	≤3 Above ambient
Turbidity (NTU)	75	5
TDS (mg/L)	1000	1000
TSS (mg/L)	50	-
BOD5 (mg/l)	50	5
COD	250	10
Ammonia as Nitrogen (mg/L)	-	1,5
Nitrate as Total Nitrogen (mg/L)	50	50
Oil and Grease (mg/L)	5	-
Alkalinity (mg/L)	-	100
Chloride (mg/L)	-	250
phenols (mg/L)	-	-
Phosphorous Total (mg/L)	2	0.5
Sulphide (mg/L)	-	0.05
Cadmium (mg/L)	-	0.003
Chromium 6+ (mg/L)	-	-
Chromium Total (mg/L)	-	0.05
Total coliforms (MPN/100ml)	400	0

Sediment Quality Monitoring

The concentration of chemicals adsorbed to sediments—generally measured in units of mg chemical/kg sediment—affects the quality of habitat for sediment-dwelling organisms, which live in contact with the sediments and may ingest sediment particles. Chemicals adsorbed to sediments can also re-enter the water column depending on environmental conditions such as dissolved oxygen concentrations, pH, and temperature. The chemical characteristics of sediment depend on the natural geology of the basin and erosional processes that transport minerals into the waterbody, as well as human activities that cause pollution to enter the river system. The monitoring should focus on the following categories of parameters:

- Temperature,
- pH,
- Dissolved oxygen,
- Suspended sediments and turbidity,
- Nutrients, viz. nitrogen, phosphorus and organic carbon, organics as measured by oil & grease, volatile solids and biochemical oxygen demand,
- Coliforms,
- Metals (total and dissolved)

Working Conditions, Health and Safety

- Monitoring the appropriateness, replacement and maintenance of plant and equipment used for safety critical processes
- Measuring the safety and health culture of the undertaking
- Non-fatal Work Related Injuries and Illness reported
- Fatal work-related injuries
- Numbers of accidental injuries per year;
- Rates of accidents;
- Frequency of accidents;
- Days lost due to injury per year;
- Severity rate (ratio of major to minor outcomes);
- Estimated accident costs.

Resettlement

- Are resettlement implementation activities being done as per agreed implementation plan?
- Are funds for resettlement being allocated to resettlement agencies on time?
- Have funds been disbursed according to Entitlement Matrix of RAP.
- Has all the land made encumbrance free and handed over to the contractor in time for project implementation?
- Have all PAPs received entitlements according to quantity and categories of loss set out in the entitlement matrix?
- How many affected households have land titles?
- How many affected households are relocated and built their new structures at new location?
- Are income and livelihood restoration program activities being implemented as planned?
- Have affected businesses received entitled benefits?
- Have the PAPs losing their eroded land received proper compensation?
- Have the squatters, encroachers been displaced due to the project, been compensated?
- Have the community structures been compensated and rebuilt at new site?
- Have resettlement information brochures/leaflets been prepared and distributed?
- Have consultations taken place as scheduled including meetings, groups, community activities?
- Have any PAP used the grievance redress procedures?
- What grievances were raised and what were the outcomes?
- Have grievances and resolutions been documented?
- Have any cases been taken to court?
- Have conflicts been resolved

Gender and Disability Inclusion

- Number and percentage of men and women actively participating in consultations, workshops, and project related meetings
- Number of women and men in decision-making positions relating to the activities or in the project context
- Number and percentage of women and men serving in leadership positions relating to the areas of intervention or in the project context
- Number and percentage of men and women, by social group, consulted about project plans
- Number of women and men benefitting from organized workshops and trainings opportunities within the program or project
- Number of women and men receiving project benefits
- Number of women and men benefitting from tools and resources
- Number of women and men benefitting from financial investments, due to program interventions
- Number of women and men engaged in benefit-sharing discussions
- Number of poor households that are project beneficiaries; number headed by men/women
- The number of persons with disabilities actively participating in consultations, workshops, and project related meetings
- Number of persons with disabilities in decision-making positions relating to the activities or in the project context
- Number of persons with disabilities that are project beneficiaries

Evaluation of Results

The evaluation of results of environmental and social mitigation can be carried out by comparing baseline data collected in the planning phases with targets and post-project situations. Several indicators would be used to determine the status of affected people and their environment. To assess whether these goals are met, the PIU coordinator will indicate parameters to be monitored, institute monitoring milestones and provide resources necessary to carry out the monitoring activities. The following are some pertinent areas and questions to be used to evaluate the ESMF implementation process, mitigation plans and performance.

- Were field staff and stakeholders (District staff mostly) trained in safeguards compliance?
- How many projects were screened, and which environmental and social risk categories were assigned?
- How many consultation meetings with project beneficiaries and stakeholders were organized in each District; who attended, what was discussed and what were the participants' concerns on the subproject? Were all concerns addressed? What is their current implementation status, if any?
- How many recorded grievance cases have been settled within one year?
- How many subprojects were screened?

Monthly and Quarterly Reviews

Quarterly and Monthly reviews will be undertaken by the Project Environmental and Social specialists and are necessary to:

- Ensure that subprojects are complying with the processes established in the ESMF/ESMP;
- Ensure that subprojects are compliant with the conditions and requirements stipulated in the ESCP;
- Identify challenges and opportunities in order to improve programme performance; and
- Be able to determine the cumulative impacts of the Project to establish attainment of the ESMF objectives.

The review session will result in the production of quarterly and monthly E&S reports for every project site. It is wise to conduct these workshops every year to make timely improvements in the Programme performance. The quarterly and annual Review reports will be presented to the project steering committee on a quarterly and annual basis to ensure that the project activities are implemented in an environmentally sound manner.

Environmental and Social Auditing

The purpose of environmental and social safeguards auditing is to establish the level of compliance with the World Bank environmental and social framework as well as national policy and regulatory requirements. MESTI will be responsible for ensuring that environmental and social audits are carried out at mid-term review and project end. The audit reports will be shared with the World Bank for their review and approval.

Monitoring Roles and Responsibilities

MESTI: MESTI is the implementing agency of the project. It will provide overall coordination and management of the project and will work under a Project Steering Committee. Regarding monitoring, the MESTI PIU will provide overall coordination in monitoring, including coordinating training in the collection and analysis of monitoring data for data collectors. The Project Coordinator and Evaluation staff will be primarily responsible for ensuring compliance to the ESMF, national and World Bank E&S requirements.

World Bank: As stated above, the implementation of this project will be undertaken by MESTI. The World Bank, as financiers, will advise the client and conduct support missions as part of due diligence. The project will comply with the World Bank ESF; therefore, the Bank will clear all safeguards instruments prepared under the project. The World Bank will review and conduct due diligence on the implementation of the ESMF and other instruments within the budget of the Project and to ensure that compliance is achieved as per the requirements of the ESMF.



8. GRIEVANCE REDRESS MECHANISM



*Mpatapo ("knot of reconciliation"):
Peacemaking,
Reconciliation*

This section describes the Grievance Redress Mechanism (GRM) to be developed and operationalized by the project for dealing with grievances about the project. It describes the objectives, principles, levels and the transparent procedure/process that the project will employ to deal with enquiries and complaints received from the affected stakeholders, communities and project contractor workers.

8.1 Objectives of Project GRM

The objective of the GRM is to address and resolve project-related grievances or complaints from stakeholders and affected persons promptly, fairly, and in a manner that is, to the extent possible, acceptable to all parties for the period they will be operating in the new locations. Every effort will be made to:

- Ensure that complaints from aggrieved stakeholders are channelled to the project managers for the resolution of disputes that might arise out of project implementation.
- Seek solutions to any tensions and conflicts early in the implementation process to avoid delay in potential relocation exercises.
- Identify and implement appropriate and mutually acceptable actions to redress complaints.
- Respond in a timely manner and with sensitivity to the needs of complainants.
- Ensure that claimants are satisfied with the outcome of the corrective actions and maintain a dialogue with them to the extent possible.
- Provide affected people with avenues for making a complaint or resolving any dispute that may arise during the implementation of projects; and
- Ensure that appropriate and mutually acceptable redress actions are identified and implemented to the satisfaction of complainants.

8.2 Guiding Principles

The project's GRM will be guided by the following principles:

- **Legitimate:** have a clear, transparent, and sufficiently independent process to ensure that no party to a grievance process can interfere with the fair conduct of that process.
- **Accessible:** publicise to those who may wish to access it and provide adequate assistance for aggrieved parties who may face barriers to access, including language, literacy, awareness, finance, distance, or fear of reprisal.
- **Predictable:** have a clear and known procedure, with time frames for each stage; clarity on the types of process and the outcome it can (and cannot) offer; and means of monitoring the implementation of any outcome.
- **Equitable:** ensure that aggrieved parties have reasonable access to sources of information, advice, and expertise necessary to engage in a grievance process on fair and equitable terms.
- **Rights-compatible:** ensure that its outcomes and remedies accord with internationally recognised human rights standards.
- **Transparent:** provide sufficient transparency of process and outcome to meet the public interest concerns at stake and will presume transparency wherever possible. The mechanisms will be transparent about the receipt of complaints and the key elements of their outcomes.
- **Fairness:** all complainants will be treated with courtesy, equally and always. All complaints will be

treated seriously, regardless of whether they are made by telephone, by letter, or by e-mail. No complainant will be treated less favourably than anyone else because of their:

- Gender, social and marital status, or age;
- Residence status or location;
- Economic status;
- Colour, race, ethnic or nationality origin;
- Religious or political beliefs or affiliation;
- Institutional affiliation; or
- Any other characteristics

8.3 Levels of the Grievance Mechanism

MESTI will establish a three-tier grievance mechanism structure to ensure timely redress of grievances.



8.3.1 Community and Lower-Level

Local communities have existing traditional and cultural grievance mechanisms which can be used to resolve some project related disputes at the community level, of course with some degree of involvement of and support from local leaders, the contractor(s), and project representatives at the local level. Indigenous approaches to grievance resolution at the community level provide appropriate fora and opportunities for members of the community to process their grievance when they do arise. This indigenous approach is structured and rooted in the cultures and traditions of the people. The indigenous resolution mechanism involves the use of chiefs, queen mothers and their councils of elders. The approach derives its legitimacy from the 1992 Constitution of Ghana, which guarantees the institution of chieftaincy, together with its traditional councils as established by customary law and usage (Article 270), and the Chieftaincy Act, 2008 (Act 759) that empowers the chief, queen mothers with their elders to arbitrate on disputes (Section 30).

The project will establish Grievances Redress Committee at the community level that will receive grievances and process them for resolution. The membership of the Community Grievances Redress Committee (CGRC) will include the Assembly member for the Electoral Area; the Chief or authorised representative of the area, women's representative at where the project is taking place and a selected community representative. The Chief or authorised representative will serve as the Chair. The CGRC will serve as the first point of contact between the project and the public and their role/mandate will include providing project information to stakeholders and resolving grievances. The CGRCs will be trained by PIU's Social Development Specialist on best practices in grievance management. The CGRCs will report to the PIU on a weekly, monthly or quarterly basis as may be appropriate. The CGRCs will record and report on all grievances, including when and how they were resolved as well as cases that got referred to other levels (see in annexes, an example of grievance log that will be used in recording grievances). If a grievance submitted to this CGRC does not receive satisfactory resolution, the second tier (District Grievance Redress Committee) is activated.

8.3.2 District Level

For the second tier, the project will use the Public Relations and Complaints Committee (PRCC) at beneficiary MMDAs. The Public Relations and Complaints Committee is chaired by the Presiding Member, and it is expected to amicably settle complaints and grievances of the public with regard to adverse environmental and social impact. Other members of the Committee are the District/Municipal/Metropolitan Planning Officer, a representative of the District/Municipal/Metropolitan CHRAJ Office, a Representative of the Traditional Council, a representative of the Department of Social Welfare and Community Development. The PRCC takes up grievances when the CGRC is unable to resolve a grievance submitted to them. The PRCCs will be trained by the PIU's Social Development Specialist on best practices in grievance management and supported by PIU's Social Development Specialist, who visit them on a monthly or quarterly basis to collect new complaints and provide feedback on processed grievances. The PRCCs will record and report on all grievances including when and how they were resolved as well as cases that got referred to other levels. If a grievance submitted to this group does not receive a satisfactory resolution, the third tier (National Level) is activated. A person dissatisfied with the outcome of the Grievances at the District level could also resort to Alternative Dispute Resolution or go to Court to seek legal remedy.

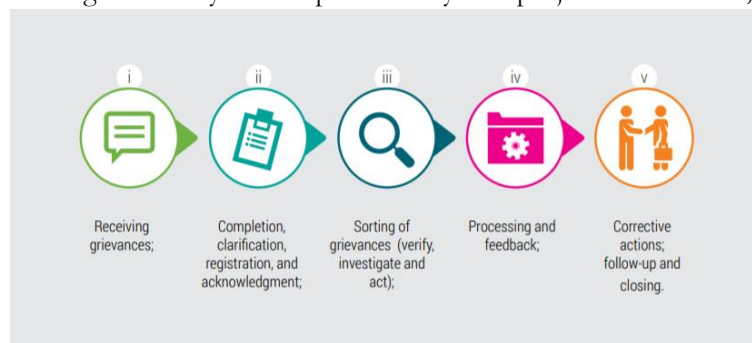
8.3.3 National Level

The third tier will be the National Grievance Redress Committee (NGRC) at the Project Implementation Unit (PIU). The member of the NGRC will include the Project Director, Environmental Specialist and Social Development Specialist. The committee will be chaired by the Project Director. It is expected that all grievance or dispute issues pertaining to the Project will be resolved at the community or District/Municipal/Metropolitan level. Issues that will not be resolved at these levels will be referred to the NGRC. The PIU will then endeavour to resolve the complaint as soon as possible. However, the mechanism will not prevent unsatisfied complainants to resort to the Ghana judiciary (mediators and courts) at their discretion.

8.4 Elements of the GRM

The GRM will include several elements, comprising the following:

1. A transparent grievance receipt and registration system to provide ways for project beneficiaries, project affected persons and community members to register complaints and confirm they have been received. See Annex 3 for a sample of the GRM complaint form.
2. Grievance eligibility assessment to determine if the issues raised in the complaint fall within the mandate of the grievance mechanism and if the complainants have standing/legitimacy.
3. Grievance evaluation to clarify the issues and concerns raised in the complaint, to gather information on how others consider the situation, and identify whether and how the issues might be resolved
4. Several choices for solving problems, with or without the assistance of independent third parties:
 - i. Internal decision-making processes, whereby issues are handled by designated project officials, using documented standards and criteria, to develop and propose a project response to the grievance and to allow for an appeals process
 - ii. Joint problem-solving, in which the project and the complainant engage in direct dialogue
 - iii. Third-party decision making to offer a solution when a voluntary agreement is not possible
5. Grievance tracking, monitoring, and reporting to the community
6. Project-community feedback and information sharing to strengthen grievance resolution processes
7. Organisational learning and identification of systemic problems and the need for changes to policies and procedures to prevent recurrent future disputes.



Step 1: Receive and Register a Complaint

The project will enable aggrieved stakeholders (“complainants”) to communicate their grievances through a variety of channels (e.g. phone, letter, walk-in, email, website, meeting, etc.) which will allow people to inform the project about concerns directly and, if necessary, anonymously or through third parties shown in Figure 16 below.

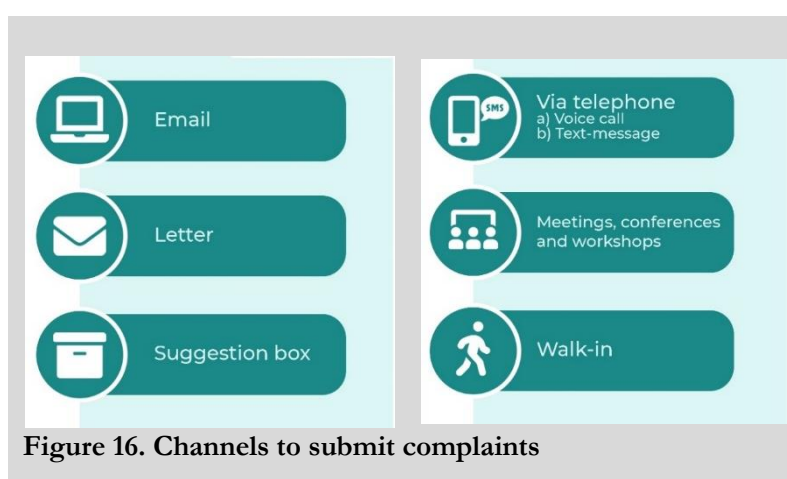


Figure 16. Channels to submit complaints

The project will ensure that the procedures are effective, convenient, culturally appropriate, simple to understand, and easy to use. The grievance register will contain the information outlined in Box 3. See Annex 4 for a sample of the Grievance Register.

The complaint register will include:

- Unique reference number,
- Date of the complaint,
- Name of the complainant/s (in case of non-anonymous enquiries and grievances)
- Gender,
- Location and address of the complainant/s,
- Content of the complaint
- Identification of parties responsible for the addressing and resolution of the issue;
- Dates when the investigation of the complaint was initiated and completed;
- Findings of the investigation
- Information on proposed corrective actions to be sent to the initiating party (unless it was anonymous) and the date of the response sent on measures of redress;
- Deadlines for internal actions required from Project's staff;
- Indication of whether a statement of satisfaction was received from the person who lodged the grievance, or a reason for non-resolution of the grievance
- The date of close-out; and
- Any outstanding actions for non-closed grievances

Step 2: Screening and Processing Complaints

The project will assign focal points at different levels for receiving and registering complaints from stakeholders and affected persons. The Environmental and Social Specialists for the project will have overall responsibility for tracking and following up on issues and complaints raised and will serve as focal points at the national level. After receiving and registering the complaint, the focal points will establish the eligibility of the complaint received. The following criteria will be used to assess and verify eligibility:

- The complainant is identifiable and has provided a name and contact details.
- The complainant is affected by the project.
- The complaint has a direct relationship to the project. Does the complaint indicate that the program has caused a negative economic, social, or environmental impact on the complainant, or has the potential to cause such an impact? Does the complaint specify what kind of impact has occurred or may occur, and how the program has caused or may cause that impact?
- The issues raised in the complaint fall within the scope of the issues that the GRM is mandated to address.

Step 3: Establish Grievance Category

As a result of the screening (see Annex 5 for a sample of the Grievance Screening and Investigation Sheet), the grievance will be assigned to one of the four categories outlined in Table 24.

Table 24. Category of Grievance

Category	Description	Required Action
Category 1	Complaints that are not related to the project	The project will confirm receipt and discuss with the complainant to understand the issue before responding. If it is confirmed that the complaint is not related to the project, the complainant will be referred to the appropriate project or institution.
Category 2	Queries, comments, and suggestions	The project will confirm receipt and the relevant staff will assist to provide response to the query, comments and suggestions.
Category 3	Complaints and concerns, which are not criminal in	Complaints may be straightforward and can often be resolved on first contact. If this is not the case, then the complaint may require investigation. The investigation includes the gathering of documents,

Category	Description	Required Action
	nature or do not require the involvement of police	proof, and facts, as well as clarifying background information to verify the circumstances surrounding the grievance. It will involve coordinating with appropriate authorities, making decisions, proposing resolutions, as well as the implementation of agreed actions.
Category 4	Complaints and concerns that relates to cases of criminal nature and will require investigation or intervention by the police or other law enforcement authorities such as sexual abuse.	This will be escalated to the police without any delay. If grievances include more than one issue, the Grievance Officer will make sure that all issues are reviewed and addressed at the same time to avoid any delays.

Step 4: Assess the Complaint

If the initial assessment establishes the eligibility of the complaint to be pursued, a further assessment will be undertaken to determine the seriousness of the complaint. During the assessment, the project gathers information about the case and key issues and concerns and helps determine whether and how the complaint might be resolved. The project will undertake the following:

1. Identify the parties involved
2. Clarify issues and concerns raised by the complaint
3. Gather views of other stakeholders, including those of the project
4. Measure/classify impact and urgency in terms of high, medium, or low. Assessing the seriousness of a complaint is not easy, as it could be subject to biases. The seriousness of a complaint is linked to who in the project needs to know about it and whether senior management is advised. Criteria should be established and could include the following:
 - Severity of the problem,
 - Potential impact on the well-being and safety of an individual or group,
 - Potential impact on the project, and
 - Public profile of the issue.
5. Determine initial options that parties have considered and explore various approaches for settlement.

A composite score will be produced based on the risk-urgency combinations (Figure 17). Composite scores are generated by cross-multiplying the individual risk and urgency scores.

		Risk (Ranking)		
		High (3)	Medium (2)	Low (1)
Urgency (Ranking)	High (3)	9	6	3
	Medium (2)	6	4	2
	Low (1)	3	2	1

Figure 17. Risk-Urgency Scores

A priority index will be developed based on the composite scores as follows:

1. Priority 1: Score 9
2. Priority 2: Score 6
3. Priority 3: Scores 3 and 4
4. Priority 4: Score 2
5. Priority 5: Score 1

Priority 1 is critical and is accorded immediate attention as it is deemed to most likely lead to loss of project funds, life, etc. On the other hand, priority 5 is not urgent and impact is low.

Step 5: Formulate a Response

Having completed the complaint assessment, a response will be formulated on how to proceed with the complaint. The response will be communicated to the complainant. The response will include the following elements:

- acceptance or rejection of the complaint;
- reasons for acceptance or rejection;
- next steps—where to forward the complaint;
- a time frame; and
- (if accepted) further documents or evidence required for investigation, e.g., field investigations.

The response will consider the complainants' views about the process for settlement, as well as provide a specific remedy. The response may suggest an approach for how to settle the issues, or it may offer a preliminary settlement.

Step 6: Corrective Actions, Follow-Up, and Closing a Grievance

If a grievance is resolved, the complainant will be informed of the outcome. If a grievance is not resolved and is escalated for consideration and resolution at another level, appropriate information will be provided to the complainant, including the date when the case will be passed to a higher level and the date by which the outcome is expected.

The project will consider a grievance closed only after an amicable resolution has been reached between the two parties. In certain situations, however, the project may “close” a grievance under special circumstances even if the complainant is not satisfied with the outcome. Such situations, in which the project closes a grievance before a stakeholder is satisfied with the outcome, may arise if the complainant cannot substantiate the grievance or if there is an obvious speculative or fraudulent attempt. In such situations, all steps and efforts are taken to investigate the complaint before reaching a conclusion. This information will be documented and communicated to the complainant without putting the lives of those who provided the information in danger.

It is, however, important to note that all project staff involved in handling grievances should not dismiss any grievance based on a hasty review and close off an investigation before the complainant has been notified and given an opportunity to provide additional information. Consequently, a decision to close such grievances requires the endorsement of the project Coordinator.

At the completion of the procedures, an internal report on each grievance, including recommendations, should be prepared and documented. Recommendations may be operational corrective actions or improvements to existing policies or procedures. Where possible and appropriate, a corrective action plan should be developed and implemented.

Sub-contractors should present a report to the contractors on completion of the agreed action and closure of the grievance. Contractors should prepare and submit reports on complaint handling and resolution directly to the WACA ResIP II project and MESTI on a quarterly basis.

The register of all complaints lodged into the WACA ResIP II project, third party implementers/contractors/clients' Grievance Mechanism as well as all information collected in the course of handling procedures shall be duly filed and archived by the WACA ResIP II project, third party implementers/contractors/clients, ensuring restricted access and, where possible, deploying chain of custody measures. The WACA ResIP II project, third party implementers/contractors/clients shall keep records of lessons learnt while processing the complaints. Table 25 below is a timeline for responding to and addressing grievances.

Table 25. Outline of Response Timelines

Activity	Timeline
Notification of receipt	Within 2 business days of receipt of the complaint
Screening for admissibility and preliminary assessment	Within 5 business days of receipt of a complaint
Notification of action	Within 10 business days from receipt of the complaint
Formulation of response	Within 20 business days of receipt of the complaint

8.5 Grievance Channel for Gender-Based Violence

When Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) related complaint is received, the complaint should be kept confidential by the person/persons receiving the complaint, and the complaint will be immediately reported to the Domestic Violence and Victims Support Unit (DOVVSU) of the Ghana Police Service established to provide comprehensive support to victims of GBV. The complaint will be documented and options available will be offered to the complainant and immediate actions will be taken that is consistent with the wishes and choices, rights and dignity of the complainant. The complainant should be given information in simple and clear terms on the steps for filing complaints and the possible outcomes, the timelines and the types of supports available to be able to make an informed decision. Such incidents will be reported to the World Bank within 24 hours of becoming aware.

For SEA/SH cases, the project will ensure that access to the complaints processes is confidential, easy and as safe as possible for the complainant or survivor. The recording of incidence should be limited to the nature of the complaint put exactly in the words of the complainant, the age of the survivor, and if to the best of their knowledge, the perpetrator was associated with the project. The complainant should decide on whether they would like to be referred to the grievance committee and the complainant should give consent to share basic monitoring data.

Safety & Well-Being: The safety of the survivor shall be always ensured, including during reporting, investigation, and the provision of victim assistance. Those involved in the management of complaints will need to consider potential dangers and risks to all parties (including the survivor, the complainant if different, the subject of the complaint, and the organizations involved) and streamline ways to prevent additional harm in all the complaint handling process. The survivor is never to blame for reporting an act of GBV and should never be made to feel investigated. On the contrary, it is important that she/he feels that her/his story is heard, believed and valued. The actions and responses of the complaint mechanism will be guided by respect for the choices, needs, rights, and dignity of the survivor.

Confidentiality: The confidentiality of complainants, survivors, and other relevant parties must always be respected. All SEA/SH-related information must be kept confidential, identities must be protected, and the

personal information of survivors should be collected and shared only with the informed consent of the person concerned and on a strict need-to-know basis.

Survivor-Cantered Approach: All prevention and responses action will need to balance the respect for due process with the requirements of a survivor-centred approach in which the survivor's choices, needs, safety, and wellbeing remain at the centre in all matters and procedures. As such, all actions taken should be guided by respect for the choices, needs, rights and dignity of the survivor, whose agency and resilience must be fostered through the complaint process.

Accessibility and non-discrimination: The grievance mechanism must be accessible to all potential complainants and sufficient information must be given on how to access it, making the complaints process accessible to the largest possible number of people. This includes identifying and instituting various entry points that are both gender and context-sensitive. To facilitate incident reporting and avoid stigmatization reports from third parties (witnesses, people suspicious or aware of an incident, etc.) must also follow accountability protocols.

SEA/SH Referral Pathway: The GBV/SEA referral system will support survivors in receiving all necessary services they may choose, including medical, legal, counselling, and that cases are reported to the police with the informed consent of the survivor. A standardized Incident Notification Form will be used to register GBV/SEA/SH incidents (See Annex 13).

A survivor has the right to make an informed choice of services. GRM, SEA Focal points and service providers should be able to provide comprehensive information about existing referral pathways. When the survivor is referred, an explanation on services available and which conditions apply should be thorough. For instance, there is a 72 hours' time limit for Post –Exposure Prophylaxis (PEP) in case of a sexual abuse survivor.

Prioritized response actions for GBV survivors are:

- Medical examination and treatment of the survivor
- Early psychosocial counselling to avoid or reduce traumatic feelings for the GBV survivor
- Police investigation and protection intervention for physical safety, and social re-integration, where deemed necessary, and with consent of the survivor
- Access to Justice
- Place of safety/shelter

8.6 Workers Grievance Mechanism

The project will require contractors to establish a workers Grievance Redress Mechanism at Site level with the contractor representative, the supervising firm representative, and workers' representative as required by the Labour Management Procedures prepared for the Project. Workers will be informed about the grievance mechanism during meetings at the time of the induction and training. The worker's grievance mechanism will include:

- A procedure to receive grievances such as a comment/complaint form, suggestion boxes, email, a telephone hotline;
- stipulated timeframes to respond to grievances;
- A register to record and track the timely resolution of grievances;
- A responsible department to receive, record and track the resolution of grievances.

The Supervision firm's safeguards staff will monitor the contractors' recording and resolution of grievances and report these to the project in their monthly progress reports. The process will be monitored by the PIU Social Safeguards Specialist and the Project Coordinator.

8.7 World Bank's Grievance Redress Service

The Grievance Redress Service (GRS) is an avenue for individuals and communities to submit complaints directly to the World Bank if they believe that a World Bank-supported project has or is likely to have adverse effects on them, their community, or their environment. The GRS enhances the World Bank's responsiveness and accountability to project-affected communities by ensuring that grievances are promptly reviewed and addressed. Any individual or community who believes that a World Bank-financed project has or is likely to, adversely affect them can submit a complaint.

The GRS considers a complaint admissible when it:

- the complaint relates to a World Bank-supported project that is under preparation, active, or has been closed for less than 15 months;
- the complaint is submitted by individuals or communities affected by a World Bank-supported project or by their authorized representative; and
- the complainant(s) allege that they have been or will be affected by the World Bank-supported project.

Complaints must be in writing and addressed to the GRS. They can be sent by the following methods:

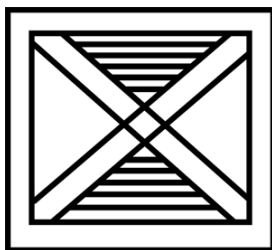
- online, access the online form
- by email to grievances@worldbank.org
- by letter or by hand delivery to the World Bank Headquarters in Washington D.C., United States or any World Bank Country Office

Information to include in a complaint must

- identify the project subject of the complaint
- clearly state the project's adverse impact(s)
- identify the individual(s) submitting the complaint
- specify if the complaint is submitted by a representative of the person(s) or community affected by the project
- if the complaint is submitted by a representative, include the name, signature, contact details, and written proof of authority of the representative.

Presentation/submission of supporting evidence is not necessary but may be helpful in reviewing and resolving the complaint. The complaint may also include suggestions on how the individuals believe the complaint could be resolved. All complaints will be treated as confidential. The GRS will not disclose any personal data that may reveal the identity of complainants without their consent.

9. INSTITUTIONAL ASSESSMENT AND IMPLEMENTATION ARRANGEMENT



*Mframada ("Wind-resistant house"):
Fortitude, preparedness*

The section outlines the technical capacity in the human resource base of MESTI for the effective implementation of the ESMF. This section also considers the institutional arrangements required to implement the environmental actions and an estimated cost for its implementation. It outlines the roles, responsibilities and resources required for E&S risks management and the implementation of the ESMF. It designates key PIU staff with the responsibility to coordinate the stakeholder engagement process.

9.1 Institutional Assessment and Capacity Building

The overall project management will be the responsibility of MESTI and a Project Implementation Unit (PIU) will be set up and operationalized within the MESTI. MESTI has prior experience in implementing World Bank-funded projects, including the Ghana Sustainable Water and Land Management Project (SWLMP, P098538) with satisfactory performance. MESTI also supported the preparation of the Ghana Landscape Restoration and Small-Scale Mining Project (GLRSSM) (P171933), a "substantial risks" project under the World Bank's Environmental and Social Framework. MESTI is supporting the implementation of the ESMF under the GLRSSM. The Environmental Protection Agency (EPA) which is an agency of Ministry of Environment, Science, Technology and Innovation, has extensive capacity in managing safeguards risks of developmental projects and will provides support to the ministry for the implementation of this project. Despite this experience, the expanded scope of the Environmental Social Framework (ESF) requires targeted training, monitoring and technical assistance to support the effective implementation of the project.

In addition to the proposed training to build capacity of implementing staff, MESTI will hire the specialists who will oversee all project-related fiduciary functions, including Financial Management (FM) Specialist, Procurement Specialist, Monitoring and Evaluation (M&E) Specialist, Environment Specialist, Social Development Specialist etc. Given the high risks associated with the proposed project, two ESF Staff would be appropriate to manage the E&S risks. The Environmental Specialist and Social Development Specialist will be responsible for E&S safeguards monitoring, managing and reporting. It is recommended that training sessions fully incorporate aspects proposed in this framework.

9.2 Capacity Building Requirements

The capacity of the E&S Specialists as well as the capacity of other PIU staff, would be strengthened, especially on the new ESF/ESSs. Capacity building will also target other actors at various levels. This includes, but is not limited to, District-level Officers, NGOs, Contracting Entities, and Supervising Consultants (who will support the planning and implementation of sub-projects). Training will be designed to enhance the skills to implement the proposed E&S screening process, GRM, and mitigation measures appropriately to manage the environmental and social risks and impacts associated with the project. The proposed training should cover the following and others that will be identified during implementation (Table 26). PIU staff will conduct these training, in consultation with World Bank Environmental and Social Safeguards Specialists.

Table 26: The Capacity Building Program

Description	Target Group	When
Overview on project design, WB Environmental and Social Framework and Ghana safeguards regulations:	MESTI, associated institutions, NGOs/CSOs	Two (2) weeks after project effectiveness
- Overview of the screening process and requirements; - Rationale for using screening form and Environmental and Social Checklists;		

Description	Target Group	When
GRM operations and reporting; Project Management (scope, implementation, time, budget, costs, resource, quality, procurement, monitoring and evaluation)	MESTI, associated institutions, NGOs/CSOs	
Environmental and Social Report preparation and other reporting requirements	MESTI, associated institutions	Within One (1) month of project effectiveness
SEA/SH prevention	MESTI, associated institutions	Within 5 months of project effectiveness
Preparation of ESIA, EA and ESMP Terms of Reference / Implementation of requirements	MESTI, associated institutions	Within 5 months of project effectiveness
Occupational Health and Safety	MESTI, associated institutions	• Within 5 months of project effectiveness • After award of civil works contract
Environmental Codes of Practice and Labour Codes of Conduct		• After award of civil works contract
Incidents and Accidents reporting	MESTI, associated institutions, contracting entity, supervising consultant	• Within 5 months of project effectiveness • After award of civil works contract
Sustainable practices in construction management	MESTI, associated institutions	Within Six (6) months of project effectiveness

9.3 ESMF Implementation Arrangements and Responsibilities

To implement the ESMF, roles and responsibilities for implementation need to be defined. Generally, as the Project Developer or main government implementation agency for the project, MESTI will be responsible for enforcing that the environmental and social management measures commended as part of the Project or in the ESMF are implemented for each phase of the project. The Project Implementation Unit (PIU) at MESTI, led by the Project Coordinator at the PIU will be responsible for implementing the ESMF. Within the PIU (e.g. the Environmental and Social Specialists, Procurement Specialist, Monitoring and Evaluation Specialist and Communication Specialist, will have specific roles and responsibilities for the implementation of the ESMF. During construction, the Contracting Entity (contractor) will be the key implementer of proposed mitigation and enhancement measures; and together with MESTI PIU, they will be responsible for enforcing compliance with the Project policies and commitments. Under their contracts, the Contracting Entity will be responsible for managing the potential environmental, socio-economic, safety and health impacts of their contract activities, including those of their subcontractors. The Supervision Consultant (SC) will be responsible for enforcing the environmental and social specifications of the project and monitoring compliance with the requirements of the specification and enforce implementation of management or mitigation measures. The SC team shall include qualified and experienced E&S professionals. Key responsibilities are summarized in Table 27 below.

Table 27: Roles and Responsibilities of Key Actors

Position	Roles and Responsibilities
Project Steering Committee	• Provide strategic oversight and governance for the project. Approve the project work plans and budget which will include E&S risks management.
Project Implementation Unit (PIU) at MESTI	• Ultimate responsibility and authority for ensuring good implementation of the ESMF • Authority for approving resources for ESMF implementation

Position	Roles and Responsibilities
	See that training and awareness creation is provided to all Contracting Entities in environmental and social management and the mitigation of impacts, to ensure they are aware of their responsibilities and are competent to carry out their work in an environmentally and socially responsible manner.
PIU Project Coordinator	Lead the implementation of the ESMF
PIU Project Environmental Specialist	- The Environmental Specialist will lead the day-to-day implementation of the ESMF and overall project environmental risks management - Screening of the projects and preparing screening reports - Registering with EPAs - Preparation of terms of reference for E&S assessments - Providing guidance to consultants prepare E&S instruments - Reviewing E&S instruments - Conducting training and capacity building - Preparing quarterly progress reports, - Grievance management of direct and community workers
PIU Project Social Development Specialist	- The Social Development Specialist will support the implementation of the ESMF and overall project social risks management - Screening of the projects and preparing screening reports - Registering with EPAs - Preparation of terms of reference for E&S assessments - Providing guidance to consultants prepare E&S instruments - Reviewing E&S instruments - Conducting training and capacity building - Preparing quarterly progress reports, - Grievance management of direct and community workers
Procurement Specialist	Works closely with the E&S Specialists to include all ESHS requirements into all contracts and performance standards
Monitoring and Evaluation Officer	The M&E Officer will monitor the implementation of the ESMF and support the development of reports.
Communications Officer	The Communications Officer will work to implement communication, outreach, and information product management strategies, and to provide technical support on communication in the implementation of the ESMF.
Environmental and Social consultancy firm	Develop the specific ESIAs/ESMPs/RAPs for the design and bidding documents as it becomes available at the early stage of project implementation. Work with the contractor to ensure the contractor's adherence to the approved safeguards instruments during the implementation of the construction.
Contracting Entity	- Prepare detail designs and update RAPs base on detail design. - Prepare a Contractor's Environmental and Social Management Plan (CESMP), monitoring plans that would be approved by MESTI
Consulting Engineer (Supervision Consultant)	- Oversee the implementation of the CESMP - Enforcing the environmental and social specifications of the project - Enforce that contracting entity institutes a strict code of conduct at the workers' camps - Maintain high standard of site supervision and operation to reduce risk to environment and social component.

The World Bank will provide training and build capacity for environmental and social management for MESTI.

9.3 ESMF Implementation Budget

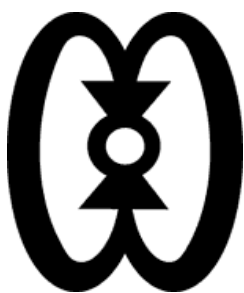
The budget for the implementation of this ESMF will come from project budget and will mainly consist of the preparation of safeguards tools throughout the implementation of the project. The cost for mitigation measures will be included in the ESIA or ESMPs. Table 28 below show the estimated cost for the implementation of the ESMF for the proposed project.

Table 28: Estimated Budget for the Implementation of ESMF

Item	Unit	Quantity	Unit Cost (US \$)	Total Cost (US \$)
Preparation of safeguards instruments				
ESIAs	Study	3	100,000	300,000
ESMPs	Study	6	30,000	180,000
Subtotal 1				480,000
Capacity building				
Training of project beneficiaries and stakeholders and awareness	Training sessions	30	5,000	150,000
Subtotal 2				150,000
Project Monitoring				
PIU staff mission allowances	Missions	240	60	25,000
Subtotal 3				25,000
Environmental and Social Audits				
Consultants	Study	1	60,000	60,000
Subtotal 4				60,000
Total				715,000
Contingency (5%)				35,750
Grand Total				750,750

The total cost for ESMF implementation, including safeguards documents preparation if required, monitoring of ESMPs, capacity building, auditing and workshops for unit performance review is estimated at US \$ 750,750. It assumed that all subprojects environmental studies in a district can be compiled into one report and one overall environmental audit will be conducted.

10. PUBLIC CONSULTATIONS, PARTICIPATION AND INFORMATION DISCLOSURE



*Wo nsa da mu a("If
your hands are in the
dish"); democracy,
pluralism*

This Section presents an overview of the consultation and stakeholder engagement relevant to the WACA ResIP II Project and the process for disclosure.

10.1 Stakeholder Engagement and Consultation

MESTI is committed to stakeholder engagement, including public information disclosure and consultation, throughout the entire project cycle. The MESTI will be coordinating all efforts addressing these important processes. The roadmap for such actions has been formulated in the project SEP. The SEP has outlined a communication strategy with the project stakeholders, and offers mechanisms for them to raise concerns, provide feedback, or make complaints about the project.

10.1.1 Initial Consultations during Project Preparation

During pre-appraisal missions in May and November 2021 a set of consultations were held with government Ministries, Departments and Agencies, Development Partners and Civil Society Organizations.

Table 29: Initial Stakeholder Engaged during Project Preparation

Stakeholder Groups	Organization	Format and Objective
Government institutions and regulatory agencies	• MESTI • EPA • LUSPA • Fisheries Commission • Forestry Commission • Wildlife Services Division • Water Resources Commission • Hydrological Services Department • Coastal Development Authority • Ministry of Foreign Affairs and Regional Integration • Ministry of Gender, Children and Social Protection Department of Social Welfare • NADMO • National Council for Persons with Disability (NCPD)	• Virtual and In-person • Presented an overview of the project and plans to integrate social sustainability and inclusion in technical assistance activities and project design and implementation. Discuss the role of the technical committee and the role of the different government agencies and ministries
NGOs/civil society organisations (CSOs)	• H&N Mpoano • Nature and Development Foundation • Friends of Nation • Goshen Global Vision • Development Institute • Central and Western Fishmongers Improvement Association	• Virtual • Presented an overview of the project and plans to integrate social sustainability and inclusion in technical assistance activities and project design and implementation. Highlighted how the project will strengthen

Stakeholder Groups	Organization	Format and Objective
	• Development Action Association • National Fish Processors and Traders Association (NAFPTA) • Ghana Industrial Trawlers Association (GITA) • Ghana National Canoe Fishermen's Council • Oil Watch-Ghana	community engagement, empowerment, and inclusion in project activities. Discussed the establishment of the NGO/CSO platform
Research and Academia	• University of Ghana • University of Cape Coast	• In-person and virtual • Presented an overview of the project and plans to integrate social sustainability and inclusion in technical assistance activities and project design and implementation. Discuss the role of research and capacity building in the project.
Development partners	• UN HABITAT • Netherlands Enterprise Agency • Nordic Development Fund (NDF)	• Virtual • Presented an overview of the project and plans to integrate social sustainability and inclusion in technical assistance activities and project design and implementation. Discussed synergies with activities of other development partners and potential for co-financing

Key issues raised during the engagement and consultation activities are summarized below:

Engagement with Development Partners: Partners expressed support for the WB's support to MESTI to take the lead in developing a Multi-Sector Investment Plan that will inform the design of this ResIP II project, an overall investment strategy for the Government for resilient coastal development and potential partner investments and projects in Ghana's coastal areas. Some partners, including Nordic Development Fund (NDF) and the Dutch Enterprise Agency (RVO) expressed interested in providing co-financing to the WB project or parallel financing through their own existing mechanisms that can support technical and analytical work or investment projects.

Engagement with Civil Society Organizations: Overall, CSOs welcomed the project and its objective. Key recommendations from participants included: i) engage civil society organizations (CSOs) in designing social subprojects under Component 3 and ensure that this engagement continues during project implementation; ii) ensure wider participation and representability of various CSOs, NGOs, and community groups by drawing on existing CSO platforms (e.g., representatives and practitioners of Community Resource Management Areas); iii) draw on experiences and lessons from existing coastal co-management projects, plans, and partnerships; iv) carry out a robust communication and awareness raising campaign in project areas which targets, among others, fisherfolk, hoteliers, informal sector workers and women; v) engage traditional authorities through the National House of Chiefs; and vi) ensure women in the informal sector are consulted. Civil society feedback was requested on designing an integrated national-local level civil society platform (Component 2), social subprojects at priority sites (Component 3), and community

communication methods at these sites. CSOs were also provided the opportunity to raise queries, comments or suggestions on any other aspect of the WACA ResIP II or the WACA Program.

CSOs commended the project's plans to establish a systematic mechanism for civil society at the national and local levels to participate in decision making on coastal resource management, beyond the lifespan of the project. CSOs mentioned the lack of financial resources as a challenge in sustaining CSO platforms, drawing on the experience of an earlier CSO platform in the oil and gas sector. It was also mentioned that compared to the national level platform, designing the local level platform will require more time and effort.

Engagement with academia and research institutions: Coastal communities are not homogeneous, and even in the smallest communities, different stakeholders bring to bear a variety of approaches and ideas (i.e., local businesses, industry, religious organizations, community groups, local leaders, etc.). Communities, especially those that usually do not have a voice in decision-making processes—including persons with disability and vulnerable communities; frontline communities (where climate impacts have hit first and worst); and low-income communities—must shape climate adaptation and resilience policy and work from idea development through implementation. Community-centred policy development and program design should be integrated into the WACA ResIP II project. In order to establish and strengthen long-term relationships, government and implementing agencies should consult with communities to ensure that projects and programs are co-developed with the community and specifically address community needs. Implementing agencies under the WACA ResIP II project should provide funding for training local leaders as part of adaptation and resilience support. Government should encourage research into the cost of climate vulnerable communities staying in place compared to adapting through relocation. Planning with smart growth principles can help communities in the Keta, Korle and Densu Lagoon catchment areas make efficient investments in buildings and other infrastructure, protect and restore critical environmental areas, and protect public health. Resilience to natural hazards, such as storms and storm surges, sea-level rise, and shoreline erosion, is inextricably linked to the siting and design of the development, as well as to the built and green infrastructure that supports it. The government needs to invest in more collection of diverse datasets to understand localised climate impacts and responses. Real-time data collection and monitoring of some climatic variables should be prioritized. The government needs to increase funding and other support for existing national level agencies focused on coordinating and communicating climate information for public use. Government should study the long-term efficacy, cost-effectiveness, and co-benefits of nature-based solutions as these nature-based solutions experience storms and other impacts.

Engagement with Ministries, Departments and Agencies: During the mission, the WB environmental and social specialists held sessions with the MESTI, the Environmental Protection Agency (EPA), NADMO and other sector-related agencies where the project's risk classification and the key E&S risks of the project were discussed. The mission discussed the need for social subprojects to enhance the livelihood and wellbeing of the coastal population. The mission highlighted that the livelihoods and well-being of coastal communities are intricately linked with the health of coastal resources and that investing in social subprojects are critical if ecosystem services and future economic opportunities are to be preserved. These subprojects should foster economic empowerment, community engagement and ownership, and inclusion of vulnerable and marginalized coastal inhabitants. The preparation of the multi-sector investment plan will help to define these subprojects. Experience from the WACA Resilience Investment Project I (ResIP I) suggests that they potentially could include coastal clean-up projects, local income generation activities aligned with natural resource management or preparedness activities for climate and disaster risk reduction, or government-led planned relocation as part of community resilience planning. The mission also highlighted the increased coverage of the social aspects in the ESF, the differentiated approach to vulnerable and marginalized communities, and placed particular attention to non-discrimination.

10.1.3 Additional Consultations During ESMF Preparation

Stakeholder consultations are a crucial component in the preparation and implementation of ESMF. Specifically, it aims to achieve the following objectives:

- To provide information about the project and its potential impacts on interested parties or beneficiaries or those affected by the project, and solicit their opinion in that regard;
- To educate and solicit views from all stakeholders to enhance the implementation mechanisms and processes;
- To manage expectations and streamline misconceptions regarding the project; and
- To ensure participation and acceptance of the project by all relevant stakeholders

Institutional and Community Consultations and Engagement

Various stakeholders and communities were engaged in the preparation of ESMF between March and April 2022 (see Annex 1). The tools developed for the engagement were reviewed by MESTI and the World Bank. In all, about 25 organisations and 100 individuals agreed to participate and were subsequently consulted or interviewed. Table 30 outlines the institutions which were consulted and engaged:

Table 30: Institutions Consulted and Engaged

Stakeholder Groups	Organization
Government institutions and regulatory agencies	Ministry of Fisheries and Aquaculture Development (MOFAD) National Disaster Management Organization (NADMO) Ministry of Lands and Natural Resources (MLNR) National Council for Persons with Disabilities (NCPD) Land Use and Spatial Planning Authority (LUSPA) National Development Planning Commission (NDPC) Environmental Protection Agency (EPA) The Coastal Development Authority (CODA) Lands Commission (LC) Petroleum Commission (PC) Forestry Commission Fisheries Commission
Metropolitan, Municipal and District Assemblies	Ablekuma West Municipal Assembly Ga South Municipal Assembly Accra Metropolitan Assembly Keta Municipal Assembly
NGOs/civil society organisations (CSOs)	National Fisheries Association of Ghana (NAFAG) Ghana Federation of Disability Organisations Development Action Association (DAA) Hɛn Mpoano (Our Coast) CEWEFIA Development Institute (DI) Voice Ghana (Keta, Ho)
Development partners	Invest International

Community engagement is vital in ensuring the sustainability of any project. Communities to be targeted by the project may be among the most deprived in the country. This makes it more meaningful that they understand the various components of the project for them to identify themselves with it for successful implementation and to derive its maximum benefits.

Surveys, focus groups discussions and interviews were held at some selected coastal communities to collect socioeconomic and perception data directly from potential project-affected households, and to provide information on economic activity and livelihoods, land ownership, Coastal Management Challenges and Gender issues. Table 31 outlines the coastal communities consulted and engaged:

Table 31: Coastal Communities Consulted and Engaged

Priority Sites	Coastal Communities Consulted	Community Characteristics
Keta Lagoon Complex	Vodza-Adzido	Fishing community largely populated by the native people of Anlo.
	Anlo-Afiadenyigba	A major fishing and salt mining community inhabited by natives with few migrants from other towns
	Alakple	An island within the Keta Lagoon Complex Ramsar Site. The people of Alakple form part of the Anlo ethnic group in the Volta region. The livelihood of the people Alakple depend heavily on resources from the lagoon for sustenance.
Korle Lagoon	James Town	Native Ga community
	Korle Gonno	The community is populated by both native Ga people as well as migrants from various parts of Ghana
	Old Fadama / Agbogbloshie	Slum and squatter settlement close to the Korle Lagoon. The community is inhabited by people from various regions but dominated by people from the Northern Region particularly Dagombas and Konkombas.
Densu Delta Ramsar Site	Chemuena	Typical fishing community with mainly native Ga people with a few migrants from other parts of the country.
	Gbegbeyese	Typical fishing community with mainly native Ga people with a few migrants from other parts of the country.
	Shiabu	Inhabited by both the native Ga people and other tribes although the former dominates the area.
	Tsokome	Settler community and the land belonged to the people of Bortianor
	Kokrobite	Typical fishing community with mainly native Ga people

Key issues raised during the engagement and consultation activities are summarized below:

Coastal Challenges from Community Perspective:

- The key challenges coastal communities face includes erosion, flooding, high tides, loss of mangrove area, decline in fish catches, encroachment on shoreline for hospitality purposes, marine and coastal pollution (plastic and textile waste), sand mining or winning, beach litter accumulation, open defecation and poor sanitation along the beaches which pollutes the environment and atmosphere, and this inevitably leads to the outbreak of diseases.
- The conversion of wetland areas to other land uses, primarily agriculture and urban areas has exposed human settlements to floods and coastal erosion. Flooding usually occurs in the rainy season due to the indiscriminate disposal of garbage and building on water ways.
- Coastal erosion is a serious problem that affects the safety and livelihoods of many coastal dwellers. For example, in Chemuena, the chief's palace and a public basic school building are threatened by the effects of erosion and flooding. In Kokrobite, the shrine which is closer to the shore had been threatened by coastal erosion and flooding and had to be moved on three consecutive occasions. Occasionally, the community pours libation and slaughter animal (Sheep, Cow, etc) in their quest to avert coastal problems that confront them.
- Requests the support of government in addressing the challenges. For examples, the chief fisherman in Chemuena Community suggested sea defence wall as a solution to the coastal erosion problem. He also indicated that in addressing the pollution related problem, people should be educated on the need to keep their environments clean and change their attitudes towards the environment. Some community members also mentioned that they need the assistance of government to reconstruct drains.

Livelihood:

- The major economic activities in Chemuena, Gbegbeyiese, Shiabu, Tsokome and Kokrobite coastal communities is fishing for men and fish mongering for the women. In most cases, the women are wives of the fishermen. So, when their husbands land their fish catch, they sell it to their wives. The women also smoke the fish and transport them to markets. Some communities complained of the economic difficulties they go through due to the fishing close season without an alternative livelihood. The major economic activity in Korle Gonno area is trading. Residents close to the sea also engage in minor fishing. The women are mostly input small businesses and petty trading such as selling of food and household essentials. Lack of capital and increase in prices are major problems the women face in their trade.
- In Old Fadama, the major economic activity is dealing in scraps for the men, and the women undertake petty trading or manage public toilets and bathrooms. The main challenge related to the women's economic activity is the lack of livelihood support. The community is located near the Agbogbloshie market and as such access to market is not an issue for either gender.
- Fishing and salt mining are the major economic activities for the people of Anlo-Afiadenyigba. Community members alternate between fishing and mining of salt. Seasonal weather change is the single most important factor which determines when to mine salt or go fishing although the latter is currently the more vibrant economic activity. Some communities can do year-round fishing because of the relatively huge area of the lagoon. These fishermen can go to neighbouring communities to fish, still within the keta lagoon. Both men and women engage in fishing and salt mining. "Kete" weaving is also an important economic activity in the area. Some residents complained about parts of the lagoon which have been given out to a company for commercial salt mining. They explained that even though the company has employed some people from the community, they are not open to having more commercial salt mining companies around. This is

because the activities of the company have greatly affected the ecological functioning of their side of the lagoon causing an economic downturn.

- The main economic activity for the Alakple community is fishing in the Keta lagoon. Apart from drying, frying, and smoking fish for sale, the women in Alakple weave straw mats for sale. Some women engage in other forms of trading, and a few have acquired skills in tailoring. The community occasionally gets salt from the lagoon which they mine and sell. The community has a small local market but most of them buy and sell at the Anloga market. The Anloga market is arguably the biggest market in the Anlo area. People from far and near travel to the market to trade. The market day runs every five days from the previous market day.

Skills Training:

- The predominant skill training opportunities for men in these coastal communities is masonry and carpentry. For women it is hairdressing, dressmaking, masonry, baking, soap making and baking. The duration of the training depends on the kind of skill training, and it ranges between 6 months and 3 years.

Resettlement Issues:

- In James Town, respondents stated that in the past, houses of people have been relocated due to a project done by the Assembly, but no compensation was given because the affected places were lands owned by the government.
- In Old Fadama, community members stated that shelters of people have been relocated due to previous government-led projects and no resettlement or compensation was also given to affected persons because they did not own the land. Community members claim they were not given prior information about the projects which ended up as demolishing exercise in the community. Some challenges encountered is the refusal of inhabitants to move from the site despite being rendered homeless. They emphatically stated that they will not be interested in the project if their shelters will be demolished because of the project. According to them many projects have been disguised in the past to restore the Korle lagoon but in the end, they realised all those projects were aimed at demolishing their buildings and sacking them from the community.
- In Vodza-Adzido, there was a major resettlement of the community in the mid-1990s. People who lost their houses due to coastal erosion were relocated. The then government-built bungalows for such victims. However, there were some problems with the resettlement process. Some of the victims felt cheated and were not appreciative of the new houses they got ostensibly because they lost bigger and better houses compared to what they were compensated with. Respondents prefer monetary compensation should the WACA ResIP II project have any negative impact on them.
- Other coastal communities indicated that, should the West African Coastal Area (WACA) project result in any relocation or displacement, adequate and commensurable compensation will be demanded from the project.

Land Ownership:

- Generally, the potential project areas have the customary land tenure system in which the ownership of the land is vested in a collective (whether a family, lineage or a clan) and Chiefs or family heads are responsible for the legal alienation of customary lands in consultation with their elders. Individuals can buy land from the chief or family head. Generally, there are limited historical or recent land ownership disputes in these communities by virtue of the fact that these are old settlement areas. The arrangement surrounding land ownership in these communities is leasehold subjected to a yearly payment of ground rent. Women are allowed to own land if they can afford to purchase it. Other women also access land based on inheritance.

- In Tsokome, community members engaged attested to the fact that there are issues of historical as well as on-going land ownership disputes within the community. The dominant cause of these disputes are the double sales of lands. In accessing land for livelihood activities such as farming, trading, etc. individuals access lands from landowners who are mostly family heads mostly by leasing.

Social Inclusion:

- Generally, women are allowed to participate in decision-making, and they hold customary or leadership roles in the communities. For example, Queen Mothers and Priestesses have customary roles in the selection of leaders for the communities. They also provide wise counsel to the chiefs and their elders, rallying all women together, and keeping an eye on the social conditions within the community. Fisherwomen and fishmongers also have their leader who joins the chief fisherman in certain decision making.

Education:

- Both genders are encouraged to go to school, and girls are more likely to complete basic education because the boys start fishing at an early age. This exposes the boys to money making at a very tender age and thus making it difficult for them to complete their basic education. Teenage pregnancy is often linked to girls dropping out of school. In some cases, the girl's family for the fear of shame, terminates the unwanted pregnancy for the child. Rarely are pregnant girls seen furthering their education due to stigmatization. Some well to do families encourage the girls to complete by taking care of their babies.

SEA/SH:

- There is very low reportage of domestic violence, sexual abuse and harassment to the police. Most abuse cases are handled by the families and in a few instances, abuse (rape cases) is reported to the police. The police sometimes blamed, insulted or mocked victims and ask the families to settle the issue at home. Family heads or traditional authorities call the abuser and the abused to settle issues in a small gathering and usually the women are compensated with money, cloth, or hen. There is no organisation in the potential project communities that works against GBV and the most common form of GBV are psychological violence, verbal violence and hate speech. Some women were of the view that when their husbands abuse them, it is not a crime, it is part of the marriage.

Cultural Heritage

- The Homowo Festival is celebrated by the native Ga people living in Chemuena, Gbegbeyese, Shiabu, and Kokrobite. The festival starts in the month of August.
- The Hogbetsotso festival is celebrated by the Ewe people living in Vodza-Adzido, Anlo-Afiadenyigba and Alakple. The festival is celebrated annually on the first Saturday in the month of November.
- In most fishing communities, marine fishing on Tuesdays is a taboo day; hence no one goes fishing on that day of the week. Some fishermen and traditional leaders reported that this day of the week is set aside for the sea (sea god) to rest, and it is a crucial component of the laws regarding fishing. It is also a day when fishermen mend their nets and boats and replenish their depleted resources.
- Wednesdays are sacred days for the god of the part of the keta lagoon in Alakple. On this day, nobody goes fishing. Women on their monthly menstrual period are not allowed to enter the lagoon until after the period ends. Rituals are performed for the lagoon as and when the gods request for it or if they need help to understand and solve some occasional issues such as drowning. Dogs are not allowed in the community due to traditional reasons.
- For the people of Anlo-Afiadenyigba, Sundays are sacred days for the lagoons. Residents are prohibited from fishing on Sundays. Women, during their menstrual period, are traditionally forbidden to enter or cross the lagoon. There are traditional rituals which are performed annually to appease the gods for bumper harvest every year.

Awareness about the WACA ResIP II Project:

- Generally, the government institutions and regulatory agencies are well informed and aware of the West Africa Coastal (WACA) project. They receive regular information from MESTI and regularly participate in any stakeholder consultation regarding the project's development.
- The Ga South Municipal Assembly and Accra Metropolitan Assembly had no prior knowledge about the WACA ResIP II Project and had not partaken in any stakeholder engagement regarding the WACA ResIP II Project. The Ablekuma West Municipal Assembly and Keta Municipal Assembly were well informed about the project. The Assemblies strongly indicated the need for MESTI to engage them to further discuss the WACA ResIP II Project. They indicated that the Assemblies would support the project objective since the project is tailored towards the good of the local people. The Assemblies will support MESTI to make sure that the people are fully aware and understand the benefit of the project and as well liaise with other relevant institutions to speed up the execution of the project.
- Generally, the NGOs and CSOs consulted are well informed and aware of the WACA ResIP II Project, receive regular information from MESTI, and regularly participate in any stakeholder consultation regarding the project's development. However, the Ghana Federation of Disability Organisations (GFD) indicated they are not aware of the West Africa Coastal (WACA) project.
- Prior to the community engagement, none of the respondents had any information about the WACA ResIP II Project. Respondents were however interested and willing to give the project the necessary support which includes human resource to help the project develop their community.

How communities wish to be Informed about project activities:

- Community members want to be kept informed about the project. The most preferred mode for communicating project information is through the mobile vans while communicating in the various languages in the area, using centers stationed across the communities including Churches and Mosques.

Suggestions to the Project:

- The Ministry of Lands and Natural Resources (MLNR) indicated that MESTI could coordinate the WACA ResIP II project. However, MESTI should not encroach on the core mandate of MLNR (e.g., selecting wetland areas for inclusion in the WACA ResIP II project). Given the Forestry Commission and Wildlife Division are both under the MLNR, MESTI should not engage them directly. If MESTI wants to engage with Forestry Commission and Wildlife Division, they should liaise with the MLNR.
- Ministry of Fisheries and Aquaculture Development (MOFAD) expects the WACA ResIP II project to respond to relevant needs from the perspective of the targeted beneficiaries; ii) promote direct/ indirect socio-economic benefits; iii) include elements of institutional, social, economic and environmental sustainability; iv) work towards the prevention of environmental degradation and conservation/valorisation of ecosystem services; v) present or apply innovative methodologies and/or clean technologies; vi) pay attention to the issue of social inclusion; vii) build capacity to provide quantitative/qualitative information; viii) involve a wide range of stakeholders; ix) harness the potential of the project for complete or partial replicability/scale-up.
- The National Council for Persons with Disabilities (NCPD) urges the project to include Voice Ghana (an NGO managed for and by people with disabilities) in the CSO platform for the project. NCPD is aware of the West Africa Coastal (WACA) project, receives regular information from the implementation team, and regularly participates in various stakeholder consultations regarding the project's development.
- The Ghana Federation of Disability Organisations propose quotas for persons with disabilities to be employed on specific projects in the coastal communities. This is essential for inclusivity. Also, constructions in communities should not have open drains as many persons with disabilities are documented to have fallen into open drains and culverts.
- Some of the NGOs indicated that preliminary observations on the project suggest that the selection of sites could have been more inclusive. Sites selected in the Greater Accra and Volta regions are not comprehensive enough. Adopting a coastal to approach, there is an opportunity to include more coastal regions besides these two regions.

10.2 Disclosure of ESMF

The World Bank policies require that this ESMF is made available to project affected groups, local NGOs, and the public at large. Disclosure of this ESMF is also a national requirement and forms part of Ghana ESIA procedures.

Following its preparation by the MESTI and clearance by the World Bank, the ESMF will be disclosed by making copies available at the MESTI head office and websites and District Assemblies offices. The site specific ESIA or ESMP reports, when available, will also be disclosed by making copies available at MESTI and head office and websites and District Assemblies offices. The Government of Ghana will also authorize the World Bank to disclose this ESMF electronically through its external website.

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ANNEXES

Annex 1: Evidence of Stakeholder Consultation

Annex 1A: List of Stakeholders Engaged during Project Pre-Appraisal Mission, May 4-12, 2021

Institution	Name of Participant
MESTI	Peter Dery
	Emelyne Wright-Hanson
	Salim Monsuru
	Karen Asiamah
EPA	Jewel Kudjawu
	Peace Dziedzom Gbekor-Kove
LUSPA	Celestina Deku
Fisheries Commission	Emmanuel Dovlo
Forestry Commission	Gordon Kofi Sarfo-Adu
Wildlife Services Division	Dickson Agyeman
Water Resources Commission	Esi Biney
Hydrological Services Department	Hubert Osei-Wusuansa
	Dr. Richard Assumadu
	Barbara Anne Defortse
Coastal Development Authority	Mike Konadu
University Of Ghana	Prof. Kwasi Appeaning Addo
Ministry Of Foreign Affairs and Regional Integration	Henrietta A. Tetteh
NADMO	Mr. Ernest Kusi Duah
Coastal Development Authority	Mike Konadu
Fisheries Commission	Emmanuel Dovlo
Forestry Commission	Gordon Kofi Sarfo-Adu
NADMO	Mr. Ernest Kusi Duah
Coastal Development Authority	Mike Konadu
H&N Mpoano	Kofi Agbogah
University of Cape Coast	Dr. Precious Mattah
UN HABITAT	Dina Oppong
	Ken Kinney
Nature And Development Foundation	M. Seidu
	K. Twumasi
Netherlands Enterprise Agency	E. A. van der Kamp
Ministry Of Gender, Children and Social Protection	
Department Of Social Welfare	Agnes Akanmopoyah Abolimpoh
National Council for Persons with Disability (NCPD)	
H&N Mpoano	Kofi Agbogah
	Samuel Richard
	Justice Camillus Mensah
Development Institute	Ken Kinney
Friends of Nation	Donkris Mevuta

Institution	Name of Participant
	Kyei Kwadwo Yamoah
Goshen Global Vision	Perpetua Kwakuyi Destina
Central and Western Fishmongers Improvement Association	Nicholas Smith
Development Action Association	Lydia Sasu
National Fish Processors and Traders Association (NAFPTA)	Regina Solomon
Ghana Industrial Trawlers Association (GITA)	Gilbert Sam
Ghana National Canoe Fishermen's Council	Nana Joojo Solomon
Oil Watch-Ghana	Noble Wadzah

Annex 1B: List of Community Members Engaged During Preparation of the ESMF

Location	Category of Respondents/ Location	Name	Sex	Position in the Community
Kokrobite	Assembly member	Rockson Allotey	Male	Assemblyman
	Opinion Leaders	Nii Adotei Akwei (IV)	Male	Chief Fisherman
		Nii Saka Addo	Male	Ass. Chief Fisherman
		Supi Kojo (III)	Male	Clan Head
		Odoolai Odoi	Male	
		Akweite Ahene	Male	
		Rebecca Obrigya	Female	
		Elisabeth Aboyaano	Female	
	Canoe Owners	Daniel Odaakoi Lamtey	Male	
		Onolai Lartey	Male	
		Joshua Barno	Male	
		John Amanor	Male	
		Daniel Akaa	Male	
		Benjamin Ackaah	Male	
	Fish Mongers	Omahene Ansah	Female	
		Rebecca Obrigya	Female	
		Auntie Vida	Female	
		Elizabeth Aboyaano	Female	
Tsokome	Assembly Members	Bright Abayatey	Male	Assemblyman
	Opinion Leaders	Nii Tetteh Adamah	Male	Chief Fisherman
		Ebenezer Lankwei Aryee	Male	
	Youth Groups	Consider Hunya	Male	
		Gideon Hunya	Male	
		Terry Defor	Male	
	Fish Mongers	Daaviga Patience Vinyo	Female	
		Divine Agbenyo	Male	
		Mary Agbamepey	Female	
		Mary Dedzo	Female	
		Cecilia Sekyi	Female	
		Vida Suso	Female	
		Dangoe Dogbakye	Female	
		Gladys Abayatey	Female	
		Elizabeth Abayatey	Female	
		Rebecca Abbey	Female	
		Naomi Agbashie	Female	
	Petty Traders	Elizabeth Glakpe	Female	
		Moses Agbolomey	Male	
		Sarah Abbey	Female	
Gbegbeyese	Assembly member	Charles Owusu Afriyie	Male	
	Youth Groups	Ernestina Debrah	Female	
		Johnson Ahorlu	Male	
		Richard Korankye	Male	
	Petty traders	Isha Donkor	Female	
		Fatima Abovor	Female	
		Regina Lamptey	Female	
		Augustina Otoo	Female	

Location	Category of Respondents/ Location	Name	Sex	Position in the Community
		Daavi	Female	
		Faustina Frimpomaa	Female	
	Fish Mongers	Regina Otoo	Female	
		Gertrude Quaye	Female	
		Mary Aryee	Female	
		Bridget Mensah	Female	
Chemuen a	Opinion Leaders	Nii Gbortsui	Male	Chief Fisherman
		Teik Armah	Male	
		Lumor Tetteh Armh	Male	
old Fada ma	Community members	Kwame Mensah	Male	
		Robert Kweku Takyi	Male	
		Regina Osei	Female	
Korle Gonno		Nii Ashikwei	Male	
		Ishmael Akrong	Male	
		Emmanuel Appiah	Male	
Canoe Owners	Nii Ablorh	Male		
	Atta Quaye	Male		
Shiabu	Assembly member	Hon. Jean-MacDaniel	Male	Assembly man
	Unit Committee Members	Nathaniel Mensah	Male	
		Daniel Adjaye	Male	
		Elijah Otoo	Male	
	Community members	Naa Shasha	Female	
		Goeogina Nuunu	Female	
		Kwame Otu	Male	
		Anatu Tswei	Male	
Frank Nii Baah		Male		
	Ablekuma West	Priscilla Lomotey	Female	
	Ablekuma South	Bernice Akosua	Female	Community Development Planning officer
		Mrs Angela S. Tahiru	Female	District Cleaning Officer

Location	Category of Respondents/ Location	Name	Position in the Community	Gender
Vodza	Opinion leader	Victor Dzokoto	Spokesperson to Chief Fisherman	Male
	Fisherman	David Tagbor		Male
Afiadenyigba	Opinion leader	Torgbui Kadzaho IV	Chief	Male
		Hon. Ametsimey	Assemblyman	Male
		Hon. Kekeli	Assemblyman	Male
	Fisherman	Kwame Gomado		Male
		Fo Deka		Male
Kedzi-Havedzi	Assembly member	Hon. Raphael Normegbor	Assembly man	Male
	Unit Committee Member	Edem Cudjoe		Male
Keta	Forestry Commission	Mr Lawrence Tetteh-Ocloo	Head of Wildlife Division, Keta	Male
		Hope Honu		Male
		Francis Osekre		Male
		Seth Mensah		Male
	North Anlo Traditional Area	Mr Wilson Bonuedi	Presiding member	Male
Dzelukope		Hon Ruby Adukpo	Assemblywoman	Female

Annex 1C: List of Institutions Consulted

Name of Institution	Name of Contact	Date
Ministries, Departments, and Agencies (MDAs)		
Forestry Commission (FC)	Dickson Agyeman	22-Mar-22
Land Use and Spatial Planning Authority (LUSPA)	Celestina Deku	22-Mar-22
National Development Planning Commission (NDPC)	Dr Winfred Nelson	23-Mar-22
Environmental Protection Agency	Peace Dziedzom Gbeckor-Kove	23-Mar-22
The Coastal Development Authority (CODA)	Michael Obeng Konadu	23-Mar-22
Lands Commission (LC)	Jones ofori-Boadu	23-Mar-22
National Disaster Management Organization (NADMO)	Ernest Kusi-Duah	24-Mar-22
National Council for Persons with Disabilities (NCPD)	Esther Akua Gyamfi	24-Mar-22
National Council for Persons with Disabilities (NCPD)	Irene Asamoah	24-Mar-22
Petroleum Commission (PC)	Kweku Boateng	24-Mar-22
Ministry of Fisheries and Aquaculture Development (MOFAD)	Doris Yeboah	25-Mar-22
Fisheries Commission	Doris Yeboah	25-Mar-22
Ministry of Lands and Natural Resources (MLNR)	Daniel Nsawah	25-Mar-22
GARID and Ministry of Works and Housing	Romeo Adomah-Darteh	12-Apr-22
Metropolitan, Municipal, and District Assemblies (MMDAs)		
Keta Municipal Assembly	Hon Samuel Dotse	22-Mar-22
Ablekuma South Municipal Assembly	Bernice Akosua	
Accra Metropolitan Assembly		
Ablekuma West Municipal Assembly	Priscilla Lomotey	22-Mar-22
Associations/Community Society Organisations/Non-Governmental Organisations		
Hen Mpoano (Our Coast)	Kofi Agbogah	22-Mar-22
Development Action Association (DAA)	Lydia Sasu	22-Mar-22
Invest International	Ing. Richard Sedafor	23-Mar-22
Central and Western Fishmongers Improvement Association (CEFEWIA)	Victoria Koomson	23-Mar-22
Central and Western Fishmongers Improvement Association (CEFEWIA)	Nicholas Smith	23-Mar-22
Development Institute (DI)	Ken Kinney	24-Mar-22
Voice Ghana (Keta, Ho)	Francis Ansong	25-Mar-22
National Fisheries Association of Ghana (NAFAG)	Daniel Yaw Owusu	30-Mar-22
Ghana Federation of Disability Organisations	Rita Kusi Kyeremaa	30-Mar-22
Ghana Federation of Disability Organisations	Moses Fordjour	30-Mar-22
Ghana National Association of the Deaf	Juventus Duorinaah	30-Mar-22
Ghana National Association of the Deaf	George Pinto	30-Mar-22
Inclusion Ghana	Auberon Jeleel Odoom	30-Mar-22
National Premix Committee	Jacob Ageke	11-Apr-22
National Inland Canoe Fishermen Council	Jacob Ageke	11-Apr-22
Academic and Research Institutions		
Centre for Coastal Management, UCC	Dr Precious Mattah	08-Apr-22

Stakeholder Consultation Pictures





Field officers engaging community members in the Densu Area



Field officers engaging with community members in the Korle Lagoon Area



Field officer interviewing community members in the Keta Area



Field officer interviewing community members in the Keta Area

Annex 2: Environmental and Social Screening Checklist/Form

Project Name and P-code	
Name of person undertaking the screen:	
Designation:	
Address (Email, Phone number)	
Have you visited the site as part of the screening process? (Yes, No, Not Applicable)	
If yes, Date of site visit	

A. Description of Activity

Nature of Activity	
State the Duration of activity:	
Describe the Scope of Activity:	
State the Region where the activity will be implemented:	
State the Metropolitan, Municipal and District Assemblies (MMDAs) where the activity will be implemented:	
Estimated Cost:	
Proposed Date of Commencement of work:	
Expected Completion of Work:	
Indicate if Technical Drawing is required:	

B. Site Characteristics [complete this section if applicable]

#	Site Characteristics	
1	Adjoining Land Uses or Land Cover	
2	South	
3	North	
4	East	
5	West	
6	Proximity to a natural habitat e.g., wetland, river/stream, wetlands, forest reserves, protected areas etc.	
7	Proximity a residence or any community resource or facility	
8	Proximity to a road	
9	Are there outstanding land disputes within the area?	
10	What is the status of the land holding required by the project (customary, lease, community lands, etc.)?	

C. Risks Identification

If implemented, would the activity Potentially	Yes	No	If yes, give a brief description	If yes indicate frequency of occurrence			
				Very Rarely	Rarely	Occasionally	Very Frequently
Air Quality and Noise							
Cause air pollution?							
• generation of dust							

If implemented, would the activity Potentially	Yes	No	If yes, give a brief description	If yes indicate frequency of occurrence			
• generation of smoke • generate fumes? • generate emissions • Create objectionable odour affecting people?							
Expose workers or the public to substantial air pollution?							
Cause noise pollution							
Expose persons to excessive vibration and noise?							
Biological Resources and Natural Resources							
Occur in legally protected/nature reserve or Environmentally Sensitive Areas or a legally defined buffer zone; (forest reserves, national parks, Ramsar sites and wetlands, wildlife habitat areas, steep slopes, riparian areas, upland forests, vulnerable aquifers, biosphere reserves, World Heritage Sites, prime agricultural lands?							
Be located within 100m from a protected/nature reserve or Environmentally Sensitive Areas?							
Have effect on neighbouring protected/nature reserve or Environmentally Sensitive Areas (forest reserves, national parks, Ramsar sites and wetlands, wildlife habitat areas, steep slopes, riparian areas, upland forests, vulnerable aquifers and prime agricultural lands?							
Have effect on flora (vegetation or plants)?							
Have effect on fauna (animals, wildlife)?							
Interfere with the movement of any wildlife species or organisms?							
Lead to the clearing of forestlands and woodlands?							
Cause disturbance in natural habitats?							
Lead to modification of natural habitats?							
Drain wetlands, or be sited on floodplains?							
Lead to road construction or rehabilitation, or otherwise facilitate access to fragile areas (natural woodlands, wetlands, erosion-prone areas)?							
Cause disruption of wildlife migratory routes?							
Harvest wetland plant materials or utilize sediments of bodies of water?							
Involve the harvesting of timber resources?							
Involve the harvesting of non-timber resources?							
Promote in-forest bee keeping?							

If implemented, would the activity Potentially	Yes	No	If yes, give a brief description	If yes indicate frequency of occurrence			
Lead to increased hunting or the collection of animals or plant materials?							
Increase the risks to endangered or threatened species?							
Accelerate erosion by water or wind?							
Reduce soil fertility and/or permeability?							
Involve removing renewable natural resources such as forest products?							
Involve the extraction of non-renewable natural resources?							
Affect dry season grazing areas and/or lead to restricted access to a common resource?							
Water Quality and Hydrology							
Occur within 100m distance from the nearest water body or drainage channel?							
Involve water extraction or abstraction from rivers, lakes, groundwater							
Have effect on potable water supplies to communities?							
Potentially contaminate surface water and groundwater supplies. - by generating liquid waste? - by generating liquid with human or animal waste? - by generating liquid with pH outside 6-9 range? - by generating liquid with an oily substance? - by generating liquid with a chemical substance? - by generating liquid with odour/smell?							
Lead to changes in the drainage pattern of the area, resulting in erosion or siltation?							
Lead to an increase in surface run-off, which could result in flooding on or off-site?							
Increase runoff, which could exceed the capacity of existing storm water drainage?							
Increase potential for flooding?							
Potentially pollute or contaminate surface water?							
Potentially pollute or contaminate groundwater resources?							
Affect existing streamflow, and reduce seasonal availability of water resources?							
Agricultural and Forestry Production							
Affect existing or traditional agricultural production systems by reducing seed availability or reallocating land for other purposes?							
Lead to forest plantation harvesting without replanting, the burning of							

If implemented, would the activity Potentially	Yes	No	If yes, give a brief description	If yes indicate frequency of occurrence			
pastureland, or a reduction in fallow periods?							
Affect existing food storage capacities by reducing food inventories or encouraging the incidence of pests?							
Affect domestic livestock by reducing grazing areas or creating conditions where livestock disease problems could be exacerbated?							
Involve the use of insecticides, herbicides, and/or other pesticides?							
Hazardous Waste and Materials - Will the activity							
Lead to the generation of hazardous waste such as: - Solvent-based paints, - Pesticides and other garden chemicals, Batteries (for example, car, mobile phone or regular household batteries) - Motor oils (Petrol, kerosene, lubricants for vehicles), - Cleaning and polishing chemicals, Pharmaceuticals (all medicines), - Electronic waste (unwanted computer equipment – monitors, keyboards, laptops, CD, disc drives, phones, batteries, solar panels, meters, Laser and printer inkjet cartridges, Fluorescent tubes and compact fluorescent globes (CFLs)) - Medical waste?							
Lead to the transportation of hazardous waste?							
Lead to the recycling of hazardous waste?							
Lead to the storage and disposal of hazardous waste?							
Lead to the generation of Hazardous industrial waste (HIW)? HIW includes used oils, solvents, paint, batteries, soiled packaging, aerosols, cosmetics, pharmaceuticals, phytosanitary products, and industrial sludge.							
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement							
Require changes to the existing land tenure system?							
Require acquisition of land (public or private, temporarily, or permanently) for its development?							
Potentially cause or aggravate land-use conflicts?							
Restrict land rights or land use rights?							
Restrict access to natural resources that cause a community or groups within a community to lose access to a resource							

If implemented, would the activity Potentially	Yes	No	If yes, give a brief description	If yes indicate frequency of occurrence			
usage where they have traditional or customary tenure or recognizable usage rights?							
Lead to the physical displacement? Physical displacement occurs when individuals or communities are fully or partially no longer able to occupy an area and must relocate to a new location due to project activity.							
Lead to economic displacement? Economic displacement occurs when individuals or communities are fully or partially restricted in their access to land or resources that are important to them livelihoods and economic well-being							
Cause a disruption on Power or other utility supply?							
Affect the livelihood opportunities of people?							
Involve the use of direct workers? Direct workers are people employed or engaged directly by the Borrower (including the project proponent and the project implementing agencies) to work specifically in relation to the project.							
Involve the use of community workers? Community workers are people employed or engaged in providing community labour.							
Involve the use of contracted workers? contracted workers are people employed or engaged through third parties to perform work related to core functions of the project, regardless of the location.							
Involve the use of primary supply workers? Primary supply workers are people employed or engaged by the Borrower's primary suppliers.							
Involve the use of Children?							
Social Inclusion							
Cause the exclusion of migrants, poor, persons with disabilities, youth, women, men?							
Cultural Heritage							
Involve excavations, demolition, movement of earth, flooding or other changes in the physical environment?							
Be located in, or in the vicinity of, a recognized cultural heritage site?							
Affect culturally important sites in the community such as sacred areas, burial grounds or cemeteries?							
Affect religious sites shrines, temples, mosques, churches?							
Affect any archaeological or historical site?							
Community Health and Safety							

If implemented, would the activity Potentially	Yes	No	If yes, give a brief description	If yes indicate frequency of occurrence			
Lead to labour influx? Labour influx consists of the rapid migration to and settlement of workers in the project area, typically in circumstances where labour/skills and goods and services required for a project are not available locally. Projects also stimulate a speculative influx (“followers”), including those seeking employment or enterprises hoping to sell goods and services to the temporary project workforce, as well as “associates” who often follow the first two groups to exploit opportunities for criminal or illicit behaviour (e.g., prostitution and crime).							
Create conditions that can lead to community health problems such as community exposure to health risks and vector-borne diseases, communicable diseases, injuries, nutritional disorders, HIV/AIDS, and infectious Diseases?							
Lead to increase road traffic, vehicles or fleets of vehicles for the purposes of the activity?							
Involve the use of Security personnel?							
Other Areas							
Production or use in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone-depleting substances, PCBs, wildlife, or products regulated under CITES.							
Production or use in weapons and munitions.							
Production or use in alcoholic beverages (excluding beer and wine).							
Production or trade in tobacco							
Gambling, casinos and equivalent enterprises.							
Production or trade in radioactive materials.							
Production or use in unbounded asbestos fibres.							

D. Risks Classification

Based on the risks identified in section C the risks areas should be categorized as Low Risk, Moderate Risk or High Risk:

Risk areas	Low Risk ⁷	Moderate Risk ⁸	Substantial Risk ⁹	High Risk ¹⁰
Air Quality and Noise				
Biological Resources and Natural Resources				
Water Quality and Hydrology				
Agricultural and Forestry Production				
Hazardous Waste and Materials				
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement				
Socio-economic, Livelihood and Labour				
Social Inclusion				
Community Health and Safety				

Overall proposed activity risk classification:

E. Recommendations for Instruments to be prepared

Recommendation:	Tick as appropriate	Justification
No further instrument required		
Requires the preparation of:		
Environmental and Social Impact Assessment (ESIA)		
Environmental and Social Management Plan (ESMP)		
Resettlement Action plan (RAP or ARAP)		
Environmental and Social Audit		
Hazard or Risk Assessment		
Social and Conflict Analysis		
Cultural Heritage Management Plan		
Biodiversity Management Plan		

F. National Requirements

⁷ Minimal or no adverse social or environmental risks and impacts.

⁸ Potential adverse social and environmental risks and impacts that are limited in scale, are largely reversible and can be identified with a reasonable degree of certainty and readily addressed through application of recognized good international practice, mitigation measures and stakeholder engagement during project implementation.

⁹ Potential adverse social and environmental risks and impacts that are more varied or complex than those of Moderate Risk projects but remain limited in scale and are of lesser magnitude than those of High Risk projects (e.g. reversible, predictable, smaller footprint, less risk of cumulative impacts).

¹⁰ Potential significant adverse social and environmental risks and impacts that are irreversible, unprecedented and/or which raise significant concerns among potentially affected communities and individuals as expressed during the stakeholder engagement process as part of the screening.

#	If implemented, would the activity require permit or approval from the following national regulatory agencies?	Yes	No	Justification
1	Environmental Protection Agency			
2	Forestry Commission			
3	Water Resources Commission			
4	Ghana Standards Authority			
5	Food and Drugs Authority			
6	Minerals Commission			
7	Plant Protection & Regulatory Services			
8	Ghana Health Service			
9	District Assembly			

G. Clearance

Approval's	
Name:	
Signature:	
Date:	

Annexe 3: Sample Grievance Complaint Form

1. Name of Person Raising Grievance: (information is optional and always treated as confidential) Name: _____ Gender: ☐ Male ☐ Female				
Address or contact information for Person Raising Grievance: (information is optional and confidential) E-mail: _____ Phone: _____ Address: _____				
Location where grievance/problem occurred (write in) _____				
Category of Grievance:				
☐ Environmental safeguards, social issues including gender, labour, and resettlement	☐ Grievances regarding violations of policies, guidelines, and procedures	☐ Grievances regarding contract violations	☐ Grievances regarding the misuse of funds/lack of transparency, or other financial management concerns	☐ Grievances regarding abuse of power/intervention by project or government officials
☐ Grievances regarding Project staff performance	☐ Reports of force majeure	☐ Suggestions	☐ Appreciation	
Brief Description of Grievance or Inquiry: (provide as much detail and facts as possible) _____				
Please include any other information that you consider relevant, other matters or facts, including supporting documents: _____				
Do you request that identity be kept confidential? ☐ Yes ☐ No				
2. Previous Efforts to Resolve the Complaint				
3. Information on Authorised Representative. (If Authorised Representatives are not complainants themselves, their names will be disclosed as needed, to ensure transparency).				
Name	Positions/Organizations	Addresses	Contact numbers	E-mail addresses
Gender: ☐ Male ☐ Female				
Please provide evidence of the authority to represent the complainant which must include the complainant's signature. _____				
Do you request that identity be kept confidential? ☐ Yes ☐ No				

Annexe 4: Grievance Register/Log

Grievance Register/Log											
Grievance Id	Date Reported	Name Of Grievant	Gender (M/F)	Location/ Address	Issue	Parties Involved	Date Investigation Was Initiated	Date Investigation Completed	Resolution / Actions Required	Status	Date Resolved

Annex 5: Grievance Screening and Investigation Sheet

		Grievant Information
	Grievant Name	
	Gender	
	Location/ Address	
	Grievance Summary	
	Who was involved? Provide names and titles. Include witnesses.	
	When did it occur? Date and time	
	Where did it occur? Specific locations	
	What happened? Describe the event in detail. Also, describe any incidents giving rise to the grievance.	
	Why is this a grievance? List all policies, procedures, and guidelines violated in the event described.	
	Potential impact of human wellbeing and safety	
	Potential impact on project	
	What adjustment is required? Describe what must be done to correct the situation / problem.	
	Additional Comments Attach Sheets, If Needed.	
	Name Screening Officer	
	Date Of Screening	
	Grievance Category (1,2,3,4)	
	Risk Ranking (H,M,L)	
	Urgency Ranking	

Annex 6: Incident Reporting Form and Types of Incidents to be Reported

Incident Reporting: Project-Related

(Note: It is important that incidences of child abuse and sexual harassment and severe criminality / social risks that may involve Project staff are documented and brought to the attention of MESTI for information and determination if further investigation is needed to avoid any possible negative consequences on the Project)

1	From:	
2	Title	
3	To:	
4	Title / Organisation	
5	Date of submission:	
6	Date of re-submission	
7	Details of Incident	
8	Incident No. (month/No) e.g., first fatal in October	
9	Nature of Incident (e.g., Multiple Fatality)	
10	Severity of incident	
11	Who is the victim?	
12	Name / Occupation of Project staff involved/suspected to be involved? (If known at this stage)	
13	Date incident happened	
14	Location of Incident	
15	Date / time incident reported to contractor / consultant	
16	Details of person(s) who reported	
17	To whom was the incident reported?	
18	Mode of Reporting (verbal/written report) – if written attach report.	
19	Details of the incident (key facts pertaining to the incident and how it happened)	
20	Who else was informed about this incident?	
21	What Action (s) has been taken by contractor / consultant to address the problem? and when?	

Indicative Incident

Environmental	Social	Occupational Health & Safety
Small-volume hydrocarbon or chemical spills	Small-scale crop damage or livestock deaths	Underuse of personal protective equipment (PPE) by Works Contractor
Localized dust, light, or noise pollution	Grievances due to Project use of public roads	Local increase in the occurrence of communicable disease
Illegal hunting of wildlife (non-endangered)	Project interference with locally significant practices or sites	Minor job site injuries
Small volume sediment, pesticide, or fertilizer run-off into local waterways	Vehicle damage to public or private roads caused by Works Contractors	Poor “housekeeping” at site, e.g., littering and random disposal of solid waste
Minor off-site disposal of solid waste from Project	Nuisance-level contact between employees and the community	Lack of understandable warning or traffic control signage

Environmental	Social	Occupational Health & Safety
Poor quality or delayed site restoration and revegetation	Minor instances of inappropriate behaviour of security forces or other Contractor personnel	Almost empty first aid kit at work site
Poorly functioning erosion-control measures	Overloading of local commercial services from the use by Project personnel	Poorly organized or sporadic health & safety induction and training
	Minor impacts on livelihood restoration and/or access to community natural resources	Multiple “slip and trip” hazards throughout the site
	Minor impacts on cultural sites/areas	Lack of Health & Safety plan and/or training for staff
	Minor social conflict related to or affecting the Project	
	Some problems with consultation/outreach about the Project	
	Delays by GRM in handling/addressing grievances	

Serious Incidents

Environmental	Social	Occupational Health & Safety
Large-volume hydrocarbon or chemical spills, or other hazardous substances impacting the environment	Widespread crop damage or livestock deaths	Injury/ies requiring off-site medical attention
Over-exploitation of local natural resources	Cases of mistreatment of communities potentially, including vulnerable groups, by Project workers or security forces, including incidents such as sexual harassment	Instances of serious communicable diseases among the workforce
Large-volume or long-term sediment, pesticide, or herbicide runoff into waterways	Significant impacts on protected physical cultural resources	Consistent lack of health & safety plans and training at work site
Medium to large-scale deforestation	Works have commenced without compensation and resettlement being completed	Chronic non-use of PPE at Project work site
Lack of implementation of agreed environmental restoration program	Significant and repeated community impacts from Project vehicles and construction activities	Repeated non-compliance or failure to remedy non-compliance

Environmental	Social	Occupational Health & Safety
	Lack of clarity about consultations with Peoples and broad community support for the Project	
	GRM not functioning	
	Inadequate consultation and engagement of stakeholders in the Project leading to significant conflict and/or delays	
	Non-violent community protests against the Project, or mild community unrest	

Severe Incidents

Environmental	Social	Health & Safety
Hydrocarbon or chemical spills, or release of other hazardous substances into the environment, causing widespread impacts and/or requiring large-scale remediation	Forced evictions or resettlement of communities without due process or compensation	Any permanent fatality disability
Poaching or hunting and trafficking of threatened or endangered species	Abuses of community members (including vulnerable groups e.g., women, children, youth, elderly, disabled/sick, LGBT) by site security forces or other Project workers, including but not limited to GBV	An outbreak of life-threatening communicable disease
Sediment, pesticide, or herbicide runoff causing permanent damage to waterways	Significant damage to nationally protected areas or to UNESCO World Heritage sites	Criminal and political attacks at worksite
Destruction of internationally recognized critical habitat	Human trafficking and child labour	Forced labour by Project's Works Contractor

Environmental	Social	Health & Safety
Major river contamination causing decimation of fish population or other aquatic resources	Violent community protests against the Project	Works Contractor is unresponsive regarding ongoing worksite risks of bodily injury
	Significant impacts on Indigenous Peoples' land/natural resources and/or culture and there is no evidence of consultation, broad community support, mitigation of harm and/or culturally appropriate benefit-sharing	Persistent non-compliance and/or inability or unwillingness to remedy non-compliance that could result in bodily injury or harm Murders, kidnappings, manslaughter and assaults, while criminal matters and not safeguards incidents per se, have occurred in Bank Projects and should be treated as severe incidents. These incidents would be referred to local authorities with notification to WB Security

Annex 7: Contractor's Code of Conduct

Preventing Gender -Based Violence (GBV) and Violence against Children (VAC)

(Name of contractor) acknowledges that adhering to environmental, social health and safety (ESHS) standards, following the project's occupational health and safety (OHS) requirements, and preventing gender-based violence (GBV) and violence against children (VAC) is important. All forms of GBV or VAC are unacceptable, be it on the work site, the work site surroundings, at worker's camps, or the surrounding communities.

The company considers that failure to follow ESHS and OHS standards, or to partake in GBV or VAC activities, constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. Prosecution of those who commit GBV, or VAC may be pursued if appropriate.

(Name of contractor) agrees that while working on the project every employee will:

- Attend and actively partake in training courses related to ESHS, OHS, HIV/AIDS, GBV and VAC as requested by employer.
- Shall wear personal protective equipment (PPE), in the correct prescribed manner, at all times when at the work site or engaged in project related activities.
- Take all practical steps to implement the organization's environmental and social management plan (C-ESMP).
- Implement the OHS Management Plan.
- Adhere to a zero-alcohol policy during work activities, and refrain from the use of illegal substances at all times.
- Consent to a police background check.
- Treat women, children (persons under the age of 18), and men with respect regardless of race, colour, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- Not use language or behaviour towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Not participate in sexual contact or activity with children—including grooming or contact through digital media. Mistaken belief regarding the age of a child is not a defence. Consent from the child is also not a defence or excuse.
- Not engage in sexual harassment—for instance, making unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct, of a sexual nature, including subtle acts of such behaviour. Ex. Looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; giving personal gifts; making comments about somebody's sex life; etc.
- Not engage in sexual favours—for instance, making promises or favourable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behaviour.
- Unless there is the full consent¹¹ by all parties involved, every worker shall not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered “non-consensual” within the scope of this Code.
- Consider reporting through the Grievance Mechanism or to the manager any suspected or actual GBV or VAC by a fellow worker, whether employed by my employer or not, or any breaches of this Code of Conduct.

Quality of products and services

(Name of the contractor) expects that products and services provided by each sub-Contractor will be of the highest quality and will be fairly and reasonably priced, so that (Name of the contractor) customers are served with the best value. In addition to any specific requirements in the agreement with (Name of the contractor), products and services will meet or exceed applicable government standards, including environmental and safety standards.

¹¹ **Consent** is defined as the informed choice underlying an individual's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even in the event that national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defence.

Health and Safety

(Name of the contractor) is dedicated to providing safe, injury-free working conditions and a healthy work environment. Compliance with this commitment is a condition of any sub-Contractor engagement with (Name of the contractor).

Workplace safety

Each Sub-Contractor is responsible for ensuring that its Representatives complete all necessary safety training and perform work in conformance with all applicable safety rules, laws, standards and procedures and for complying with and enforcing any additional (Name of the contractor) safety policies and procedures communicated to Sub-Contractor.

Reporting injuries, damage and unsafe conditions

In addition to any other legal reporting requirements, (Name of the contractor) and each Contractor must immediately report any occupational injuries, unsafe conditions or practices and damage to property occurring as a result of the (Name of the contractor)/Sub-Contractor or its Representative's activities to MESTI or any deserved entity.

Alcohol and drug use

(Name of the contractor)'s commitment to providing a healthy and safe working environment is compromised by the consumption of alcohol and illegal drugs. While performing work for (Name of the contractor), Employees, Sub-Contractors and Representatives must not consume, use or be impaired by alcohol or illegal drugs or be under the influence of prescription drugs that impair a person's ability to perform work in a safe and efficient manner.

Workplace violence

Acts or threats of physical violence, intimidation and harassment will not be tolerated. Engaging in violence or threatening or intimidating behaviours may result in termination of the contract with (Name of the contractor) or removal of the Representative from (Name of the contractor) property, as deemed appropriate by (Name of the contractor).

The Environment

MESTI is committed to conducting its business in an environmentally responsible manner. (Name of Contractor) and Representatives will comply with all applicable environmental laws and regulations and operate in a way that minimize the negative environmental impact of the products and services.

Ethics

(Name of Contractor) must operate within the highest standards of ethical conduct when dealing with MESTI employees, customers and the public. (Name of Contractor) will ensure that its actions, and those of its Representatives, comply with the letter and spirit of this Code.

Anti-corruption

(Name of contractor) and Representatives are committed to zero tolerance against corruption and shall not engage in any form of bribery, extortion, embezzlement, or other corrupt practices.

Fair competition

When conducting works (Name of Contractor) and Representatives shall uphold fair standards in recruiting and competition.

Confidentiality

Confidential information includes information that is not known by the public and that may be harmful to the organization, its employees or its customers if disclosed. (Name of the Contractor) is committed to safeguarding and protecting its own confidential information and the personal information of its customers and employees. Sub-Contractor must maintain the confidentiality of information entrusted to it in accordance with its agreements with (Name of the Company) and applicable law. The obligation to protect (Name of the Company)'s confidential information continues even after the business relationship with (Name of the Company) ends.

Updates to Code and Disclaimer

(Name of the Contractor) reserves the right to amend and modify this Contractor Code of Conduct at its discretion. The provisions of the Code are not intended to change any obligations set forth in the Contractor's agreement with MESTI and in the event of any conflict, the terms in the agreement with MESTI will prevail.

Annex 8: Individual code of conduct in case of contractor**Preventing Gender -Based Violence (GBV) and Violence against Children (VAC)**

I, _____, acknowledge that adhering to environmental, social health and safety (ESHS) standards, following the project's occupational health and safety (OHS) requirements, and preventing gender-based violence (GBV) and violence against children (VAC) is important. All forms of GBV or VAC are unacceptable, be it on the work site, the work site surroundings, at worker's camps, or the surrounding communities.

The company considers that failure to follow ESHS and OHS standards, or to partake in GBV or VAC activities, constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. Prosecution of those who commit GBV, or VAC may be pursued if appropriate.

I agree that while working on the project I will:

- Attend and actively partake in training courses related to ESHS, OHS, HIV/AIDS, GBV and VAC as requested by my employer.
- Shall wear my personal protective equipment (PPE), in the correct prescribed manner, at all times when at the work site or engaged in project related activities.
- Take all practical steps to implement the contractor's environmental and social management plan (CESMP).
- Implement the OHS Management Plan.
- Adhere to a zero-alcohol policy during work activities, and refrain from the use of illegal substances at all times.
- Consent to a police background check.
- Treat women, children (persons under the age of 18), and men with respect regardless of race, colour, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- Not use language or behaviour towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Not participate in sexual contact or activity with children—including grooming or contact through digital media. Mistaken belief regarding the age of a child is not a defence. Consent from the child is also not a defence or excuse.
- Not engage in sexual harassment—for instance, making unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct, of a sexual nature, including subtle acts of such behaviour. Ex. Looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; giving personal gifts; making comments about somebody's sex life; etc.
- Not engage in sexual favours—for instance, making promises or favourable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behaviour.
- Unless there is the full consent by all parties involved, I shall not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered “non-consensual” within the scope of this Code.
- Consider reporting through the Grievance Mechanism or to my manager any suspected or actual GBV or VAC by a fellow worker, whether employed by my employer or not, or any breaches of this Code of Conduct.

With regard to children under the age of 15:

- Wherever possible, ensure that another adult is present when working in the proximity of children.

- Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger.
- Not sleep close to unsupervised children unless absolutely necessary, in which case I must obtain my supervisor's permission, and ensure that another adult is present if possible.
- Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any medium (see also "Use of children's images for work related purposes" below).
- Refrain from physical punishment or discipline of children.
- Refrain from hiring children for domestic or other labour, which is inappropriate given their age or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.
- Comply with all relevant local legislation, including labour laws in relation to child labour.

Use of children's images for work related purposes

When photographing or filming a child for work related purposes, I must:

- Before photographing or filming a child, assess and endeavour to comply with local traditions or restrictions for reproducing personal images.
- Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film shall be used.
- Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
- Ensure images are honest representations of the context and the facts.
- Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

I understand that if I breach this Individual Code of Conduct, my employer shall take disciplinary action which could include:

- Informal warning.
- Formal warning.
- Additional Training.
- Loss of up to one week's salary.
- Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
- Termination of employment.
- Report to the police if wanted.

I understand that it is my responsibility to ensure that the environmental, social, health and safety standards are met. That I shall adhere to the occupational health and safety management plan. That I shall avoid actions or behaviours that could be construed as GBV or VAC. Any such actions shall be a breach this Individual Code of Conduct. I do hereby acknowledge that I have read the foregoing Individual Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to ESHS, OHS, GBV and VAC issues. I understand that any action inconsistent with this Individual Code of Conduct or failure to take action mandated by this Individual Code of Conduct may result in disciplinary action and may affect my ongoing employment.

Signature: _____



West Africa Coastal Areas Resilience Investment Project II (P175525)

Printed Name: _____

Title: _____

Date: _____

Annex 9: Sample Terms of Reference for Consultancy Services for Environmental and Social Management Plan (ESMP)

INTRODUCTION

The Government of Ghana through the Ministry of Science, Technology and Innovation (METSI) is seeking financial support from the World Bank to develop and implement the West Africa Coastal Areas Resilience Investment Project II. Ghana was not part of the initial WACA Program, but WACA ResIP II is designed to include Ghana. The Project Development Objective (PDO) is to strengthen the resilience of targeted communities and areas in coastal Western Africa. Project activities are expected to include interventions on policy and institutions, site investments, social development, and a project management unit.

Ghana's coast consists mostly of a low sandy shore, behind which stretches the coastal plain. The coastal wetlands include lagoons, lagoon depressions, swamps and marshes, and the intervening higher land within the coastal catchments. Five coastal wetlands are designated as Ramsar sites under the Convention on Wetlands of International Importance.

Coastal livelihoods in Ghana are diverse. Industrial economic sectors include minerals mining, oil and gas production, cement production, aluminium smelting, sand extraction, thermal electricity generation, and hydroelectricity generation. Productive sectors include forestry and plantations, fishing and aqua culture, salt production, as well as coastal agriculture for rubber, oil palm, coconuts, and farming. Many livelihoods are also derived from medium and small enterprises including trading centres and shops

The WACA ResIP II will target communities located near Pra River estuaries and the mouth of the Volta River mouth. The population in this area has not benefitted as much from development as other coastal areas and is therefore in crucial need of resilience-enhancing interventions. The area is sensitive given there is not much scope for relocation inland, should that become a necessity in the future given erosion. Long term planning for climate change effects and subsequent resettlement needs is part of the dialogue with communities. However, exact locations of project activities are not yet known. Analytical work is underway to develop a Multi-Sector Investment Plan (MSIP) aimed at strengthening coastal risk reduction strategies and climate change adaptation in Ghana. The MSIP will identify coastal hotspots requiring interventions, and develop pre-feasibility studies for gray, green or hybrid options for physical interventions at three high priority sites to be incorporated into this project.

The Project has four components as follows:

Component 1: Regional integration. The objective of the regional integration component is to strengthen the effective coordination of interventions for coastal resilience in West Africa at the regional and national levels. This is achieved through the consolidation of the regional institutional set-up and harmonization of policy, to seek economies of scale and the development of new strategic partnerships needed for the scale-up of response to the coastal resilience development challenge. Under the first WACA ResIP implementation is moderately satisfactory as per the Implementation Status Report, primarily due to fiduciary parameters.

Component 2: Strengthening the policy or institutional frameworks. The project will support the strengthening of institutional and policy frameworks around coastal development, protection, and natural resource management (exclusive of fisheries). Focus areas will include strengthening of existing national coordination mechanisms and of institutional capacity for coastal development and protection.

Component 3: Physical and social investments. The project is expected to finance site-specific interventions for coastal protection to finance a mix of gray, green, and hybrid infrastructure solutions at multiple sites to reduce risks of flooding and erosion. Green solutions include submerged native aquatic vegetation, mangrove protection and reforestation to serve as a buffer to inundation and sea-level rise, and/or sand fill to restore shorelines between communities and the sea. Potential grey solutions include small-scale localized infrastructure such as groynes or breakwaters for erosion

control/sediment management, while hybrid solutions incorporate both approaches depending on site-specific needs and characteristics. Known priority sites where pre-feasibility studies are ongoing include communities in the (i) Pra River Estuary and (ii) left bank of Volta River Mouth including the stretch of coast of Anyanui-Agbledomi-Dzita. The project will also support interventions for social development and economic recovery based on the needs of affected coastal communities. Special attention will be given to ensure opportunities for marginalized groups, including women and native peoples. The project will support participatory activities (social subprojects) to work with communities on nature protection and conservation and alternative livelihoods for an estimated 20-30 communities.

Component 4: Project management. A PIU will be established with MESTI and will be guided by a multi-stakeholder project steering committee.

ENVIRONMENTAL AND SOCIAL RISKS AND REQUIREMENTS

The project will be prepared and implemented under the Environmental and Social Management Framework (ESF) of the World Bank, and the environmental and social (E&S) risk classification is High. There are ten Environment and Social Standards (ESS) under the ESF of which the following standards are considered relevant to this project:

- ESS1: Assessment and Management of Environmental and Social Risks and Impacts
- ESS2: Labour and Working Conditions
- ESS3: Resource Efficiency and Pollution Prevention and Management
- ESS4: Community Health and Safety
- ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- ESS8: Cultural Heritage
- ESS10: Stakeholder Engagement and Information Disclosure

The proposed environmental risk classification is High. The project is expected to have positive environmental impacts by restoring coastal ecosystems, especially mangroves, to reduce the risk of erosion and flooding, including restoration of abandoned rice paddies and the water system. However, the project scope and nature, and environmental sensitivity, especially component 3, will finance several activities, including the construction of physical infrastructure. These interventions will take place in a highly fragile coastal area of mangroves, with the potential of coastal flooding and erosion and the fact that poorly designed and/or implemented interventions could exacerbate erosion downstream. Furthermore, health and safety of the workers and the community would need to be considered and properly managed. Potential OHS risks and hazards that can be associated with the construction of physical infrastructure include: (i) exposure to dusts, fumes, and gases from potentially harmful chemicals which can cause significant breathing problems and lung diseases, (ii) exposure to loud noise due to frequent or excessive use of vibrating tools which can cause cognitive impairment, tinnitus and hearing loss, (iii) stress and fatigue due to frequent or excessive manual handling of loads, and (iv) physical injury. In addition, the project will be operating in highly sensitive areas (i.e., Mangroves) providing important ecosystem services. Poorly designed and/or implemented interventions in these areas could potentially exacerbate erosion downstream.

The proposed social risk classification is High. Key social risks associated with project activities include possible physical and economic displacement from the project activities in the short-term and losses of assets and/or income due to impacts from project activities; potential inter-communal conflict; potential labour influx that in turn may exacerbate the risks related to SEA/SH, Violence Against Children; social exclusion of vulnerable groups such as persons with disabilities, the landless, elders and youth in the consultations process and access to benefits and development opportunities. Other risks include potential for child labour; community health and safety concerns; social fragmentation and disruption of traditional livelihoods. In terms of client capacity, there is variation in institutional capacity and readiness at the national levels (including in the preparation and implementation of ESF instruments). The physical interventions in component 3 may require some physical and/or economic resettlement or may cause access restriction to resources in case of national parks or legally protected areas. This in turn may create local conflicts between the project beneficiaries related to benefit sharing, and the ability to eventually move to areas downstream that may still

be at risk of flooding. Furthermore, contractor workforce can heighten risks of SEA/SH and facilitate the spread of communicable diseases to and from local communities (including COVID-19 and sexually transmitted diseases). The issues of labour conditions, SEA/SH, and universal access will need to be properly managed.

OVERALL OBJECTIVE

The main objective of this assignment is to prepare an Environmental and Social Management Plan (ESMP). The ESMP is designed to assess significant environmental and social impacts and to outline measures for mitigating or enhancing anticipated project impacts.

Specific objectives of the assignment are to:

- a. Identify and assess potential environmental and social impacts that are likely to emanate from:
 - o Construction/development, including site preparation and installation of equipment and facilities.
- b. Recommend feasible and cost-effective measures to prevent, mitigate, manage and monitor potential environmental and social impacts identified under (a) above, including whether or not there's need for a Resettlement Action Plan.

The Government, through MESTI, intends to engage the services of a qualified and experienced consulting firm (hereinafter referred to as “the Consultant”) to prepare the ESMP for the specific site activity. An ESMP, that takes into consideration specific characteristics of the site.

SCOPE

The ESMP assignment will entail the following tasks:

Specialist Studies/Surveys

For purposes of establishing the baseline and predicting potential impacts, the Consultant may consider undertaking the following field investigations on each of the site, among others:

- Cultural Impact Assessment: conduct interviews with traditional authorities, residents and other stakeholders to gather information on the cultural heritage and traditions relating to the site and to identify any places of cultural, religious and historic significance on or in close proximity to the site. Assess the potential impact of the project activity on the culture/traditions and places of significance.
- Air quality monitoring assessment: to establish the baseline and predict the public health and safety implications of air quality (dust disposal, PM10, odour) on each site and its environs.
- Noise Impact Assessment: establish the baseline noise levels and predict any potential noise impact on the sites and surrounding areas;
- Geohydrological Assessment: conduct geohydrological assessments to determine the potential impact of the proposed intervention, and
- Traffic Impact Assessment: conduct a detailed analysis to investigate the potential traffic impact of proposed intervention.

Description of the Proposed Operations

The Consultant will liaise with MESTI for information/data to present a detailed description of the proposed sites, including:

- The location, size and current conditions, including current uses, of the proposed sites;
- Ownership of the sites (with appropriate supporting documents);
- Adjoining land uses at the site and existing infrastructure if any;
- Engineering/conceptual designs of the sites, including site layout, access roads, drainage facilities, and

- Construction and operation schedules, including scheduling of site preparation and operations.

Review of Legal and Institutional Framework

The Consultant should identify and review laws and regulations pertaining specifically to proposed project activities.

Baseline Biophysical and Human Environments

Baseline data information on the bio-physical and environmental media as well as socio-economic/cultural conditions in the project area of influence has been presented in the existing ESIS. The Consultant will therefore limit the description of the physical and socio-economic baseline conditions to the site and the environs. The description of the baseline environments will be based on comprehensive collection of primary field data/information and secondary data.

Stakeholder Consultation and Engagement

The Consultant will identify and consult relevant stakeholders, including the EPA, respective Municipal Assemblies, traditional authorities and potential project affected persons (PAPs) and businesses. The Consultant will pay special attention to engaging with and soliciting the concerns and views of persons working on and/or residing in close proximity to the sites. The consultant shall comply with all national, World Bank and World Health Organization COVID-19 prevention and management protocols throughout the ESMP process.

Development of a Grievance Redress Mechanism

The Project will develop a project-wide GRMs. The Consultant will explore the feasibility and utility for developing a Contractor Workers GRM to cover activities on the site. Where it is deemed necessary for a GRM to be developed, the Consultant will develop a mechanism that will enable persons and/or businesses/livelihoods affected by the project activities to effectively channel their grievances/complaints to the Project for redress. This GRM must therefore be aligned to or fed into the project-wide GRM.

Identification and Assessment of Potential Impacts

The Consultant will identify and assess potential environmental and social impacts of the following:

- Preparation/development of the sites;
- Construction
- Operations, and
- Decommissioning.

Impact identification should take into consideration factors such as the ecological sensitivity of the sites and environs, current land uses of the sites and adjoining lands as well as the expectations or concerns of stakeholders.

Again, the Consultant will identify any risk of involuntary resettlement and loss of property and livelihoods resulting from using project activities and scope the need for a Resettlement Action Plan (RAP).

Mitigation and Management Measures

The Consultant will propose measures aimed at avoiding, minimizing or mitigating the adverse impacts of project activities at the site. Measures must also be proposed to enhance any positive impacts. These measures must be technically feasible, environmentally sound and socially acceptable (i.e., they must take into account the views of the main stakeholders). The mitigation and enhancement measures will be specifically tailored to the impacts in order to achieve the aim of avoiding or limiting the negative effects of the project activities.

In the event that impact(s) on culture and archaeology is identified to be significant, the Consultant will prepare “Chance find” procedures for use in the event that unanticipated archaeological, historical and sacred sites or materials are encountered during development of the site.

Preparation of Environmental Management Plan (ESMP)

The Consultant will prepare an Environmental and Social Management Plan (ESMP) as a tool for the effective implementation and monitoring of the impact mitigation and enhancement measures the site.

The ESMP will detail the mitigation measures, responsibilities, resources and timing of implementation of the measures. The EMP will also include appropriate indicators, parameters, frequency of monitoring, responsibility for monitoring, and the system for reporting results.

Decommissioning and Closure Plan

The Consultant will prepare a Decommissioning and Closure Plan to serve as a guide for the formal closure and rehabilitation of the site at the end of the Project. The plan will describe a range of actions necessary to restore each site as close as possible to the original conditions and to the benefit of the local community and other land users.

DELIVERABLES

The Consultant will undertake site-specific environmental and social assessment of the site.

a) Draft ESMP

The Consultant will prepare and submit three (3) hard copies and an electronic copy (in MS Word and pdf) of each of the draft ESMP to MESTI/PIU within twelve (12) weeks after contract date. The draft ESMP Report shall be submitted to the EPA and World Bank for review and feedback.

b) Final ESMP

The final ESMP shall incorporate responses to comments and feedback collated from the review of the draft ESMPs. The Consultant will submit three (3) hard copies and an electronic copy (in MS Word and pdf) of the final ESMPs to MESTI/PIU within two (2) weeks after receipt of the compilation of review comments on the draft ESMP from the PIU.

REQUIRED EXPERTISE

The Consulting firm/Consultant must be a legally registered consulting firm. Other characteristics of the firm include:

- Must have been in the business of undertaking environmental and social impact assessment over a period of not less than 10 years;
- Should be registered with or recognized by a relevant environmental institution and/or a certification institution as an environmental consulting firm, and
- Must have past experience in undertaking ESIA on solid waste management projects.

The firm will field a team comprising the following specialists:

i. Lead Consultant

The Lead Consultant must possess a degree in Environmental Science/Engineering, Civil Engineering, Development Planning, Geography or in a related discipline. A post-graduate qualification in a relevant discipline will be an advantage. In addition, the Lead Consultant must:

- Be recognized by an environmental regulatory/certification institution in the firm’s country of operation as an ESIA Consultant;

- Demonstrate proven and documented working experience with Ghana's environmental assessment regulations and procedures and the World Bank's Environmental and Social Safeguard policies;
- Have a minimum of fifteen (15) years of relevant experience in undertaking ESIA;
- Have led the ESIA of at least 5 projects;
- Be a member of a professional body or association of impact assessment practitioners;
- Experience in working in Ghana or any other developing country, and
- Proficiency in English (oral and written). Knowledge of a local language in the subproject area will be desirable.

ii. Environmental Specialist

The Environmental Specialist must have a degree in Environmental Science, Ecology, Geography or a related field. The Specialist must also:

- Have at least seven (7) years of relevant experience in environmental assessment, including the collection and analysis of environmental data and the management of environmental impacts;
- Have working knowledge of Ghana's environmental assessment regulations and procedures and the World Bank's Environmental and Social Standards;
- Have been involved in environmental assessment of, at least, 10 projects, 2 of which must be on solid waste management;
- Proficiency in English (oral and written), and
- Knowledge of a local language in the subproject area will be an added advantage.

iii. Social Development Specialist/Community Engagement Specialist

The Social Development Specialist/Community Engagement Specialist must have a degree in Sociology, Social Science, Development Planning or a related discipline. The Social Development/ Community Engagement Specialist must also:

- Have, at least, seven (7) years of relevant experience in the field of social impact assessment or social development;
- Have working knowledge of Ghana's environmental assessment regulations and procedures and the World Bank's Environmental and Social Standards;
- Have been involved in the environmental assessment of, at least, 10 projects, 2 of which must be on solid waste management;
- Proficiency in English (oral and written), and
- Knowledge of a local language in the subproject area will be an added advantage.

iv. Drainage / Hydrology / Geotechnical Specialist

The Drainage Specialist must have a degree in Drainage Engineering, Civil Engineering or a related field. A post-graduate qualification in a relevant discipline will be an advantage. The Specialist must also:

- Have working experience of, at least, 7 years in the design and management of drainage facilities;
- Have working knowledge of Ghana's environmental assessment regulations and procedures and the World Bank's Environmental and Social Safeguard Policies;
- Have received training in environmental and social safeguards;
- Have been involved in the ESIA of, at least, 2 drainage or sanitation-related projects;
- Proficiency in English (oral and written), and
- Knowledge of a local language in the subproject area will be an added advantage.

REPORTING RELATIONSHIP

The Consultant shall submit the required number of the draft and final Reports under official cover letter to MESTI/PIU in a timely manner. MESTI/PIU will facilitate submission of the reports to the EPA and World Bank and other relevant institutions for review.

CLIENT'S INPUT

MESTI will provide the Consultant with the following:

- i. Any available documents on the sites, including site plan, layout, conceptual designs, etc.;
- ii. WACA Project, Environmental and Social Management Framework;
- i. Facilitation of access to the site and to the landowners, where necessary, and
- ii. Technical support by WACA Project's Environmental and Social Safeguards Specialists, if necessary.

Annex 10: Sample Terms of Reference for Consultancy Services for Environmental and Social Impact Assessment (ESIA)

West Africa Coastal Areas Resilience Investment Project II (P175525)

Terms of Reference

Consultancy Services for the Environmental and Social Impact Assessment (ESIA) For the Proposed Physical Works at the Korle Lagoon Area

INTRODUCTION

The Government of Ghana through the Ministry of Environment, Science, Technology and Innovation (MESTI) is seeking financial support from the World Bank to develop and implement the West Africa Coastal Areas Resilience Investment Project II.

The Program Development Objective (PDO) of the WACA ResIP II Project is to strengthen the resilience of targeted communities and areas in coastal Western Africa. The project will restore coastal ecosystems, especially mangroves, to reduce the risk of erosion and flooding, including restoration of abandoned rice paddies and the water system. It builds on an ongoing project called the WACA Resilience Investment Project. The Project has four components which are as follows:

Component 1: Strengthening Regional Integration. The objective of the regional integration component is to strengthen the effective coordination of interventions for coastal resilience in West Africa at the regional and national levels. This is achieved through the consolidation of the regional institutional set-up and harmonization of policy to seek economies of scale and the development of new strategic partnerships needed for the scale-up of response to the coastal resilience development challenge.

Component 2: Strengthening the Policy or Institutional Frameworks. The project will support the strengthening of institutional and policy frameworks around coastal development, protection, and natural resource management (exclusive of fisheries). Focus areas will include strengthening of existing national coordination mechanisms and development of mechanisms for sub-national coordination, including civil society coordination.

Policy actions under this component will support improved land use and marine spatial planning for resilient coastal development. This includes measures for institutional support that will improve collection and analysis of data critical for risk-informed decision making. This includes, but is not limited to, data related to beach profile and crest elevation, spatial data, and improved local demographic and economic data, especially as related to sources of livelihood and gender disaggregation.

Component 3: Strengthening National Physical and Social Investments. The project will support a wide typology of site-specific grey, green, and hybrid physical investments, and social sub-projects at the community level to achieve measurable increases in protection from coastal erosion and flooding, pollution control, and promote climate-resilient coastal development. Physical investments supported by the project are based on coastal management strategies and climate-resilient development plans, including Multi Sector Investment Plans (MSIPs), undertaken and ongoing in each country that identifies priority investments and

actions for strengthening coastal resilience and mitigating the impacts of climate change through sustainable, integrated coastal zone management.

The project will be financing (a) green infrastructure such as dune fixation to protect beaches from erosion using vegetation and shrubs to trap sand, wetland and mangrove restoration and beach replenishment; (b) grey infrastructure such as the construction of breakwaters, seawalls, revetments, groynes, and dikes; (c) land claim and reclamation; (d) rehabilitation of flood banks; (e) rehabilitation and management of natural flood areas, including dredging to maintain natural flow in lagoons; (f) infrastructure, e.g. culverts, for improved drainage; and (g) sustainable land management practices in transboundary sub-watersheds and areas of high ecosystem value that drain into the coastal areas, and (h) measures to improve the management of natural habitats, including reduction of invasive species encroachment.

Specifically, physical interventions under this component 3 will support adaptation measures for protection, retreat, or accommodation, or a combination thereof at three locations: Korle Lagoon, Densu Delta, and Keta Lagoon. Nature-based physical protection measures will include protection and restoration of mangroves and other submerged native aquatic vegetation to reduce flooding hazards, and beach nourishment and dune rehabilitation to address coastal erosion. Grey solutions may include the construction of groins, dykes, seawalls, revetments, or other infrastructure. The type of intervention to be utilized will be decided through participatory, multi-stakeholder engagement, that provides the greatest benefit to coastal communities while also provided significant co-benefits, including sustainable job creation, diversified livelihood opportunities.

The project will also support targeted social subprojects for coastal communities. These community-driven activities will be implemented to spur job growth and provide opportunities for livelihood diversification, increase the adoption and effectiveness of community-led resource management schemes, and strengthen the role of women in the management of coastal resources. The overall objective is to enhance community health, safety, and livelihoods through community development solutions, including alternative livelihoods aligned with natural resource management (NRM) and small works or preparedness activities for climate and disaster risk reduction and diversification of livelihoods.

Component 4: Project Management. A Project Implementation Unit (PIU) will be established with the Ministry of Environment, Science, Technology, and Innovation (MESTI) and will be guided by a multi-stakeholder project steering committee.

Physical Investments at Korle Lagoon

The Greater Accra Resilient and Integrated Development Project (GARID) (P164330) is addressing the accumulation of solid waste in the lagoon, WACA ResIP 2 aims to address the accumulation of marine sediment at the outlet of the lagoon, thereby minimizing the obstruction to water flow within the lagoon and past the Old Winneba Rd. bridge. The project will do so by rehabilitating and extending the existing breakwater located at the outlet of the lagoon. Additionally, WACA ResIP 2 will dredge the existing sediment at the outlet and remove the foundations of the old bridge that are blocking the outflow of water and serving as an accumulation point for sediment. Following the completion of these works and improved management of solid waste within the lagoon, WACA ResIP II will support the restoration of the lagoon – approximately 42 hectares – to improve its ecological status and hydrological function. Restoration measures will include revegetation of native flora within the lagoon, creation of a green buffer zone around the lagoon to serve a

community asset and increase the areas absorptive capacity during rainfall events, and stabilization of the lagoon's eroding slopes through revegetation and riprap retaining structures.

ENVIRONMENTAL AND SOCIAL RISKS AND REQUIREMENTS

The Environmental and Social Risk Classification (ESRC) for the West Africa Coastal Areas Resilience Investment Project (WACA ResIP) II project is “high” and the project design and implementation will be guided by the WB's Environmental and Social Framework (ESF). The project is also required to comply with relevant legal requirements in Ghana. Eight (8) of the Environmental and Social Standards (ESSs) of the WB's ESF/ESS are relevant to the project, namely: ESS1 - Assessment and Management of Environmental and Social Risks and Impacts, ESS2 - Labour and Working Conditions, ESS3 - Resource Efficiency and Pollution Prevention and Management, ESS4 - Community Health and Safety, ESS5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement, ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources, ESS8 - Cultural Heritage, and ESS10 - Stakeholder Engagement and Information Disclosure.

In conformance with the World Bank's ESF, an Environmental and Social Management Framework (ESMF) for the WACA ResIP II Project has been prepared and will be disclosed prior to project appraisal. The ESMF establishes clear processes and procedures for environmental and social risk assessment, such as screening of subproject activities as the first step to determine the level of assessment required for subproject. The ESMF is connected to other environmental and social instruments that has been prepared, such as the: Resettlement Policy Framework, Stakeholder Engagement Plan, Labour Management Procedure and Gender Assessment.

RATIONALE AND OBJECTIVE OF THE ASSIGNMENT

The proposed project activity could have significant impacts on the bio-physical and socio-economic environment of the site; therefore, in compliance with the Environmental Assessment Regulations 1999 (LI 1652) and the World Bank's ESF (ESS1) it is mandatory to carry out an Environmental and Social Impact Assessment (ESIA) for the proposed interventions at the Korle Lagoon.

The main objective of this assignment is to undertake an Environmental and Social Impact Assessment (ESIA) for the proposed activities at the Korle Lagoon. The ESIA is designed to assess major project impacts, consider alternative project designs, and to present measures for mitigating and monitoring anticipated project impacts. It will also provide the basis for guiding subsequent actions, which will ensure that the activity is carried out in a sustainable manner.

Specific objectives of the assignment are to:

- a. Identify and assess potential environmental and social risks and impacts that are likely to emanate from the development of the site; and
- b. Recommend feasible and cost-effective measures, procedures and processes to prevent, mitigate, manage and monitor potential adverse environmental and social impacts identified under (a) above, to incorporate environmental, social and sustainability issues in the planning, design, construction and implementation of the various facilities

The analysis, recommendations, and reporting of the environmental and social impacts of the activities should be consistent with the relevant laws, regulations and guidelines of Ghana, the World Bank's ESF and the World Bank Group Environmental, Health, and Safety Guidelines.

SCOPE OF THE ASSIGNMENT

The Environmental and Social Impact Assessment assignment shall be carried out in two phases by a qualified Consultant – Phase 1: Scoping Study and Phase 2: Environmental and Social Impact Assessment.

Prior to the ESIA, the Consultant will work with the MESTI Project Implementing Unit (PIU) to facilitate the registration of the proposed subproject by filling and submitting an Environmental Assessment Registration Form to EPA. This will pave the way and begin formal engagement with the EPA on the environmental permitting process.

Phase 1: Scoping Study

The Consultant will undertake a scoping study of the proposed activities to define the scope of the ESIA. The scoping study will identify and categorize the most important environmental and social issues, problems and alternatives that need to be addressed in the ESIA, considering the complexity of the context in which the activities will be undertaken. In identifying significant issues, the Consultant will take cognisance of the environment of the proposed site. The Scoping will also identify possible modifications to the proposed activities and decide on further studies/analyses that may be required.

The Consultant will develop a Stakeholder Engagement Plan to guide a comprehensive consultation and engagement with stakeholders, particularly communities and residents, in the area of influence of the subproject during the scoping study and the second phase (ESIA) of the assignment. In addition to identifying the stakeholders, attention will be paid to the domains of influence of the proposed action by considering the following:

- Who will be adversely affected by potential environmental and social impacts in the subproject's area of influence?
- Who are the most vulnerable among the potentially impacted stakeholders?
- At which stage of project development will stakeholders be most affected (e.g., procurement, construction, operations, decommissioning)?
- What are the various interests of the project stakeholders and what influences might this have on the project?
- Which stakeholders can best assist with the early scoping of issues and impacts?
- Who strongly supports or opposes the changes that the project will bring and why?

The Consultant will prepare a record of stakeholder interests, concerns, comments and suggestions in the form of an Issues and Response Report, which will be incorporated in the Scoping Report and serve as a guide for continuous consultation during the ESIA. Attention will be paid to the cultural importance of the Lagoon during stakeholder consultations and in recommending risk mitigation measures. The Consultant

shall comply with all national, World Bank and World Health Organization (WHO) COVID-19 prevention and management protocols throughout the ESIA process.

In addition to the above, the Consultant shall pay close attention to the identification of health and safety issues related to the proposed activity. Again, the Consultant will identify potential risk of land acquisition, involuntary resettlement, loss of property and amenities and livelihoods resulting from the implementation of the activities and scope the need for a Resettlement Action Plan (RAP).

The Consultant will identify the most relevant and significant environmental and social issues of concern with the aim to focus on them in the ESIA. The Consultant will provide indication of the most appropriate impact identification and evaluation methodologies to be used in preparing the ESIA.

Based on the outcomes of the Scoping Study, the Consultant will modify the detailed Terms of Reference (TOR) for the main ESIA to be undertaken in line with Ghana's Environmental Assessment Regulations, 1999 (LI 1652) and to satisfy the World Bank Safeguard Policy on Environmental Assessment. The modified/revised TOR shall be incorporated in the Scoping Report. The outline for the Scoping Report and the TOR for the ESIA, as provided by EPA. The scoping report will be submitted to the EPA, World Bank, and MESTI for review and for clearance of the TOR for the ESIA.

To properly inform the work completed in Phases 1 and 2, the consultant will need to liaise closely with the PIU of the Greater Accra Resilient and Integrated Development (GARID) project, housed at the Ministry of Works and Housing. Measures to be implemented by the WACA project will directly complement those being implemented by the GARID project, which is similarly focused on flood and pollution control in Korle Lagoon and nearby communities. Additionally, detailed technical studies, including those related to the expansion of the breakwater and removal of the old bridge foundation, are being conducted by the GARID PIU. These studies, along with relevant environmental and social documents, will require review as part of this assignment.

Phase 2: Detailed ESIA

The scope of the ESIA study and the revised Terms of Reference shall be agreed with the EPA, World Bank, MESTI, based on the results of the Scoping Study. The specific tasks to be undertaken during the ESIA shall include, but not limited to, the following:

Task 1: Detailed Description of the Proposed Subproject

The Consultant will liaise with MESTI/PIU for information/data to prepare a detailed description of the proposed activities. The project description would cover, but not limited to:

- The location, size, and access to the site;
- Ownership of the site (with supporting documents, where available);
- Current status and previous uses of the site over the past 10 years;
- Adjoining land uses at the site such as residential, commercial, recreational, garbage disposal, etc. and other uses, including surrounding communities and demographic characteristics, and existing infrastructure;
- Designs of the site including layout, haul and access roads, drainage facilities, receiving facilities, groundwater and leachate management facilities and monitoring systems as well as buffer zones;

- Construction and operation schedules, including scheduling of site preparation and road improvement works, and
- Site Operations and Decommissioning Plan.

The description should be illustrated with maps, plans, diagrams and photographs as necessary.

Task 2: Specialized Studies

For purposes of establishing the baseline and predicting potential impacts, the Consultant will consider undertaking the following field investigations, among others:

- **Flora and Fauna (biological) Assessment:** Carry out an ecological (flora and fauna) survey of the site and the surrounding area to establish the baseline for natural habitat in the area.
- **Hydrogeological Assessment:** Conduct a hydrogeological assessment to determine the potential impact of proposed activity on groundwater quality and flow.
- **Air Quality Assessment:** Assess the occupational and public health and safety implications of air quality deterioration (odour, dust releases, PM10,) arising from the project activity at the site, in accordance with both the Ghana Standard for Environment and Health Protection – Requirements for Ambient Air Quality and Point Source/Stack Emissions (GS 1236:2019) and IFC General EHS Guidelines, 2007.
- **Noise Impact Assessment:** Conduct noise impact assessment to estimate potential impact on the existing ambient noise condition at the proposed site and its environs in accordance with both the Ghana Standard for the Health Protection – Requirements for Ambient Noise Control (GS 1222:2018) and Acoustic Guide for measurement of outdoor A-weighted Sound Levels (GS 1253:2018) and IFC General EHS Guidelines, 2007.
- **Hydrological Assessment:** Conduct hydrological assessments to determine the potential impacts of the project activity on surface water bodies in and in the vicinity of the site; determine the potential impacts of the proposed activity on storm water flow and assess the quality of surface water bodies in accordance with the Ghana Standard for the Environment Protection Requirements for Effluent discharge (GS 1212:2019).
- **Traffic Impact Assessment:** To assess the impacts of the activities associated with the site on the transport network and identify reasonable solutions to address these impacts.
- **Occupational Health and Safety Assessment:** To identify hazards and risks and recommend mitigation measures to prevent such risks.
- **Water and sediment quality assessment:** This should typically be assessed through laboratory testing, including heavy metals. The suite of laboratory tests carried out should reflect the likely contaminants that may be found in the surface water and sediments.

Task 3: Review of Legal and Institutional Framework

The Consultant will review relevant policies, legislation, regulations, and institutional frameworks which are applicable to (or have implications for) the proposed project activity. The Consultant will discuss the legislation and regulations that have informed the ESIA, including the environmental assessment and permitting process. It is important that the Consultant discusses the applicability of existing standards/guidelines relating to ambient air quality, surface and groundwater quality, ambient noise, and solid waste disposal (including the disposal of contaminated materials). The Consultant will also review the World Bank's Environmental and Social Framework and Standards which apply to the activities. The

Consultant will formulate recommendations on how to close gaps that might exist between Ghana's environmental policies, laws, regulatory and institutional frameworks and the World Bank's Environmental and Social Framework and Standards.

Task 4: Baseline Biophysical and Human Environments

The Consultant will collect as much primary physical and biological environmental and socio-economic baseline data/information as relevant to the ESIA, supplementing the information with available secondary data as necessary. It is important that the Area of Influence (AoI) of the proposed activities is well defined. The environmental baseline study would include a description of the current state of the environment in the AoI, focusing on those aspects that can influence and be impacted by the proposed activity, including:

- Geology and Soils,
- Topography,
- Biodiversity (flora and fauna),
- Underground and surface water resources,
- Drainage networks,
- Ambient air quality and noise.

The baseline socioeconomic characteristics will include:

- Communities and Demographic characteristics (including where available, population size disaggregated by gender);
- Land uses;
- Economic activities;
- Infrastructure and utilities;
- Access roads and traffic patterns, and
- Gender and Vulnerability Issues.

The list above is indicative of baseline features, and the Consultant is expected to capture additional information that will help in the identification, assessment and mitigation of the impacts.

Task 5: Analysis of Alternatives

The Consultant will propose alternatives in the course of exploring additional options for the proposed activity. The alternatives should include:

- Alternative 1- “No-Action” Alternative - the alternative of not carrying out the proposed activities, in order to demonstrate environmental and social conditions without the development of the site.
- Alternative 2 - The project as proposed
- Alternative 3 - Alternative sites (if necessary);
- Alternative 4 - Different configuration of the proposed infrastructure
- Alternative 5 - Technologies or materials to be employed, and
- Alternative 6 - Options for decommissioning and closure of the site at the end of the subproject.

The alternatives should be compared in terms of potential environmental and social impacts. To the extent possible, quantify the costs and benefits of each alternative, incorporating the estimated costs of any associated mitigation measures. Identify the preferred alternative and provide a justification for the selection.

Task 6: Stakeholder Consultation and Engagement

The Consultant will build on the consultation and engagement activities and outcomes from the scoping phase of the assignment with the aim of engaging comprehensively with stakeholders. The Stakeholder Engagement Plan prepared at the scoping phase will be implemented. It is expected that the engagement activities to be undertaken during this work will be carefully planned and agreed with the MESTI/PIU as well as World Bank, in advance of going to site. Materials to be used during stakeholder engagement (including a 'key messages' document) will need to be agreed to in advance with the MESTI/PIU and the World Bank.

The Consultant would identify all key stakeholders and pay special attention to engaging with and soliciting the concerns and views of the residents, landowners, traditional authority, Municipal Assembly, as well as potential project-affected-persons, including women, youth, persons with disabilities, elderly, and other vulnerable groups, within the area of influence. The Consultant will document all engagement activities with these stakeholders and where necessary, secure written evidence of consent from them with regard to the planned activities. The consultant shall comply with all national, World Bank and WHO COVID-19 prevention and management protocols throughout the ESIA process.

Based on the outcomes of the consultations, the Consultant will advise on measures to enhance the larger WACA Project Grievance Mechanism so that the subproject would have an effective procedure in place to receive and address concerns/complaints from aggrieved residents, individuals and organizations promptly during the period of the proposed activities. This will include measures to ensure the adequacy of referral mechanisms in the event Gender Based Violence at the community level is reported related to project implementation

Task 7: Identification and Assessment of Potential Risks and Impacts

The Consultant will identify and assess potential environmental and social impacts of the proposed activity at the proposed site. Impacts emanating from the Construction/Development, Operational and Decommissioning phases of the site shall be predicted. Significant potential environmental and social impacts (direct and indirect) must be identified, making use of impact identification methodologies proposed in the scoping report. Impact identification should take into consideration factors such as expectations or concerns of stakeholders, ecological sensitivity of the site, likely pressures from the activities, and the applicable legislative framework.

The Consultant shall give due consideration to the identification of impacts relating to, among others:

- Ambient air quality;
- Ambient noise conditions;
- Flora and Fauna (Ecology);
- Surface water resources (quality and flow characteristics);
- Ground water resources (quality and flow);
- Storm water drainage;
- Traffic and human movement;
- Land use and economic activities;
- Infrastructure and utilities (electricity, water, telecommunications facilities, etc.);
- Community health and safety;
- Occupational health and safety,
- Employment and labour (including child labour);

- Commercial/residential/public property or assets;
- Social conflict;
- Income and livelihoods;
- Poor and vulnerable Groups (including women, persons with disabilities, youth, artisanal fishermen, children and analysis of how the proposed activities will impact them);
- Gender inequality; and
- Sexual Exploitation and Abuse (SEA)/Sexual Harassment (SH)

Task 8: Mitigation and Management Measures

The Consultant shall propose measures aimed at avoiding, minimizing or mitigating the adverse impacts at the site. Measures must also be proposed to enhance any positive impacts. These measures must be technically feasible, socially acceptable (i.e., they must consider the views of the main stakeholders, especially residents of nearby communities and potential project-affected-persons) and be cost-effective. The mitigation and enhancement measures should be specifically tailored to the impacts in order to achieve the aim of avoiding or limiting the negative effects of the proposed activities. Also, the Consultant shall prepare “Chance Find” procedures to be included in the ESIA for use in the event that unanticipated archaeological, historical and sacred sites or materials are encountered during site improvement/construction works at the site.

Task 9: Preparation of Environmental and Social Management Plan (ESMP)

The Consultant will prepare an Environmental and Social Management Plan (ESMP). The ESMP will identify the mitigation measures and the actions needed to implement the mitigation and enhancement measures proposed by the ESIA. The ESMP should identify: (i) set of proposed measures to mitigate potentially adverse impacts; (ii) responsibility and timeframe for implementation of each proposed mitigation measure; (iii) cost of implementing the mitigation measures, and (iv) a monitoring program to verify compliance with the recommended mitigation and assess the effectiveness of the measures implemented. This includes identifying site-specific SEA/SH response and mitigation measures based on the risks and impacts identified in Task 7 and in line with guidance on the World Bank’s Good Practice Note for Addressing SEA/SH in Investment Project Financing involving Major Civil Works. The ESMP would also contain measures needed to respond to emergency situations that may occur in the course of executing the proposed activities.

Task 10: Biodiversity Management Plan

The Consultant will prepare a Biodiversity Management Plan (BMP) to provide a clear and concise outline of the actions and methods required to mitigate likely impacts on biodiversity including mitigation of potential impacts on rare, threatened species.

Task 11: Decommissioning and Closure Plan

The Consultant will prepare a Decommissioning and Closure Plan to serve as a guide for the formal closure, rehabilitation and long-term monitoring of the site at the end of the subproject. The plan will describe a range of actions necessary to restore the site to the beneficial use of other land users. The Consultant will seek and take into consideration the views of the landowners, traditional authority, residents, and the Municipal Assembly in the development of the plan.

Task 12: Preparation of Environment and Social Impact Assessment Report

The Consultant will prepare the ESIA report for the subproject. The ESIA report will be a compilation of the outcomes of activities undertaken during the ESIA to develop a detailed description of the site and the proposed activities; characterize the baseline physical, biological and social environments; analyse subproject alternatives; consult with stakeholders; identify and assess potential impacts; recommend mitigation, enhancement and monitoring measures and develop environmental and social management measures.

DELIVERABLES

The following reports shall be prepared and presented by the Consultant to MESTI/PIU:

i. Inception Report

The Inception Report will essentially be a report on, among others:

- Activities undertaken since the signing of contract;
- Meetings held and the outcomes;
- Data/information collected during the inception phase and any identified gaps;
- Preliminary findings at the disposal site and the environs;
- Project documents reviewed and any additional data/literature required for the study, and
- A detailed work plan for the assignment.

The Consultant will submit three (3) hard copies and an electronic copy (in MS Word and pdf) of the Inception Report to MWH within two (2) weeks from the Commencement Date of the contract. The Inception Report will be reviewed by the World Bank's Safeguard Specialists, MESTI/PIU within one (1) week of submission.

ii. Scoping Report

The Consultant will prepare and submit three (3) hard copies and an electronic copy of the Scoping Report (in MS Word and pdf) to MESTI/PIU within six (6) weeks from the Commencement Date of the contract, (i.e., 4 weeks after submission of the Inception Report) for review and clearance by the World Bank's Safeguard Specialists, MESTI/PIU. Once cleared, the Consultant shall submit the Scoping Report to EPA for approval as required by the Ghana EA procedure.

iii. Draft Environmental and Social Impact Assessment Report

The Consultant will prepare and submit three (3) hard copies and an electronic copy (in MS Word and pdf) of the draft ESIA report to MESTI/PIU within six (6) weeks after the World Bank, MESTI/PIU provide the Consultant with a compilation of review comments on the Scoping Report and indicate agreement with the Terms of Reference.

iv. Final Environmental and Social Impact Assessment Report

The main deliverable of this assignment will be a final ESIA Report on the proposed activities. The Consultant will submit three (3) hard copies and an electronic copy (in MS Word and pdf) of the final ESIA report to MESTI/PIU within two (2) weeks after receipt of the compilation of review comments on the draft ESIA report from the PIU.

The deliverables and time schedules are presented in the table below:

Reports	Time schedule	No. of copies of Report
Inception Report	To be submitted within 2 weeks from Commencement Date of contract	Three (3) hard copies and a soft copy
Scoping Report	To be submitted within 4 weeks after submission of the Inception Report	Three (3) hard copies and a soft copy
Draft ESIA Report	To be submitted within 6 weeks from date of acceptance of the Scoping Report/Terms of Reference for the ESIA	Three (3) hard copies and a soft copy
Final ESIA Report	To be submitted within 2 weeks after consultant is provided with review comments on draft ESIA report	Three (3) hard copies and a soft copy

REQUIRED EXPERTISE OF CONSULTING FIRM

The Consulting firm/Consultant must be a legally registered consulting firm. Other characteristics of the firm include:

- Must have been in the business of undertaking environmental and social impact assessment over a period of not less than 10 years;
- Should be registered with or recognized by a relevant environmental institution and/or a certification institution as an environmental consulting firm;
- Must have past experience in undertaking ESIA on solid waste management projects in a minimum of five (5) projects, and
- The firm must have technical and managerial capabilities.
Technical Competence of the firm should include technical qualifications of the firm in undertaking similar assignment. Project references submitted should accurately reflect the experience of the specified firm.
- Management Competence of the firm should include the corporate structure.
- A firm and its associates should not be currently sanctioned by the World Bank. Neither the consulting firm nor the associates should be convicted of an integrity-related offence or crime related to theft, corruption, fraud, collusion or coercion.
- Any misrepresentations that knowingly or recklessly mislead or attempt to mislead may lead to automatic rejection of the proposal.

The firm will field a team of specialists, as indicated below and other specialists (e.g., hydrogeologist, ecologist, air quality and noise specialists, geologist, etc.) as may be necessary to undertake the ESIA, under the leadership and supervision of a Lead Consultant. The CVs of the specialists should be included in the proposal.

v. *Lead Consultant/Environmental and Social Assessment Expert*

- A postgraduate university degree in Environmental Science/Management/Engineering, Natural Resource Management, Development Studies, Social Science, or any other relevant discipline;

- Minimum 15 years of post-qualification professional experience and track record in the successful implementation of similar assignments;
- Knowledge and experience with World Bank Environmental and Social Framework and safeguard policies.
- Proven experience as the team leader or supervisor of at least three (3) successful assignments developing Environmental and Social Management Instruments for developmental projects funded by the World Bank or other multilateral organization standards,
- Competence in managing teams and relationships with clients;
- Ability to deal with sensitive and confidential information in a professional manner.
- Personal attributes include high standards of conduct, respect, flexibility, and sound work ethic.
- Demonstrated skills in facilitation methods for participatory decisions and shared visions with stakeholders.
- Familiarity with the subregion with experience working in Ghana
- Knowledge of environmental and social legislations and policies in Ghana
- Excellent communication and leadership skills
- Excellent inter-personal skills and demonstrated ability to engage with a wide range of stakeholders including government agencies, non-government organizations, civil society, and communities in Ghana
- Responsive and takes personal ownership and accountability to meet deadlines.
- Should possess competencies such as critical thinking, creative thinking, communication, teamwork, team leadership, client orientation, problem-solving and decision-making, negotiation and conflict resolution.
- Strong analytical and presentation skills
- Proficiency in computer application and programs, including Microsoft Office
- Fluency in English (both spoken and written).

vi. *Social Development Expert*

- A post-graduate degree in Sociology, Social Science, Development Planning, Anthropology, Human Geography or a related discipline.
- A minimum of 10 years of post-qualification professional experience in Social Assessments
- Knowledge and experience with World Bank Environmental and Social Framework and safeguard policies.
- Experience in conducting/dealing with social assessments, involuntary resettlement, gender inequality, GBV, inclusion of vulnerable groups, labour management, community and stakeholder consultations, and grievance redress.
- Familiarity with the subregion with experience working in Ghana
- Knowledge of social legislations and policies in Ghana
- Excellent inter-personal skills and demonstrated ability to engage with a wide range of stakeholders including government agencies, non-government organizations, civil society, and communities in Ghana
- Strong analytical and presentation skills
- Proficiency in computer application and programs, including Microsoft Office

vii. *Hydrology and Geotechnical Expert*

- A post-graduate degree in Drainage Engineering, Civil Engineering, or a related field.

- Have working experience of, at least, 10 years in the design and management of infrastructure facilities;
- Have working knowledge of Ghana's environmental assessment regulations and procedures and the World Bank's Environmental and Social Safeguard Policies;
- Have received training in environmental and social safeguards;
- Have been involved in the ESIA of, at least, 3 drainage or sanitation-related projects;
- Proficiency in English (oral and written). Knowledge of a local language in the subproject area will be required.

viii. Biodiversity Expert:

- A post-graduate degree in natural sciences, biodiversity conservation, natural resources management or related field
- Expert knowledge of the principles, concepts, and methodology involved in the design, development, implementation, management, and evaluation of biodiversity conservation and related challenges in projects
- Awareness and understanding of the relevant biodiversity, climate change, and other related conventions
- Familiarity with the subregion with experience working in Ghana's coastal zone, preferably in the project area
- Ability to communicate in writing and orally about biodiversity, forestry, environmental, and natural resources issues to specialists as well as non-specialists

REPORTING RELATIONSHIP

The Consultant shall submit the Inception Report, Scoping Report, draft ESIA report and final ESIA report under official cover letters to Project Implementation Unit of MESTI in a timely manner. MESTI will facilitate the submission of the reports to the World Bank and other relevant institutions for review.

CLIENT'S INPUT

MESTI will provide the Consultant with the following:

- iii. Any available documents on the sites, including site plan, layout, conceptual designs, etc.;
- iv. WACA Project, Environmental and Social Management Framework;
- iii. Facilitation of access to the site and to the landowners, where necessary, and
- iv. Technical support by WACA Project's Environmental and Social Safeguards Specialists, if necessary.

DISCLOSURE

MESTI/PIU will facilitate the disclosure of the Inception Report, Scoping Report and the ESIA report by making copies available to the World Bank and the Municipal Assembly. The World Bank will facilitate the disclosure of the final ESIA report on the Bank's website.

ANNEX 1: OUTLINE FOR ESIA

1.0 Introduction

- Background to the proposal
- Purpose and Objectives of the scoping and the EIA
- Highlight issues identified in the scoping
 - Significant baseline information
 - Assess alternative
 - Identify impacts
 - Propose mitigation
 - Others

2.0 Overview and Approach to the Preparation of the ESIA

- Literature review
- Conduct of expert studies
- Public participation and engagement

3.0 Policy, Legal and Regulatory Requirements

- Relevant Policies (including Climate Change and Gender related policies)
- Legislative and Regulatory Framework that necessitates the ESIA
- International Laws and Conventions requirements (where applicable include: the SDGs, AU Agenda 2063, and the Paris Agreement etc.)
- Detail out how the policies and regulations listed above relate to the project

4.0 Study Area and Boundaries

- Discuss the Area of Influence (AoI) of the project in terms of impacts

5.0 Alternatives to be considered

All the alternatives should take into account Climate Change Mitigation and Adaptation issues and must be environmentally sustainable. Where alternatives are not considered explain why.

- No project alternative
- Technology alternative
- Location alternative
- Management alternative
- Others

6.0 Public Participation/Involvement Approaches¹²

- Steps, approaches/methods for engaging the public during the EIA
- Additional or further engagements required
- Any feedback/Disclosure
 - Notices
 - Reviews

¹² The Consultant shall comply with all national, WB and WHO COVID-19 prevention and management protocols throughout the ESIA process.

- Revisions
- Others

7.0 Specialized Studies Report

- Flora and Fauna Assessment
- Air quality studies
- Noise nuisance
- Traffic impact studies
- Geotechnical investigations
- Climate Change Vulnerability Assessment /Climate Trend Analysis
- Hydrological Studies
- Others

8.0 Impact Identification and Evaluation,

The identification and evaluation of impact exercise should consider Climate Change and Gender related issues and concerns

- Discuss how impacts will be identified, assessed or evaluated and their significance
 - Direct impacts
 - Indirect impacts
 - Cumulative impacts
 - Their nature, intensity, reversible/irreversible, spatial extent, duration, probability, magnitude, etc
- Dealing with uncertainties
- Proposed management and monitoring plan

NOTE: You can use impact assessment tables/Matrices

Mitigation

- Discuss how mitigation measures for all identified significant impacts will be presented in the EIS.
- The mitigation measures should address Climate Change and Gender related issues and concerns

Monitoring

- Provide an indication of how proposed mitigation measures would be monitored to track performance.
- Parameters that may affect Climate Change and Gender related issues must be critically monitored.

9.0 Information and Data to be Included in the EIA Report

- Other information, data and reports to be included in the EIS, mainly as attachments. Could be Public Participation (PP) report, air quality report, correspondences, etc.

Annex 11: Detail Description of National Environmental and Social Policies, Laws and Regulations

Environmental Protection Act, 1994 (ACT 490)

Description and Relevance

The Environmental Protection Act, 1994 (Act 490) led to the establishment of the Environment Protection Agency (EPA) as a body for the protection, conservation, and management of environmental resources for the Republic of Ghana. The Act mandates the EPA with the formulation of environmental policies, prescription of standards and guidelines, issuance of environmental permits and pollution abatement notices. Section 2(i) of Act 490 further mandates the EPA to enforce compliance with established Environmental Impact Assessment (EIA) procedures among companies and businesses in the planning and execution of development projects, including existing projects. This law is relevant to the WACA II project since the operations of the project intervention will comply with the EPA standards and must at all times subject itself to the Agency for any inspection. This Act is relevant to the Project due to the fact EPA is a key stakeholder in the proposed WACA project and the Act mandates the EPA to enforce compliance with established Environmental Impact Assessment (EIA) procedures.

Environmental Assessment Regulations, 1999 (LI 1652)

Description and Relevance

The Environmental Assessment Regulations, 1999 (LI 1652) provides the framework and gives comprehensive legal cover to the Ghana Environmental Impact Assessment procedures. These Regulations require that all developmental activities likely to impact adversely on the environment must be subject to environmental assessment. The objective of the LI is to ensure that such development activities are carried out in an environmentally sound and sustainable manner. It generally outlines the various procedures to be followed prior to the granting of environmental permits, during the Program life cycle and procedures for filing complaints, offences, and penalties. The regulations prohibit commencing an “undertaking” without prior registration and environmental permit.

National Environmental Policy (NEP), 2012

Description and Relevance

The Ghana National Environmental Policy (NEP) was launched in November 2012 with the vision to sustainably manage the environment to benefit Ghanaians. The objective of the policy is to promote healthy lifestyles and reduce risk factors that arise from environmental, economic, social, and behavioural causes; that is, to promote healthy lifestyles in a healthy environment. The policy notes that proper management of Ghana's resources requires the redirection of efforts into environmentally sustainable programmes and practices. Such programmes should protect and preserve the resource base for use by the present and future generations. Assessments of the potential environmental impacts of development projects and planning to mitigate or eliminate these impacts will decrease environmental costs to the economy and ensure cost-effective use of the country's resources. The aim of the NEP is to improve the surroundings, living conditions, and quality of life of the entire citizenry, both present and future. It seeks to promote sustainable development by ensuring a balance between economic development and natural resource conservation. The policy thus makes a high-quality environment a key element supporting the country's economic and social development. This policy is relevant since project implementation will include, among others, measures to control water pollution and policy measures to protect critical ecosystems, including flora and fauna, in the project catchment areas. The policy thus makes a high-quality environment a key element for supporting the country's economic and social development. The general objectives and activities of the project will be guided by the National Environment Policy. The project will promote sustainable development by including economic, social and environmental considerations in its implementation.

Environmental Sanitation Policy (Revised), 2010**Description and Relevance**

The Environmental Sanitation Policy was first published in 1999 and revised in 2010 with an updated scope to meet current development objectives and address the aspirations of sector actors. The revised policy seeks to refocus the priorities of the sector to make it forward looking and effectively embrace the challenges of changing lifestyles associated with modernisation and improving wealth status. The policy lays the basis for developing a systematic approach and framework for identifying and harnessing resources for value-for-money (economy, effectiveness, and efficiency) services to all. The policy supports building partnerships at both international and local levels and with the private sector within an expanded network of actors through effective public sector facilitation and coordination. Environmental sanitation is aimed at developing and maintaining a clean, safe and pleasant physical environment in all human settlements, to promote the social, economic and physical well-being of all sections of the population. It comprises a number of complementary activities, including the construction and maintenance of sanitary infrastructure, the provision of services, public education, community and individual action, regulation and legislation. This policy is relevant since project activities will generate wastes including solid wastes, liquid waste and other hazardous wastes and there is the need to manage their collection and disposal. Waste resulting from the proposed project should be properly disposed of, and special attention should be paid to those considered hazardous.

National Climate Change Policy, 2013**Description and Relevance**

The Ghana National Climate Change Policy provides strategic direction and coordination of issues of climate change in Ghana. The policy aims to make Ghana's economy climate-resilient and seeks to engender sustainable development through equitable low carbon economic development. The objectives of the policy are to achieve effective adaptation, social development, and mitigation of climate impacts. The policy provides thematic areas for adaptation which include energy and infrastructure, natural resource management, agriculture and food security and disaster preparedness and response. The policy indicates that social protection and social safety nets will be provided for the most vulnerable in society – the poor, women, children, and disabled – to build a cohesive society. This policy is relevant to the project since it gives direction for climate change mitigation and adaptation measures. The WACA ResIP II Project seeks to boost the transfer of knowledge, foster political dialogue among countries, and mobilize public and private finance to tackle coastal erosion, flooding, pollution and climate change adaptation. WACA sub-projects under component 3 would generate air pollution, thereby contributing to greenhouse gas emissions.

National Environmental Action Plan (NEAP), 1991**Description and Relevance**

The NEAP defined a set of policy actions, related investments, institutional mandates, and strengthening activities to make Ghana's development approaches environmentally sustainable. The adoption of the NEAP in 1991 led to several significant developments necessary to ensure sound resource management in the following areas: land management; forestry and wildlife; water management; marine and coastal ecosystems; industrial pollution; mining; hazardous chemicals control; and human settlements. The NEAP is the strategy through which key issues regarding the protection of the environment and better management of renewable resources are pursued. Some of the specific resultant developments from the NEAP was the establishment of the Ghana Environmental Protection Agency (EPA) – with an enhanced mandate compared to its predecessor the Environmental Protection Council (EPC) – to regulate, set standards and enforce them, among others; and, the establishment of the Water Resources Commission (WRC), and the subsequent

adoption of a policy framework for water abstraction for different uses, water law, and control of waste discharges into water bodies. This policy is relevant for the project since waste resulting from the proposed project should be properly disposed of, and special attention should be paid to those considered hazardous.

Ministry of Fisheries and Aquaculture Development - Medium Term Expenditure Framework (MTEF) 2019-2022

Description and Relevance

The Policy Objectives, as contained in the Medium-Term National Development Policy Framework, relevant to the mandate of the Ministry of Fisheries and Aquaculture Development (MoFAD) are: •

- ✓ Ensure sustainable development and management of aquatic fisheries resources
- ✓ Ensure sustainable development and management of aquaculture
- ✓ Conserve Marine Areas • Enhance capacity for policy formulation and coordination

This framework is relevant for the WACA ResIP II Project since the project interventions under component 3 will have implications for fisheries activities in the areas the activities will occur.

Forest and Wildlife Policy, 2012

Description and Relevance

The policy aims to conserve and sustain forest and wildlife resources to maintain environmental stability and continuous flow of benefits for the socio-cultural and economic goods and services derived by the present and future generations whilst fulfilling Ghana's commitments under international agreements and conventions. Two relevant objectives of the policy are to manage and enhance the ecological integrity of the forest, savannah, wetlands and other ecosystems for the preservation of vital soil and water resources, conservation of biological diversity, and carbon stocks and to promote the rehabilitation and restoration of degraded landscapes to enhance environmental quality and sustain the supply of raw materials. This policy is relevant for the WACA ResIP II Project since the project interventions under component 3 will occur in environmentally sensitive or protected areas such as Ramsar sites with potential risks on forest and wildlife.

National Water Policy, 2007

Description and Relevance

The National Water Policy provides a framework for the sustainable development of Ghana's water resources. The policy provides adequate response strategies that support vulnerable people to implement their own coping strategies. The overall goal of the policy is to "achieve sustainable development, management and use of Ghana's water resources to improve health, and livelihoods, reduce vulnerability while assuring good governance for present and future generations". The policy objectives are the minimization of the effects of climate variability and change and the institution of measures to mitigate the effects of and prevent damage caused by extreme hydrological occurrences (floods and drought). The Policy aims at achieving the following two broad objectives: (a) conservation of the water resource stock in all its occurrences to ensure availability and maintain acceptable quality for the betterment of the human and natural environment; and (b) regulation and control of demands of water use and waste disposal to stay the natural capacity of the water resources base, which must necessarily meet its regeneration and self-purification characteristics. This policy is relevant for the WACA ResIP II Project since the project interventions under component 3 may impact on water resources and can lead to water pollution.

Riparian Buffer Zone Policy (2011)**Description and Relevance**

The Water Resources Commission (WRC) has developed a national policy document on Buffer Zone Protection for managing freshwater bodies in the country. It aims at providing comprehensive measures and actions that would guide the creation of vegetative buffers for the preservation and functioning of the nation's water bodies and vital ecosystems. The policy provides comprehensive measures and actions that would guide the creation of vegetative buffers for the preservation and functioning of the nation's water bodies and vital ecosystems. The Policy designates the following as water pollution hazards and must be setback from any stream or water body by the following distances: (a) storage of hazardous substances – 45 meters, (b) raised septic systems – 75 meters, and (c) solid waste landfills – 90 meters. This policy is relevant for the WACA ResIP II Project since the project interventions under component 3 may impact on water resources and can lead to water pollution.

Fees and Charges (Amendment) Instrument, 2019 (LI 2386)**Description and Relevance**

The Fees and Charges (Amendment) Instrument, 2019 (LI 2386) sets out the fee regime for processing and environmental permits associated with the Environmental Assessment Regulations. Fee invoices are duly issued by EPA and paid for prior to issuance of an environmental permit. Fees for permits will be paid in accordance with this instrument. MESTI will be required to pay processing and permit fees for all subprojects to obtain Environmental Permits from EPA. This Legislative Instrument is relevant since activities under component 3 of the WACA ResIP II Project will require environmental permits and MESTI will have to pay the required statutory fees for the various E&S instruments stated under the LI for environmental permits

Environmental Impact Assessment Sector Specific Guidelines**Description and Relevance**

The EPA developed an Environmental Assessment Sectoral Guidelines for General Construction and Services Sector to guide the screening of sector projects, preparing relevant assessments and plans, and processing environmental permit applications over a decade ago. The guidelines cover almost all types of works and services that the WACA ResIP II Project will support. This sector guideline is relevant since activities under component 3 of the WACA ResIP II Project will require an environmental and social impact assessment.

Wetland Management (Ramsar Sites) Regulations, 1999 (LI 1659)**Description and Relevance**

These Regulations, in the exercise of the powers conferred on the Minister responsible for Forestry by section 11 of the Wild Animals Preservation Act 1961, establish wetlands ("Ramsar sites") for purposes of the Convention of Wetlands of International Importance, especially as Waterfowl Habitat and assigns specified powers to the Minister responsible for Lands and Forestry, the Director of the Wildlife Division of the Forestry Commission and District Assemblies in respect of such sites. The following areas have been designated as Ramsar Sites: (a) Muni-Pomadze; (b) Densu Delta; (c) Sakumo; (d) Songor; (e) Keta Lagoon Complex; and (f) Owabi Wildlife Sanctuary. The Densu Delta, Sakumo and Keta Lagoon Complex are some

of the targeted sites for the WACA interventions. This Regulation is relevant since project activities under component 3 may occur in wetlands or Ramsar sites such as the Keta Wetland Complex Ramsar site and the Densu Delta Ramsar site. There is a need to ensure the protection of mangroves and wetlands within the project area.

Hazardous and Electronic Waste Control and Management Act, 2016 (Act 917) and Hazardous, Electronic, and other waste (Classification), Control and Management Regulations, 2016 (LI 2250)
Description and Relevance

The Hazardous and Electronic Waste Control and Management Act, 2016 (Act 917) provides control, management, and disposal of electrical and electronic waste. It also provides a list of hazardous and other waste. Hazardous waste generally refers to waste with properties that make it potentially dangerous or harmful to human health or the environment. They include liquids, solids, or gases, which cannot be treated or disposed of through commonly used methods. The Act will also ensure that harmful elements associated with hazardous and other waste products are captured and processed safely to preserve critical ecological components such as the soil, groundwater, flora, and fauna. This Act is relevant since activities under component 3 of the WACA ResIP II Project may involve the use of hazardous materials in the construction process.

Fisheries Regulations, 2010 (LI 1968)

Description and Relevance

The Fisheries Regulations, 2010 (LI 1968) implement the provisions of the Fisheries Act, 2002, and a wide variety of matters regarding fisheries management and conservation, aquaculture and trade in fish products. This Act is relevant since activities under component 3 of the WACA ResIP II Project may impact fisheries related activities.

Fisheries (Amendment) Regulations, 2015 (LI 2217)

Description and Relevance

The Fisheries (Amendment) Regulations, 2015 (LI 2217) amends the Fisheries Regulations, 2010 by making provisions to deter and eliminate illegal, unreported, and unregulated (IUU) fishing (new regulations 24A to 24DD and regulations 49A to 49D). This Legislative Instrument is relevant since activities under component 3 of the WACA ResIP II Project may impact fisheries related activities.

Water Resources Commission Act 1996 (Act 522)

Description and Relevance

The Water Resources Commission Act, 1996 (Act 522) establishes and mandates the Water Resources Commission as solely responsible for the regulation and management and the utilisation of water resources and for the co-ordination of any policy in relation to them. Section 13 prohibits the use of water (divert, dam, store, abstract or use water resources or construct or maintain any works for the use of water resources) without authority. Section 16 empowers the Commission to grant Water Rights (water use permits) to prospective users. The Act states under Section 24 that, except in accordance with the provisions of this Act or with the approval of the EPA, any person who pollutes or fouls a water resource beyond the level that the EPA may prescribe, commits an offence and is liable on conviction to a fine or a term of imprisonment or both. This Act is relevant since WRC will be a stakeholder for the WACA ResIP II Project.

Water Use Regulations, 2001 (L.I. 1692)

Description and Relevance

These Regulations (section 35 of the Water Resources Commission Act, 1996), concern appeal for and grant of authorisation by the Commission to use water. Subject to the Act, a person may obtain a permit from the Commission for: (a) domestic water use; (b) commercial water use; (c) municipal water use; (d) industrial water use; (e) agricultural water use; (f) power generation water use; (g) water transportation water use; (h) fisheries (aquaculture) water use; (i) environmental water use; (j) recreational water use; and (k) under water (wood) harvesting. The Commission, in considering an application, conducts investigations to ascertain whether the proposed use of the water (a) is in accordance with the established water use policies and plans and (b) will not cause irreparable damage to water resources, public health and the environment. In conducting the investigations, the Commission considers the technical and social aspects of the application and ensures public participation, especially by the people in the area likely to be affected by the proposed use. In addition, the Commission is guided by (a) the prevailing water policy, (b) domestic water use, and (c) any other water uses which fulfils the goals of national socio-economic development. A public hearing will be held, and objections may be made by a person claiming water right or other interest in a water resource, which is the subject of the application. This Act is relevant since activities under component 3 of the WACA ResIP II Project may involve the use of water resources.

National Social Protection (NSP) Policy, 2015

Description and Relevance

The NSP Policy provides a framework for delivering social protection coherently, effectively, and efficiently in a way that is holistic and properly targeted. It defines social protection as “a range of actions carried out by the state and other parties in response to vulnerability and poverty, which seek to guarantee relief for those sections of the population who for any reason are not able to provide for themselves”. It provides an institutional framework for coordination and stakeholder collaboration in monitoring and in ensuring accountability. It is linked to a range of legal instruments and policies that provide a framework within which the obligations to various target groups may be justified, implemented, regulated, and advocated. In the short-term, the policy focuses on being rehabilitative, restorative, protective, and facilitative. This policy is relevant since the WACA ResIP II Project will have to ensure social protection during project Implementation.

National Employment Policy (NEP), 2014

Description and Relevance

The overall objective of the NEP is to adopt an inter-sectoral and integrated approach toward achieving full, decent, productive, and freely chosen employment for all Ghanaians who are able and willing to work, thereby improving the living conditions within the framework of equity, security, and dignity. The primary focus of the NEP is to address the unemployment situation and deal with decent work deficits, targeting, in particular, vulnerable groups, the youth, women, and persons with disabilities (PWDs). The policy focuses on employment components such as entrepreneurial development, private sector competitiveness, linking agriculture to the other sectors of the economy, research and innovation, vocational and technical skills development, productivity improvement, harnessing opportunities in labour migration, and the green

economy, among others. This Policy is relevant since the proposed project will employ different categories or workers.

Occupational Safety and Health Policy of Ghana (Draft), 2004

Description and Relevance

The Occupational Safety and Health Policy (draft 2004) seeks to prevent accidents and injuries arising out of, or linked with, or occurring in the course of work, by minimizing, as far as reasonably practicable, the cause of the hazards in the working environment and the risk to which employees and the public may be exposed. The policy statement of the OSH Policy is: ‘to prevent accidents and injuries arising out of or linked with or occurring in the course of work, by minimizing as far as reasonably practicable the cause of the hazards in the working environment and, therefore, the risk to which employees and the public may be exposed’. The policy is derived from provisions of the International Labour Organization (ILO) Conventions 155 and 161. The policy document has specific sections on objectives, scope, strategies, activities promotion and awareness creation on Occupational Health and safety, which is relevant to the operation of the project. This policy is relevant since project activities may have implications for occupational safety and health issues.

National Gender Policy, 2015

Description and Relevance

The Policy seeks to mainstream gender equality and women’s empowerment into the national development processes. The Policy outlines five commitments: women’s empowerment and livelihood; women’s rights and access to justice; women’s leadership and accountable governance; women’s economic opportunities; and gender roles and relations. Embedded in these commitments are the policy objectives to which strategies, institutional framework, and key stakeholders are identified for necessary steps in addressing identified bottlenecks and shortfalls in attaining gender equality and women’s empowerment. The GoG considers the Gender Policy as complementary to the implementation of national social protection strategies, the Policy contributes to the successful advocacy for the adoption of the National Social Protection Policy. This policy is relevant since the WACA ResIP II Project will have to integrate gender issues in the design and implementation.

National Child and Family Welfare Policy, 2015

Description and Relevance

Ghana's Child and Family Welfare Policy focusses on the prevention of violence, abuse, and exploitation of children. It underpins a child protection system that will safeguard and respond to children and their families when needed and provide support to mitigate risks for vulnerable families. This Policy recognises a child as a person below the age of 18, in line with the UN Convention on the Rights of the Child, the 1992 Fourth Republic Constitution of Ghana (Article 28), and the Children’s Act 1998, (Act 560) (section 1). The policy describes childhood as a period when a person is under the authority, control, and care of some persons considered as adults in society. The Policy defines welfare as guaranteeing the availability of the necessities of life as well as minimising the levels of violence, exploitation, abuse, and neglect. This policy is relevant since the WACA ResIP II Project will need to enforce the prevention of violence, abuse, and exploitation of children.

Justice for Children Policy, 2015**Description and Relevance**

The Policy aims to promote greater cooperation between the formal and the community justice systems as a cohesive national system that ensures access to justice for all children. The objectives of the policy are to: (a) prevent juvenile offending, (b) strengthen programmes for rehabilitation and social reintegration, (c) strengthen formal and community justice systems and link them up to enhance access to justice and protection for children in conflict with the law, (d) protect child witnesses and victims of crimes, (e) provide protection for children involved in family and other civil proceedings, (f) guide the reform of laws, policies, and procedures to improve access to justice for children to inform the necessary changes to the regulatory framework and develop guidelines for handling cases relating to children at all levels, and (g) ensure the provision of financial and human resources for implementation of the policy. This policy is relevant since the WACA ResIP II Project will need to enforce the prevention of violence, abuse, and exploitation of children.

Strategy on Anti-Child Labour and Trafficking in Fisheries**Description and Relevance**

This Strategy Document outlines strategies for eliminating Child Labour and Trafficking (CLaT) in Ghanaian Fishing Communities. The Anti-CLaT in Fisheries Strategy goal is to develop systems and structures that significantly reduces CLaT-free in the Fisheries sector in Ghana. This shall be achieved through effective protection of children and prosecution of offences relating to child labour and child trafficking. This strategy is relevant since the project will be implemented in areas where fishing is a critical livelihood activity.

National Workplace HIV/AIDS Policy, 2004**Description and Relevance**

The National Workplace HIV/AIDS Policy formulated in 2004 aims to provide broad national guidelines to direct the formulation of workplace policies and programmes. The policy provides the framework for Ghana's strategy to reduce the spread and mitigate the impact of HIV/AIDS on the workforce. The objectives of the policy are to provide protection from discrimination in the workplace to people living with HIV/AIDS, prevent the spread of HIV/AIDS among workers, and provide care, support, and counselling to those infected and affected. This policy is relevant since the activities under component 3 of the WACA ResIP II Project will involve the use of labour for construction activities with associated community health and safety issues relating to the spread of disease.

Cultural Policy of Ghana, 2004**Description and Relevance**

The Policy provides that special attention be given to the preservation of traditional sacred groves, monuments, and artistic treasures held in chiefs' palaces, mausoleums, private homes, and all objects of high artistic value. It requires the State to enact and review legislation to protect all cultural assets, to protect the rights of indigenous owners of cultural heritage, and to vest in itself ownership, protection, and preservation rights of rare and monumental heritage objects. The policy further enjoins the National Commission on Culture (NCC) to recognise all traditional regalia and cultural artefacts, sacred stools, jewellery, religious objects, stool houses, graveyards, mausoleums, and sacred groves associated with chieftaincy as national

treasures. The NCC is further required to preserve as monuments, all forts and castles, designated shrines, mosques, church buildings, old city walls and gates, cultural sites, palaces, public and private buildings of historical significance and monumental sculptures. These are required to be protected from neglect, desecration and/or destruction. The policy is relevant because the NCC, in collaboration with the EPA, the Forestry Commission and other relevant agencies, is required to identify sacred forests and other heritage sites in Ghana and collect, collate, and store indigenous beliefs and practices associated with them with the aim of conserving the nation's biodiversity and ecosystems and exploring their use as tourist attractions and sustainable sources of rare medicinal plants, animals, and minerals. This policy is relevant since activities under component 3 of the WACA ResIP II Project may impact tangible and intangible cultural heritage.

National Land Policy, 1999

Description and Relevance

The Policy sets out a broad framework and guidelines for land administration and utilisation. The main objective is to provide guidelines aimed at enhancing land management systems, land use, conservation of land resources, and environmental quality. The policy provides the framework and direction for dealing with the issues of land ownership, tenure security, land use and development, and environmental conservation on a sustained basis. The policy emphasises the involvement of local communities, opinion leaders, traditional authorities, as well as government agencies in the land development process. This policy is relevant since it sets out the framework for land management issues and the project will engage communities on land related activities.

The Children's Act, 1998 (Act 560)

Description and Relevance

The Act spells out the rights of the child; quasi-judicial and judicial child adjudication; parentage, custody, access, and maintenance; fosterage and adoption; employment of children; and institutionalised care and miscellaneous matters. It protects children from exploitative labour and child marriage and stipulates responsibilities for the care and protection of children. The Act defines a child as a person below the age of 18 years. The minimum age for admission of a child to employment is 15 years and the minimum age for the engagement of a person in hazardous work is 18 years. No person shall engage a child in exploitative labour. Labour is exploitative of a child if it deprives the child of its health, education, or development. The Project will not engage any child below 18 years to undertake any aspect of the work. However, this policy is still relevant as a guide against child exploitation.

Persons with Disability Act, 2006 (Act 715)

Description and Relevance

The Act covers key thematic provisions such as rights, accessibility, employment, education, and transportation for Persons with Disabilities (PWDs), amongst others. Section 6 states that the owner or occupier of a place to which the public has access shall provide appropriate facilities that make the place accessible to and available for use by a person with a disability. Section 10 of the Act states: (1) The Government shall grant a person who employs a person with a disability an annual tax rebate of the taxable income in respect of each person with disability employed as shall be prescribed in Regulations made under

this Act; (2) The Government shall grant special incentives to persons with disability engaged in business and to business organisations that employ persons with disability. This Act mandates project implementing agencies to ensure that facilities to be provided conform to the principle of universal access. This Act is relevant since people living with disability will participate in project activities.

The Domestic Violence Act, 2006 (Act 732)

Description and Relevance

This Act responds to the increasing evidence of violence in the domestic setting. It seeks to provide space for addressing violence as it occurs in homes and family corridors. The range of violence covered include assault in marriages and within families; deprivation of food, clothing, health, education, shelter; and of physical, emotional and financial abuse. In a broader sense, the Act seeks to protect the vulnerable in society, especially women and children who are major victims of gender based violence. This Act is relevant since the project will seek to avoid gender based violence and sexual exploitation and harassment within the communities the project operates.

Workmen's Compensation Law, 1987 (PNDCL 187)

Description and Relevance

It is to provide for the payment of compensation to workmen for personal injuries caused by accidents arising out and in the course of their employment. The tenets of the law place a large share of the burden of supporting workers injured at the workplace on the shoulders of the employers. This Act is relevant since the project will employ labour for the implementation of project activities and mandates contractors to pay compensation to workers for work related accidents when they occur. This Act is relevant since the project will employ and engage labour for the implementation of project activities.

Alternative Dispute Resolution Act, 2010 (ACT 798)

Description and Relevance

The Act provides for the settlement of disputes by arbitration, mediation, and customary arbitration and establishes an Alternative Dispute Resolution Centre to provide for related matters. This Act applies to matters other than those that relate to: (a) national or public interest, (b) environment, (c) enforcement and interpretation of the Constitution; and (d) any other matter that by law cannot be settled by an alternative dispute resolution method. This Act is relevant since the project can take advantage of the alternative dispute resolution as part of the grievance mechanism.

The Labour Act, 2003 (Act 651)

Description and Relevance

The Labour Act, 2003 (Act 651) provides for the rights and duties of employers and workers; legal or illegal strikes; guarantees trade unions the freedom of associations; and establishes a Labour Commission to mediate and act in respect of all labour issues. Under Part XV (Occupational Health Safety and Environment), the Act explicitly indicates that it is the duty of an employer to ensure the worker works under satisfactory, safe, and healthy conditions. This Act is relevant since the project will employ and engage labour for the implementation of project activities and key provisions of the Act such as prohibition of forced labour, occupational health, safety and environment, hours of work, rest periods, employment of persons with disability, employment of women needs to be addressed.

Fair Wages and Salaries Commission Act, 2007 (Act 737)

Description and Relevance

The Fair Wages and Salaries Commission (FWSC) was established under the FWSC Act, 2007 (Act 737). The Commission is mandated under section 2 of Act 737 to ensure fair, transparent, and systematic implementation of the Government public service pay policy and develop and advise Government, and ensure that decisions are implemented, on matters related to: salaries, wages, grading, classification job analysis and job evaluation, performance management and indicators, and allowances and benefits (with the ultimate objective of consolidation of allowances and benefits) and undertake negotiations where compensation is financed from public funds.

National Museums Decree, Act 387 of 1969

Description and Relevance

The Decree established the Ghana Museum and Monuments Board (GMMB) as a corporate body with power to acquire and hold land. The functions of the GMMB, inter alia, are to:

- Equip, maintain, and manage the National Museum.
- Establish, equip, maintain, and manage such other museums as it thinks fit.
- Preserve, repair, or restore any antiquity which it considers to be of national importance.
- Investigate and report on any matter relating to any antiquity.
- Keep a register of all antiquities which it acquires, or which are brought to its notice.

The Decree prohibits any person from exporting any antiquity except in accordance with an export permit issued by GMMB. Section 10 of the Decree imposes a duty on every person who discovers an antiquity, and the owner or occupier of any land upon which an antiquity is discovered, to notify GMMB, in writing – without delay, of the discovery. Under Section 11, the Minister may, on the recommendation of GMMB, by executive instrument proclaim any monument to be a national monument. Contravention of the provisions of the law constitutes an offense punishable, inter alia, by a forfeiture of the relevant antiquity. This Act is relevant since the project activities under component 3 may lead to the identification, assessment and removal of archaeological artefacts identified during construction works where excavation occurs.

Land Act, 2020 (Act 1036)

Description and Relevance

The Lands Act is an Act to revise, harmonise, and consolidate the laws on land to ensure sustainable land administration and management, effective and efficient land tenure and to provide for related matters. The Act lists six interests in land: allodial title; common law freehold; customary law freehold; usufructuary interest; leasehold interest; and customary tenancy. Allodial title is the highest or ultimate interest in land and is held by the State or, a stool or skin, or clan or family or an individual. The Act gives the power to direct demarcation or survey to the Lands Commission. The Commission, subject to clause (2) of the Article 18 of the Constitution and other relevant enactments, may direct the boundaries of land to be demarcated; a land survey be carried out on any land; or the boundaries of a land be demarcated, and a survey carried out of the land. The Commission also has the power to conduct valuation and issue valuation certifications. On the issue of disagreements, parties are required to exhaust all procedures under the Alternative Dispute Resolution Act, 2010 (Act 798) before any action involving land in a registration district can be commenced in Court. This mechanism replaces the Land Title Adjudication Committee under the repealed Land Title Registration Act, 1986 (P.N.D.C.L 152).

In addition, the new Land Act regulates spousal rights to landed property. Under the section on Parties to a Conveyance, the Act states: Except as provided in subsections (3) and (4) of section 38, in the absence of written agreement by the spouses in a marriage, a spouse shall not, in respect of land, right or interest in land acquired for valuable consideration during the marriage,

- a. sell, exchange, transfer, mortgage or lease the land, right or interest in the land,
- b. enter into a contract for sale, exchange, transfer, mortgage or lease the land, right or interest in the land, or
- c. give away the land, right or interest in the land inter vivos or
- d. enter into any other transaction in relation to the land, right or interest in the land without the written consent of the other spouse, which shall not be unnecessarily withheld.

The Act also makes it unlawful to vest clan or family land in the State. It also gives the President the power to authorise the temporary occupation and use of a land for the purpose which is conducive to the public welfare and public interest. Article 234(2) of the Act makes a land donation as a gift from landowners, and the land shall, where the donor specifies the purpose for the gift, be used for the purpose determined by the owner. Notice of the gift shall be published in the Gazette and shall be conclusive of proof of acquisition as specified under Article 234(4). Article 238 also mandates state agencies to make available in an escrow account funds for the payment of compensation for compulsory land acquisition before the commencement of the acquisition by the Lands Commission; and affected persons must be notified and such notice shall be published at least once in the gazette and a daily newspaper of national circulation and a copy posted on the notice board of the District Assembly and the Traditional Council and affixed on a conspicuous part of the land as mandated under Article 242. Compulsory acquisition by the State shall be in accordance with the procedures provided in sections 240 to 249 of the Land Act.

Office of the Administrator of Stool Lands Act, 1994 (Act 481)

Description and Relevance

The Office of the Administrator of Stool Lands (OASL) Act, 1994 (Act 481), establishes the OASL as enshrined in Article 267 (2) of the 1992 Constitution, and it is responsible for the establishment of stool land account for each stool, collection of rents, and the disbursement of such revenues. The Administrator is charged with the management of stool lands and in accordance with the provisions in the 1992 Constitution, 10 percent of the gross revenue goes to the Administrator of Stool Lands for administrative expenses whilst the remainder is disbursed as follows:

- 25 percent to the stool through the traditional authority for the maintenance of the stool
- 20 percent to the traditional authority and
- 55 percent to the District Assembly, within the area of authority of which the stool lands are situated.

This Act is relevant for the project since it establishes a requirement to consult with stool and traditional authorities on matters relating to the administration and development of stool lands.

The Lands (Statutory Wayleaves) Act, 1963 (Act 186)

Description and Relevance

The Lands (Statutory Wayleaves) Act, 1963 (Act 186) was enacted to facilitate the entry on any land for the purposes of construction, installation, and maintenance of public utility works and creation of right of ways and other similar right for such works.

Land Use and Spatial Planning Act, 2016 (925)**Description and Relevance**

The Land Use and Spatial Planning Law seeks to provide sustainable development of land and human settlements through a decentralised planning system and ensures judicious use of land. This is to improve the quality of life, promote health and safety in respect of human settlements. It further regulates national, regional, district and local spatial planning and generally provide for spatial aspects of socio-economic development and related matters. The Act gives a clearer direction to ensure compliance and enforcement of spatial development regulations by the Ghanaian society. It seeks to also contribute to a more sustainable and well-functioning land administration system that is fair, efficient, cost effective and decentralized and will enhance land tenure security in the country. The Act is relevant since the Physical Planning Units of beneficiary District Assemblies will be involved in the planning, permitting and supervision of the construction activities.

Lands Commission Act, 2008 (Act 767)**Description and Relevance**

The current Lands Commission, as part of the Public Sector Reform Programs and the Land Administration Project, has been substantially remodelled by Act 767 to increase its efficiency and effectiveness. Act 767 governs the assessment of compensation payment, determines the values of properties rented, purchased, sold, or leased by or to the Government; and prepares and maintains a valuation list. This Act provides for the management of public lands and other lands and related matters. The Commission manages public lands and any other lands vested in the President by the Constitution or any other enactment or the lands vested in the Commission. The Act advises the Government, local authorities, and traditional authorities on the policy framework for the development of particular areas to ensure that the development of individual pieces of land is coordinated with the relevant development plan for the area concerned.

The Right to Information Act, 2019 (Act 989)**Description and Relevance**

The Right to Information Act, 2019 (Act 989), mandates state institutions to provide information as required by Article 21(1) (f) of the 1992 Constitution of Ghana, which provides that “all persons shall have the right to information subject to such qualifications and laws as are necessary for a democratic society”. The project will ensure that the environment and social instruments are publicly disclosed to the public.

Ghana National Fire Service (GNFS) Act, 1997**Description and Relevance**

The Act re-establishes the GNFS to provide for the management of undesired fires and to make provision for related matters. The objective of the Service is to prevent and manage undesired fire. To achieve its objective, the Service is to organise public fire education programmes to create and sustain awareness of the hazards of fire, heighten the role of the individual in the prevention of fire, and provide technical advice for building plans in respect of machinery and structural layouts to facilitate escape from fire, rescue operations and fire management. The GNFS has a rural fire department responsible for the control and management of bushfires.

The Fire Precaution (Premises) Regulations, 2003 (LI 1724)

Description and Relevance

The Fire Precaution (Premises) Regulations, 2003 (LI 1724) requires all premises intended for use as workplaces to have Fire Certificates and confers enforcement powers on the GNFS to demand a fire certificate for premises that are used as a place of work. This regulation is important to the WACA sub-projects to ensure that fire safety measures are put in place to protect lives that will use project sites as well as the properties in the facility. Generally, the regulation requires that the developer applies to the GNFS for a permit to ensure that the necessary fire safety measures are part of the drawings for the building before the developer is permitted to begin construction works.

Public Health Act, 2012 (Act 851)**Description and Relevance**

The Act empowers an Assembly to prevent unhealthy activities. It provides for the prevention of disease and pollution dangerous to human health and to any water supply for domestic use. It also empowers the Assembly to control drainage, latrine and disposal of sewerage and treatment systems. This Act is relevant since the project will engage with stakeholders and communities and will need to ensure compliance to the Public Health Act.

Ghana Meteorological Agency Act, 2004 (Act 682)**Description and Relevance**

This Act establishes the Ghana Meteorological Agency, which replaces the Meteorological Services Department. The Agency is to provide meteorological information, advice, and warnings for the benefit of agriculture, civil and military aviation, and among others, to mitigate the effects of natural disasters such as floods, storms, and droughts on socio-economic development and projects. The Agency is to provide the accurate climatic data which are relevant for establishing climate change trends.

Local Governance Act, 2016 (Act 936)**Description and Relevance**

The Local Governance Act 2016 replaces the Local Government Act, 1993 (Act 462). It re-establishes and regulates the local government system in accordance with the constitution and provides for related matters. It gives authority to the Regional Coordinating Council (RCC) and the District Assembly to exercise political and administrative power in the Regions and District, provide guidance, give direction to, and supervise all other administrative authorities in the regions and district, respectively. The Assembly is mandated to initiate programmes for the development of basic infrastructure and provide municipal works and services as well as be responsible for the development, improvement, and management of human settlements and the environment in the district. The Act grants district assemblies the authority to approve proposed projects to be undertaken in their jurisdictions prior to the commencement of the projects. Furthermore, a physical development shall not be carried out in a district without prior approval in the form of a written permit granted by the district planning authority. It is relevant because the WACA ResIP II Project sites, which are under the jurisdiction of various metropolitan, municipal and district assemblies in the country, will require approval.

Annex 12: WACA ResIP II Project Community Driven Social Subprojects Exclusion/Negative List

Subprojects that involve the following shall be excluded from financing under WACA ResIP II Project:

- Activities or materials deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international phase-outs or bans, such as:
 - ✓ Ozone depleting substances, PCB's (Polychlorinated Biphenyls) and other specific, hazardous pharmaceuticals, pesticides/herbicides or chemicals;
 - ✓ Wildlife or products regulated under the Convention on International Trade in Endangered Species or Wild Fauna and Flora (CITES); or
 - ✓ Unsustainable fishing methods (e.g., blast fishing and drift net fishing in the marine environment using nets in excess of 2.5 km in length).
- Investments which could be associated with the destruction or significant impairment of areas particularly worthy of protection (without adequate compensation in accordance with international standards).
- Conversion or degradation of critical natural habitats
- Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.
- Drift-net fishing in the marine environment.
- Cross-border trade in waste and waste products, unless compliant with the Basel Convention and the underlying regulations.
- Destruction of High Conservation Value areas
- Radioactive materials and asbestos fibres.
- Pornography and/or prostitution
- Racist and/or anti-democratic media
- Production or trade in tobacco
- Relocation and/or demolition of any permanent houses or business.
- Use of project investment as an incentive and/or a tool to support and/or implement physical resettlement of local people.
- Land acquisition that affect more than 200 persons or 20 households.
- New settlements or expansion of existing settlements inside protected areas
- New roads or rehabilitation of roads inside protected areas
- Damage or loss to cultural property
- Production or activities involving harmful or exploitative forms of forced labour/ child labour
- Commercial logging operations for use in primary tropical moist forest.
- Production or trade in wood or other forestry products other than from sustainably managed forests.
- Activities that employ children below the age of 18 years;
- Resources access restriction that cannot be mitigated and will result in adverse impacts on the livelihoods of vulnerable groups

Note: Social subproject that require full ESIA will not likely be funded

Annex 13. GBV/SEA/SH Reporting Format

INCIDENT DETAILS

1. Type of Violation
2. Nature of the incident reported (What happened and by whom) - Basic facts of the incident: What, who is the incident related to the project? No in-depth details should be asked for.
3. Source of information
4. Where did the incident occur (Region, District, Community)
5. When did the incident occur (date and time)
6. Additional information (if available)

The identity and safety of a survivor must be protected at all times. No personal data or identifying information about a survivor or their experience can be shared through this document. Personal/identifying information includes the survivor's name, perpetrator(s)' name, date of birth, home address, the exact time and place the incident took place, visible disability, residence status which can be identified in small village/community settings.