

REPUBLIC OF GHANA



**GHANA PRODUCTIVE SAFETY NET PROJECT 2
ADDITIONAL FINANCING (GPSNP 2 AF)**

**Environmental and Social Management Framework
(ESMF)**

JULY 2023

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ABBREVIATIONS AND ACRONYMS

AEA	Agriculture Extension Agent
ARAP	Abbreviated Resettlement Action Plan
CCMI	Climate Change Mitigation Intervention
CERC	Contingency Emergency Response Component
CF	Community Facilitator
CSO	Civil Society Organization
CWSA	Community Water and Sanitation Agency
DA	District Assembly
DCE	District Chief Executive
DE	District Engineer
DFR	Department of Feeder Roads
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EHSG	Environmental, Health and Safety Guidelines
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EPC	Environmental Protection Council
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESS	Environmental and Social Standards
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
E&S	Environment and Social
ESSS	Environmental and social safeguards specialist
FMC	Facility Management Committee
GIDA	Ghana Irrigation Development Authority
GIIP	Good international industry practice
GLSS	Ghana Living Standards Survey
GNHR	Ghana National Household Registry
GoG	Government of Ghana
GPSNP	Ghana Productive Safety Net Project
GPSNP2	Ghana Productive Safety Net Project 2

GSFP	Ghana School Feeding Programme
GSS	Ghana Statistical Service
GSOP	Ghana Social Opportunities Project
GWCL	Ghana Water Company Limited
HIV/ AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
ICDS	Institutional and Capacity Development Specialist
ICT	Information Communication Technology
ILO	International Labour Organisation
IBRD	International Bank for Reconstruction and Development
ICSID	International Centre for Settlement of Investment Disputes
IDA	International Development Association
ITD	Inter-Tropical Discontinuity
IFC	International Finance Corporation
LFS	Labour Force Survey
LEAP	Livelihood Empowerment Against Poverty
LICSU	Low-Income Customer Support Unit
LIPW	Labour-Intensive Public Works
MDAs	Municipal and District Assemblies
MDGs	Millennium Development Goals
M&E	Monitoring & Evaluation
MISS	Management Information Systems Specialist
MLGRD	Ministry of Local Government and Rural Development
MMDA	Metropolitan/ Municipal/ District Assembly
MoGCSP	Ministry of Gender, Children and Social Protection
MOU	Memorandum of Understanding
MIGA	Multilateral Investment Guarantee Agency
NC	National Coordinator
NE	National Engineer
NGO	Non-governmental Organization
NHIS	National Health Insurance Scheme
NMMB	National Museum and Monuments Board
OHS	Occupational Health and Safety
PA	Project Accountant

PAD	Project Appraisal Document
POC	Project Oversight Committee
PIS	Productive Inclusion Specialist
PIU	Project Implementing Unit
POM	Project Operational Manual
PPE	Personal Protective Equipment
PS	Procurement Specialist
PTC	Project Technical Committee
RAP	Resettlement Action Plan
RCC	Regional Coordinating Council
RCO	Regional Coordinating Office
MCU	Rural Development Coordinating Unit
RPF	Resettlement Policy Framework
SDG	Sustainable Development Goal
SEDD	Small Earth Dam and Dugout
SMS	Short Message Service
SO ²	Sulphur Dioxide
SP	Social Protection
SVP	Southern Voltaian Plateau
SWCES	Single Window Citizens Engagement Service
TABs	Transparency and Accountability Boards
ToR	Terms of Reference
UCMS	Unified Case Management System
UNICEF	United Nations Children's Fund
URTI	Upper Respiratory Tract Infection

EXECUTIVE SUMMARY

1. Project Description

The Government of Ghana is committed to promoting inclusive economic growth that reduces poverty and creates job opportunities for all Ghanaians. The Government's aim of promoting broad-based economic growth is outlined in the *Coordinated Program of Economic and Social Development Policies (2017-2024)* which underscores the need to mainstream employment creation in the nation's development. To this end, the Government has prioritized investments in core infrastructure and launched a number of flagship programs that aim to enhance access to jobs, promote entrepreneurship and reduce constraints to growth. While these initiatives are likely to generate job opportunities that are suitable for much of the population, extremely poor households often experience unequal access to such programs, as well as basic services due to low literacy and skills, hence a need for a safety net program that support them to better access services that promote their productivity and improve their access to jobs.

Based on lessons from the emergence of COVID-19, the Ghana Productive Safety Net Project 2 (GPSNP2) has been designed to build on the gains made through GPSNP and GSOP. Specifically, the Additional Financing will focus on (i) supporting the government to scale up existing social protection programs (Productive Inclusion, LIPW and LEAP); (ii) increasing benefits to the LEAP cash transfer beneficiaries for adequacy and impact; (iii) system strengthening to improve service delivery and ensure that systems can adequately respond to shocks; and (iv) provide IDA financing to the Ghana School Feeding Program (GSFP), as a new sub-component for GPSNP2. Financing for GSFP will cover two main areas: (a) financing for food transfers through payments to caterers for the preparation of daily meals and services in schools; and (b) financing to support technical assistance needed to strengthen program systems for greater efficiency and sustainability. This will include reviewing the MIS and payment systems, and upgrading as applicable; providing short-term technical staff to augment technical areas such as financial management, strategy, safeguards, agricultural linkages, and procurement; purchase of equipment needed for the program to function efficiently; and coordination activities to ensure that all key stakeholders are engaged and execute their roles appropriately.

The Project has six (6) components. Below are the details of the components and corresponding allocations based on AF:

Component 1: Productive Inclusion Program (US\$27 million)

Component 2: Labour-Intensive Public Works Program (US\$47 million)

Component 3: Safety Net Program Transfers - Livelihood Empowerment Against Poverty (LEAP) Cash Transfers and Ghana School Feeding Program (GSFP) Payments (US\$121 million)

Component 4: Social Protection System Strengthening (US\$36 million)

Component 5: Project Management, Coordination, and Institutional Strengthening (US\$19 million)

Component 6: Contingent Emergency Response Component (US\$0 million) to allow for additional financing arising from any future large-scale, negative shocks.

Out of the components outlined, activities of the LIPW component are the most likely to pose moderate environmental and social risks as listed in the activity description section. The LIPW Component is currently being implemented in 100 targeted poor districts spread across the 16 regions but shall be scaled up to 120 districts with AF. A total of 95,000 extremely poor and poor persons will be reached, comprising 80,000 from poor households in rural and 15,000 from urban communities. The proposed menu of subprojects under LIPW is presented in the table below:

Activity	Description
Rehabilitation and maintenance of rural feeder and access roads (Rural)	These assets are particularly useful for connecting remote communities to larger, commercial centres. This boosts access to markets and improves labour productivity.
Rehabilitation of small earth dams and dugouts (Rural)	Small earth dams and dugouts are significant in improving access to irrigation and agricultural productivity in the Savannah belt of the country, where underground water sources are insufficient to provide for domestic and livestock needs during the dry season. Investing in such structures will be increasingly important as droughts become more frequent and intense as a result of climate change.
Climate change mitigation interventions (Rural)	Afforestation and reforestation, through seedling production, cultivation of fruit trees and cash crops (such as cashews), and woodlots, on degraded communal and public land, will be undertaken to mitigate climate change and support catchment and watershed protection and biodiversity conservation.
Improved Water Supply (Urban)	Provision of community standpipes and house connections (where practical) by connecting the community to the nearest water supply system in conjunction with the Low-Income Customer Support Unit (LICSU) of the Ghana Water Company Limited and the Community Water and Sanitation Agency. Construction of protected hand-dug wells and drilling of boreholes in peri-urban communities where there is no piped water supply.
Improved Sanitation Facilities (Urban)	Provision of household toilets with associated handwashing facilities that meet the basic national standards. Innovative strategies shall be adopted in densely populated LIUCs where space constraints are a major challenge.
Solid Waste Management (Urban)	Support to introduce basic community solid waste collection services (refuse collection) by community members. Training in various waste reduction strategies and re-use and recycling of different categories of waste. Undertaking communal and household composting where feasible.
Flood Mitigation Measures (Urban)	Where communities are flood-prone, training in flood early warning systems, identification of safe havens during flooding events, and construction of basic drainage improvement structures including gutters and floodwater storage mechanisms shall be carried out.
Clean School Kitchens	The provision of clean school kitchens, water sources, and toilet facilities will be piloted for schools in communities where GSFP and LIPW overlap. Clean kitchens will improve hygiene for cooking in schools, minimize any negative effects on the environment, and safeguard cooks' and learners' health and safety. The construction of toilet facilities and provision of water sources will improve sanitation. The use of alternative building materials (<i>such as rammed earth blocks and mud concrete blocks</i>) and climate-smart technologies will be employed to boost the unskilled labour content and ensure sustainability.

Baseline Conditions of Project Area.

Ghana lies along the Gulf of Guinea in West Africa. The climate of Ghana is characterized by dry and wet seasons, a typical tropical monsoonal climate. Rainfall in this region is mainly associated with mesoscale convective systems and is controlled by the advection of moisture from the Gulf of Guinea in the low-level atmosphere. Ghana has been classified into four main climatic regions - the South-western Equatorial Climatic Zone, Dry Equatorial Climatic Zone, Wet-semi-Equatorial Climatic Zone, and Tropical Continental (savannah) Climatic Zone. The physiographic regions of Ghana are broadly classified into the following: Coastal Plains, the Forest Dissected Plateau, the Savannah High Plains, the Voltaian Sandstone Basin (VSB) and the ridges and escarpments bordering the VSB.

Ghana has three major drainage systems, covering about 5% (911,800 km²) of the total area of Ghana. These are the Volta River System (70%), South-Western River System (22%), and Coastal River System (8%) (EPA, 2005). Nearly three-fourth of the total land surface area of Ghana lies Within the Volta River Basin. The basin can be subdivided into smaller basins – the Black Volta, the White Volta, the Oti, and the Volta.

Compared to groundwater, surface water quality is below drinking water quality standards. This is mainly attributed to anthropogenic activities such as the discharge of untreated waste materials into water bodies, farming along water systems, and illegal artisanal mining (EPA, 2017). The water quality in many parts of Ghana’s surface water system has been declining since 2004. Water quality analyses conducted between 2005 and 2014 showed a decrease in water quality over the period (EPA, 2017).

Ghana has six agroecological zones, distinguished by natural vegetation and influenced by climate and soil characteristics: Sudan savannah, coastal savannah, Guinea savannah, transition zone, semi-deciduous forest and rain forest.

Socio-economic and Cultural Environment

Population. The 2015 Labour Force Survey (LFS) by the Ghana Statistical Service estimated the total population of the country in 2015 to be 27,669 million, made up of 47.7% males and 52.3% females with a dependency ratio of 81.3. Data generated from the LFS indicates that a higher proportion of the population exists in the lower age groups. The mean household sizes for urban and rural areas are 2.9 and 3.5 respectively. Prior to the creation of six additional regions in 2019, the Northern region had the highest mean household size of 5.1 in 2015, followed by the Upper East with 4.3. Greater Accra region has the least mean household size of 2.6.

At the national level, more than half (72.1%) of the population 3 years and older, in rural areas, has never attended school compared to 27.9% in urban areas. Among the male population 3 years and older in the urban area, a little over one-fifth (20.8%) has never attended school, compared to more than half (79.2%) of their male counterparts in rural areas (GSS, 2016).

At the aggregate level, the literacy rate of the population 11 years and older in Ghana is 63% for both sexes, 71.8% for males and 55.5% for females. Urban-rural variations exist, with the literacy rate for both sexes in the urban area (74.5%) being higher than in the rural areas (50.1%).

Economic Activity. The regional distribution of the current activity status of the population indicates that the Northern region has the highest proportion of persons employed (76.4%) while the Upper East region has the lowest (58.7%). More males than females are employed, depicting the national pattern. Conversely, the Upper East region has a higher proportion of persons who are unemployed (13.2%) compared to the other regions; the region also recorded the highest proportion of those who are not in the labour force (28%).

Skilled agricultural, forestry and fishery workers constitute the largest occupational group. However, more females are engaged as service and sales workers compared to any other occupation. Whereas in the rural localities, skilled agricultural, forestry and fishery work are the main occupations for the employed, service and sales are the main occupations for those in urban areas. Female labour force participation over the years has been lower than that of their male counterparts. However, data gathered shows that in absolute numbers, more women are working in Ghana today (4,981,953) than the number of men (4,281,393) in current employment.

A total of 2,203,965 households representing 25.8 percent of Ghanaian households are engaged in agricultural activities. Agricultural activities in Ghana are predominantly rural (80.6% or 1,775,900).

Literacy and Education. At the aggregate level, the literacy rate of the population 11 years and older in Ghana is 63% for both sexes, 71.8% for males and 55.5% for females. Urban-rural variations exist, with the literacy rate for both sexes in the urban area (74.5%) being higher than in the rural areas (50.1%).

Of the total population 3 years and older, 32.8% have attained primary education while less than one percent have attained a post-graduate degree. There are also variations in the level of education by urban-rural location and by sex, particularly for higher education. At the national level, less than 4 percent (3.9%) of the male population had attained a Bachelors degree compared to less than 3 percent (2.2%) of the female population in the same category.

General Policy, Legal and Administrative Frameworks

A number of policies and laws were reviewed to develop the ESMF, which will guide implementation. These include:

- The policy, legislation, and institutional procedures of Ghana and those of the World Bank, which are relevant to the GPSNP and therefore considered include:
- Ghana’s National Environmental Policy, 2014
- National Environmental Action Plan (NEAP), 1991
- Environmental Sanitation Policy (Revised), 2009
- Forestry and Wildlife Policy, 1994
- National Water Policy, 2007
- Climate Change Policy, 2014
- National Land Policy, 2002
- National Employment Policy, 2014
- National Labour-intensive Public Works Policy, 2016
- Occupational Health and Safety Policy, 2004
- National Social Protection Policy, 2015
- National Gender Policy, 2015
- National Workplace HIV/AIDS Policy, 2004
- The Environmental Assessment Regulations (LI 1652)
- The Environmental Protection Agency Act of 1994 (Act 490)
- Fees and Charges (Miscellaneous Provisions) Instrument, 2019 (LI 2386)
- Environmental Guidelines – Transport Sector (EPA, 2010)
- Labour Act, 2003 (Act 651)
- Local Government Act, 1993 (Act 462)
- Child and Family Welfare Policy 2015
- Justice for Children Policy 2015
- Ghana Disability Act, 2006 (Act 715)
- Workmen's Compensation Act, 1987 (PNDCL 187)
- Ghana EIA procedures

This project will be guided by the World Bank’s Environment and Social Framework (ESF). The following Environment and Social Standards (ESS) are considered relevant (but not limited to) for this project. These include:

- 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

Significant Environmental and Social Risks of GPSNP 2 AF

GPSNP 2 AF will have six components. Of the six, four of the components will involve direct interaction with beneficiaries, potential beneficiaries and their communities, with the remaining being systems building and administrative. Except for the GSFP that has been introduced, the activities under the proposed AF present similar social risks and impacts as the parent project, given that the components have the same implementation arrangements with expanded scope to target more beneficiaries. However, the construction of clean kitchens will be piloted using LIPW for schools under the GSFP. Activities under the new GSFP subcomponent will mainly be cash payments and systems strengthening including streamlining the employment of service providers for the GSFP.

The table below provides a summary of the expected impact by component.

Component	Expected Impact
Productive Inclusion	Moderate (potential impact from this component to accommodate activities from grant to beneficiaries)
Labour-Intensive Public Works	Significant (especially construction and rehabilitation of roads, small earth dams and clean kitchens are the main focus of this framework)
LEAP cash transfers	Low (possible social impacts discussed)
Ghana School Feeding Programme (GSFP) Payments	Moderate (risks related to the GSFP include risks around elite capture in the engagement of caterers in GSFP)
Ghana National Household Registry	Low (data collection exercise will interact with communities over a short period)

Based on past experience through implementing GPSNP and GPSNP2, it is expected that both the LIPW and GSFP will have significant environmental and social impacts due to the nature of the works, as summarized in the table below. As such, this ESMF will largely focus on LIPW and GSFP as well as any other moderate impact such as activities to be funded by the grants to beneficiaries under Component 1.

Potential LIPW Risks		Social	
Environmental		Social	
Positive Risks	Negative Risks	Positive Risks	Negative Risks
Improved water supply – Domestic, livestock use, and potentially irrigation	Potential loss of water resources	Potential reduction in the rural-urban migration	Upsetting the spirit of community volunteerism
Increased productivity of labour/ Agriculture Production	Landscape Alteration	Community ownership for facilities	Low expertise in labour-based works at the local level
	Impacts on soil	Low migrant-worker influx	Potential delays in project completion

	Noise and vibration	Enhanced institutional capacity to support decentralization	Failure of sub-project activities due to political interference
	Habitat destruction and disruption (flora and fauna impacts)	Skills Development	Social conflict (Unclear ownership of resources)
	Waste generation and disposal	Gender empowerment	Occupational Health and Safety Risks
	Destruction of cultural resources	Financial Inclusion	Land acquisition and property loss
		Improved social cohesion	Utility disruption
		Improvement in Rural Economy	Traffic disruptions and diversion
		Increased accessibility to social services	exclusion of persons with disabilities
		Reduced incidence of poverty	Children's involvement in work and labour
Potential GSFP Risks			
Environmental	Social		
Positive Risks	Negative Risks	Positive Risks	Negative Risks
Reduce hunger and malnutrition, Increase school enrolment, attendance and retention, Boost domestic food production, Providing jobs for Caterers	Use of unclean energy Injuries Gas explosion	Potential reduction in the rural-urban migration	Upsetting the spirit of community volunteerism
	Landscape Alteration	Community ownership for facilities	Low expertise in labour-based works at the local level
	Impacts on soil	Low migrant-worker influx	Potential delays in project completion
	Noise and vibration	Enhanced institutional capacity to support decentralization	Failure of sub-project activities due to political interference
	Habitat destruction and disruption (flora and fauna impacts)	Skills Development	Social conflict (Unclear ownership of resources)
	Waste generation and disposal	Gender empowerment	Occupational Health and Safety Risks
	Destruction of cultural resources	Financial Inclusion	Land acquisition and property loss
		Improved social cohesion	Utility disruption
		Improvement in Rural Economy	Traffic disruptions and diversion
		Increased accessibility to social services	exclusion of persons with disabilities
		Reduced incidence of poverty	Children's involvement in work and labour

The project will prioritize promoting citizen engagement, social accountability and the use of a streamlined grievance redress mechanism to promote accountability and transparency in implementation.

Citizens Engagement

Citizen Engagement in the project has already been initiated with consultations on the design of GPSNP 2. During the implementation stage, this will continue with a consistent, comprehensive sensitization program, where for every sub-project and activity, the respective community will be brought together and briefed on the project, its objectives, implementation arrangements and delivery mechanisms (as was done during GPSNP implementation), while providing them the opportunity to voice their concerns and give their inputs. This process will be led by the Metropolitan/ Municipal/ District Assembly sensitization team and Community Facilitator under the guidance of the ZCOs using the project's "Guidelines for Community Sensitization, Targeting and Enrolment". Key among the issues to be discussed during implementation will be project features such as labour-based technology, wage rate, project duration, period of engagement within the year, importance of community participation and some common forms of fraud as well as grievance redress services.

Social Accountability

The project will mainstream Social Accountability into its implementation processes, intended to: (i) ensure efficiency and beneficiary satisfaction with service delivery; (ii) promote transparency and accountability; (iii) encourage participation and citizen engagement; (iv) assist in reducing leakages; (v) promote community management and ownership; and (vi) provide voice to the beneficiaries, who in most cases are deemed to be voiceless. In view of the nature of most activities where beneficiaries are mostly semi-literate or illiterate, the accountability tools employed will be simple so that semi-literate populations can understand them, but also tailored to the particular area, e.g. rural versus peri urban.

Grievance Redress Mechanism

The multiplicity of actors, and processes and the vulnerable nature of beneficiaries (being the poorest) may predispose participants to unfair treatment and abuse, while misunderstanding may also arise. As such, a grievance mechanism developed under GPSNP will be used to ensure that all direct and indirect beneficiaries, service providers and other stakeholders are given the opportunity at no cost to raise their concerns.

Single Window Citizen Engagement Service (SWCES) System. The SWCES established under GSOP and scaled up during GPSNP and GPSNP2 for implementing the grievance redress process will continue to be used. The SWCES was operationalized in December 2017 and provides a centralized channel for beneficiaries of all SP programs and other stakeholders to raise grievances, report malpractices, and request information on all social programs for free. This has been operationalized through the creation of the 'Helpline of Hope' Call Center that hosts toll-free phone lines and SMS. Operational staff will sensitize beneficiaries on its use. Assigned project case management officers will facilitate the tracking and resolution of cases, reporting to the SWCES to ensure that there is a streamlined collation of cases to enhance transparency and accountability.

Environmental and social management requirements for implementation

The project will institute a number of management requirements to ensure that environmental and social risk and impact management guidelines are adequately followed throughout implementation. The project will have a monitoring framework that will be used to monitor these processes and ensure compliance. These requirements in relation to the various phases of implementation are summarized in the table below.

Subproject phase	Environmental and Social Compliance Requirements	Documentation required	Responsibility
LIPW			
Pre-approval	Preparation of relevant safeguards documents	ESMF, RPF, ESCP	MCU/ Consultant/ WB
1. Sub-project Identification, Appraisal and Design	1.1 In-house E&S screening of sub-project	LIPW In-house Appraisal Checklist (Appendix 1) including further and appropriate safeguard documentation as required	ESSS/ZE/ ZSO/ DA Schedule Officer
	1.2 Register subproject with EPA for environmental screening and clearance (<i>for sub-projects meeting eligibility criteria for registration</i>)	Copy of forwarding letter and EPA EA Form 1 (Appendix 2) including further documentation as required	ESSS/ ZC/ ZSO/ DA Schedule Officer
	1.3 Obtain environmental permits for subprojects screened by EPA	Copy of permit and environmental compliance schedule for subproject implementation	ESSS/ ZC/ ZSO/ DA Desk officer
	1.4 Incorporate EPA screening and permit recommendations, and E&S issues identified during In-house sub-project appraisal into subproject formulation and design and contracts.	Copy of contract specifications	NE/ ZSO/ DA Engineer
	1.5 Undertake field validation/verification on any land acquisition and crop/livelihood displacement and compensation issues identified during in-house screening	Completed guidelines for validating communal lands, pictures of meetings and signed list and addresses of people consulted, list of assets/ property, cost of compensation/ resettlement assistance during validation	ESSS/ ZSO
	1.6 Fully settle and properly document all land acquisition, crop and livelihood compensation issues before commencing subproject execution	MOU for land acquisition and benefit sharing completed and signed Pictures and signed list of affected persons	ESSS/ ZSO/ ZE
2. Sub-project Execution	2.1 Community/ key stakeholder engagements and sensitization	Sensitization reports (Community and other stakeholders)	RCA

(ESMP Implementation)	2.2 Undertake training of key project actors (National, Zonal, District, and Community levels in the project's E&S requirements for subproject implementation) b) Also train contractors/ client supervisors on the E&S requirements. <ul style="list-style-type: none"> • Include E&S issues on the agenda for community pre-commencement meetings 	Training reports	ESSS/ZC/ZSO
		reports/ pictures	
	2.3 Put in measures for handling grievances/ complaints and accountability and widely publicize them. <ul style="list-style-type: none"> • Make available hotlines for receipt of grievances and complaints. • Install Transparency and Accountability Boards (TABs) • Ensure that the Toll-free numbers for the Single Window Citizens Engagement Service (SWCES) are boldly written on the TAB and educate the communities about the SWCES • Constitute Community Grievance/ complaints committee and train them • Appoint and train Community Facilitators expected to be focal persons for community/project-level grievances 	Single Window Citizens Engagement Service toll-free hotline Inclusive Transparency and Accountability Boards (TABs), Community complaints notebooks, district complaints file and records, RCO complaints file and records Gender disaggregated data	ESSS/ ZSO
	2.4 Institute and publicize measures for handling community exposure to diseases (IE malaria, guinea worm, Ebola, HIV/AIDS)	Education Flyers/ posters Education program	ESSS
	2.5 Labour and Working conditions 2.51 Enforce the under-listed E&S mitigation measures <ul style="list-style-type: none"> • Provision of temporary latrines at environmentally acceptable locations • Provision of adequate portable water to the workforce • Ensure the availability of a well-stocked first-aid kit • Ensure the construction of creches (children's care area) • Appoint one beneficiary to serve as a caregiver 	Site inspection reports/ pictures	ESSS/ ZSO/ZE
	3.1 Constitute Community Facility Management Teams and train them	Training reports	ESSS/ ZSO

	Prepare and implement Operations and Maintenance Plans	Facility Maintenance Plans	NE/ ZE/DA Engineer/ RCA/ ZC
3. Post-Subproject Execution	Maintenance of subprojects	Facility Maintenance Plans	DA/ FMCs
GSFP			
Certification of Caterers	<ol style="list-style-type: none"> 1. Training of caterers on FDA certification 2. Ensure the Registration of all caterers with the District or Municipal Assemblies for food Handlers' health Certificates. 	Training reports Copy of health certificates	GSFP Secretariat/FDA/ESSS
Prevention of fire outbreak	<ol style="list-style-type: none"> 1. Ensure the availability of fire extinguishers/bucket of sand 	Pictures of fire extinguishers and bucket of sand	GSFP Secretariat/ GNFS/ESSS
Caterers' health and Safety	<ol style="list-style-type: none"> 2. Ensure availability of required PPEs 		GSFP Secretariat/ ESSS

1. PROJECT DESCRIPTION

1.1 Background

The Republic of Ghana, with a population of about 30.4 million, is classified as lower-middle-income with a per capita income of US\$5,413 (in 2017 PPP dollars) in 2019. Ghana achieved its current income status through strong, sustained economic growth. The country's per capita income grew by an average of 1.5 percent per year between 1990 and 1999, by 2.8 percent per year between 2000 and 2009, and by 4.3 percent between 2010 and 2019 (peaking at 11.3 percent in 2011). Ghana's economic growth performance during the 2000s is mainly attributed to the sharp increase in prices for its main commodity exports, cocoa and gold, and the start of commercial oil and gas production in 2011. Ghana's favourable economic growth performance has been accompanied by a substantial reduction in the prevalence of poverty. Based on the national food poverty line, the extreme poverty rate fell from 36 percent in 1991/92 to 16.5 percent in 2005/06 to 8.4 percent in 2012/13, allowing Ghana to meet the United Nations Millennium Development Goal of halving poverty by 2015. However, poverty levels differ markedly across the country. Poverty levels are substantially higher in rural areas than in urban areas. In 2016/17, the overall poverty rate in rural areas was 39.5 percent, five times higher than the corresponding rate in urban areas, at 7.8 percent. Extreme poverty was 15.6 percent in rural areas, while it was just 1 percent in urban areas. These high-poverty regions are situated in the northern and eastern parts of Ghana. In recent years, the pace of poverty reduction has slowed, and the association between economic growth and poverty reduction has weakened. The COVID-19 pandemic and accompanying global economic crisis also serve as a major setback to Ghana's prospects for further reductions in poverty.

Ghana, like most countries globally, has been adversely affected by the COVID-19 pandemic. In April 2020, the Government of Ghana (GoG) established a partial lockdown for four weeks in the Greater Accra and Ashanti Regions, after which a variety of restrictions were instituted nationwide to curb the spread of the virus. As a result, Ghana's projected GDP growth for 2020 was revised from 6.8 percent to 0.9 percent and Government has since been intervening with various health and social interventions to support the population, especially poor and vulnerable individuals to cope with the health and economic impact of COVID-19.

The World Bank has supported the GoG in strengthening its social protection system since 2010 through various interventions including the Ghana Social Opportunities Project (GSOP) implemented from 2010 to 2018, and the Ghana Productive Safety Net Project (GPSNP) which became effective in July 2019 and is currently under implementation. GPSNP had the objective of supporting GoG to strengthen safety net systems that improve the productivity of the poor. During the height of the COVID-19 pandemic, the GPSNP was instrumental in supporting the delivery of additional cash transfers to LEAP beneficiaries, and other targeted poor and vulnerable individuals outside of safety net programming, using existing systems and processes. The project also reduced hours of work for Labour-intensive public works beneficiaries while maintaining daily wages. GPSNP was restructured in August 2020 to intensify the Government's social safety net response to the pandemic. Specifically, funds were reallocated within the project to allow for previous and planned emergency cash transfers to existing LEAP program beneficiaries and to new beneficiary groups. The reallocation also allowed for, among other things, accelerated, intensive efforts under GNHR and SWCES. To date, the project has disbursed \$43 million and expects to exhaust its financing by March 2022.

In response to these dire effects, particularly to the poor and vulnerable and based on lessons from the emergence of COVID-19, the Ghana Productive Safety Net Project 2 (GPSNP 2) is being designed to build on the gains made through GSOP and GPSNP. This new project is proposed to undertake more significant social protection actions to promote relief and recovery for poor, vulnerable, and hard-hit populations, with an increased focus on support to the urban poor. The Project Development Objective is to support the Government to expand and enhance social safety nets that improve the incomes and productivity of the poor. GPSNP2 seeks to improve productivity, social inclusion, expanding income earning opportunities to poor households, and providing relief to extremely poor households due to the effects of the COVID-19 pandemic. The focus areas of this project will be: (i) Safety Net

Program Transfers - Livelihood Empowerment Against Poverty (LEAP) Cash Transfers and **Ghana School Feeding Programme (GSFP) Payments**; (ii) scale-up of productive inclusion activities; (iii) scale-up of labour-intensive public works; and (iv) consolidation and decentralization of systems strengthening activities, and linkages to social services. The proposed new project will also include a contingency component – CERC – to allow for additional financing arising from any future large-scale, negative shocks.

1.2 Project Components Descriptions

1.2.1 Component 1: Productive Inclusion Program

The objective of this sub-component is to increase access to income-generating activities for extremely poor households. This component will therefore finance a comprehensive set of support services to promote sustainable income-earning opportunities in farm and non-farm activities. Specific activities to be conducted under this component will include: (i) selection of beneficiaries; (ii) feasibility and market viability studies; (iii) information and sensitization campaigns; (iv) life skills training; (v) micro-enterprise skills training; (vi) provision of start-up lump sum cash grants; (vii) mentoring and coaching; (viii) access to market opportunities; and (viii) financial inclusion activities. Through this support, it is expected that selected beneficiaries will have sustainable livelihoods which will facilitate their graduation from extreme poverty.

1.2.2 Component 2: Labour Intensive Public Works (LIPW) Program

The objective of the LIPW component is to extend income-earning opportunities to extremely poor households through Labour Intensive Public Works (labour-based technology), which maintains or rehabilitates assets that improve the productivity of communities and respond to the anticipated effects of climate change. LIPW will continue to be implemented in rural areas but also scaled up to include urban areas to support addressing urban poverty. Table 1 below provides the proposed subprojects:

Table 1: Menu of LIPW Investments for Rural and Urban Areas¹

Activity	Description	Major Construction Activities/ Agronomic Practices
Rehabilitation and maintenance of rural feeder and access roads (Rural)	These assets are particularly useful for connecting remote communities to larger, commercial/ urban centres. This boosts access to markets and improves labour productivity. The Project would preferably rehabilitate feeder roads between 3 and 5 km.	<ul style="list-style-type: none"> • Site Preparation – Clearing, grubbing, tree and stump removal, boulder removal, removal of anthills and termites’ workings. • Earthworks – ‘Cut’ or excavation, loading, hauling and offloading of material, filling, shaping and compaction.
Rehabilitation of small earth dams and dugouts (Rural)	Small earth dams and dugouts are significant in improving access to irrigation and agricultural productivity in the Savannah belt of the country, where underground water sources are insufficient to provide for domestic and livestock needs during the dry season. Investing in such structures will be increasingly important as droughts become more frequent and intense because of climate change. The project would select/ construct dugouts where the storage capacity does not exceed 250,000m ³ and a height of 5 meters.	<ul style="list-style-type: none"> • Site Preparation (land clearing, tree and stump removal etc) • Earthworks - Excavation (reservoir area and fill material) • Transportation – spoil and fill (clay) material • Compaction

¹ This initial list may be expanded during the life of the project.

	Primary uses include – domestic chores (washing, cleaning etc), serving as a source of water for domestic animals and cattle, and minor vegetable farming when possible.	
Climate change mitigation interventions (Rural)	Afforestation and reforestation, through seedling production, cultivation of fruit trees and cash crops (such as cashew), and woodlots, on degraded communal and public land will be undertaken to mitigate climate change and support catchment and watershed protection and biodiversity conservation. The proposed size of land to be rehabilitated/ cultivated per community is 10ha.	<ul style="list-style-type: none"> • Land clearing /weeding • Seedling transplanting • Watering and • Undergrowth management (and application of pesticides when extremely required)
Improved Water Supply (Urban)	Provision of community standpipes and house connections (where practical) by connecting the community to the nearest water supply system in conjunction with the Low-Income Customer Support Unit (LICSU) of the Ghana Water Company Limited and the Community Water and Sanitation Agency. Construction of protected hand-dug wells and drilling of boreholes in peri-urban communities where there is no piped water supply.	
Improved Sanitation Facilities (Urban)	Provision of household toilets with associated handwashing facilities which meet the basic national standards. Innovative strategies shall be adopted in densely populated LIUCs where space constraints are a major challenge.	
Solid Waste Management (Urban)	Support to introduce basic community solid waste collection services (refuse collection) by community members. Training in various waste reduction strategies and in re-use and recycling of different categories of waste. Undertaking communal and household composting where feasible.	
Flood Mitigation Measures (Urban)	Where communities are flood-prone, training in flood early warning systems, identification of safe havens during flooding events, and construction of basic drainage improvement structures including gutters and floodwater storage mechanisms shall be carried out.	

The LIPW component will therefore finance the following: (i) payments to beneficiaries in exchange for their work in rehabilitating or maintaining productive community or public assets; (ii) the costs of capital inputs for the sub-projects; (iii) supervision of the LIPW sites; (iv) capacity building for Contractors, DAs and community level actors in LIPW delivery; and (v) information sessions to beneficiaries on human capital (such as on nutrition) and behavioural change around savings. All assets undertaken under this project will be community-driven and owned.

The project will also maintain an exclusion list to ensure that the subprojects implemented are environmentally and socially friendly and are in accordance with the project’s goals. The following list of sub-projects shall NOT be implemented under the project.

- Subprojects at historical sites and sacred groves (shrines, cemeteries, etc.)
- Subprojects on International waterways
- Activities involving degradation of the environment (e.g. charcoal burning, sand winning, etc.)
- Mining activities
- Sub-projects that might impact negatively on International Heritage Sites.
- Subprojects with low unskilled labour content (less than 30%)

1.2.3 **Component 3: Safety Net Program Transfers** - Livelihood Empowerment Against Poverty (LEAP) Cash Transfers and Ghana School Feeding Programme (GSFP) Payments

This component was designed to smoothen consumption among extremely poor households by providing grants to beneficiaries. The provision of LEAP grants to beneficiaries in extremely poor households helps these households meet their basic needs. Securing the basic consumption of these households can enable them to engage in economic activities and invest in the human capital of their children. It is hoped that this will break the inter-generational cycle of poverty. This component will therefore finance: (i) regular, periodic, cash transfers to extremely poor households; and (ii) support to encourage beneficiaries to invest in the human capital and that of their children. The program will continue to maintain its national character, reaching the poorest communities within each region of the country. The geographical coverage per region, district and community will be based on the GLSS poverty map. Households within the communities will be selected using the Ghana National Household Registry data.

The Ghana School Feeding Programme (GSFP) is one of the flagship Social Protection Programmes indicated in Ghana's National Social Protection Policy, 2015, with great prospects for poverty reduction and improved livelihoods. The GSFP is a multi-sectoral programme that was initiated in 2005 under the Comprehensive African Agricultural Development Programme (CAADP) Pillar III and as a response to the Millennium Development Goals (MDGs). The GSFP fits within and addresses Goals One, two, and Four of the Sustainable Development Goals (SDGs) which are: to end poverty in all its forms everywhere; end hunger and achieve food security and improved nutrition, and to ensure inclusive as well as equitable quality education opportunities. The intervention's main objective is to provide beneficiary pupils with a hot, nutritious meal per day, using locally grown foodstuff.

The programme aims to contribute to poverty alleviation and food security with the following short-term objectives:

- *Increase school enrolment, attendance, and retention.*
- *Reduce hunger and malnutrition; and*

Boost domestic food production.

1.2.4 Component 4: Social Protection System Strengthening

This component aims at strengthening Social Protection systems delivery in Ghana to improve efficiency, cost-effectiveness and transparency of safety net interventions by (i) assisting the GNHR in its collection of household data in targeted regions; (ii) improving the operations of the Single Window Citizens Engagement Service which was designed under GPSNP; (iii) enhancing social protection shock responsive systems; and (iv) providing technical assistance for strengthening the monitoring and evaluation (M&E) framework and system.

1.2.5 Component 5: Project Management, Coordination and Capacity Building

This component will support project management, coordination, and capacity building under the project.

1.2.6 Component 6: Contingent Emergency Response Component

This component will allow for the swift availability of additional financing should there be any future large-scale, negative shocks. A specific Emergency Response Operations Manual will apply to this component, detailing financial management, procurement, E&S, and any other necessary implementation arrangements.

1.3 Purpose and Rationale of the ESMF

Per the requirements of the World Bank, all Bank-financed projects must be subjected to Environmental Assessment. The specific environmental assessment tool required to be used is dependent on several factors, but most importantly the project location and details of specific project activities. In situations where the specific

details of the sub-project including their specific locations are unknown, an Environmental and Social Management Framework (ESMF) is the most appropriate tool to use.

The ESMF examines the risks and impacts of a project that consists of a program and/or series of sub-projects, and the risks and impacts cannot be determined until the program or sub-project details have been identified.

The ESMF sets out the principles, rules, guidelines, and procedures to assess the environmental and social standards (ESS). It contains measures and plans to reduce, mitigate and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project risks and impacts, including its capacity to manage environmental and social risks and impacts. It includes adequate information on the broad area in which subprojects are expected to be sited, including any potential environmental and social vulnerabilities of the area; and on the potential impacts that may occur and mitigation measures that might be expected to be used.

1.4 Approach for the Preparation of the ESMF

Environmental Assessment is multifaceted, requiring many methods and approaches. The preparation of this ESMF was based on a variety of methods as discussed subsequently. The implementation of the Ghana Social Opportunities Project (GSOP) implemented between 2010 and 2018, as well as the ongoing GPSNP which scaled up the implementation of GSOP programming, serve as a core of the knowledge that was used to prepare this document, based on both project successes and lessons learned.

1.4.1 Extensive Literature Review

All relevant available documents on GPSNP were duly reviewed. These include; The GPSNP ESMF; The Project Appraisal Document (PAD); the Project Operational Manuals for GPSNP Components; and GPSNP Quarterly Reports. Other documents reviewed include: the World Bank's new Environmental and Social Framework and Environmental and Social Standards guidance documents; and various National Environmental Policies, Laws and Guidelines. Among the laws reviewed were the Environmental Protection Agency Act, 1994 (Act 490); Ghana Environmental Impact Assessment Procedures (1995); Environmental Assessment Regulations, 1999 (LI 1652); Environmental Assessment (Amendment) Regulations, 2002 (LI 1703); and the Fees and Charges (Miscellaneous Provisions) Instrument, 2019 (LI 2386), etc. The Labour Act, 2003 (Act 651); The Local Government Act, 1993 (Act 462); Ghana Investment Promotion Centre Act, 1994 (Act 478); National HIV Workplace Policy (2004); Labour-Intensive Public Works Policy; National Employment Policy; and a plethora of other documents were also reviewed and inform this ESMF.

1.4.2 Expert judgment

Expert judgment (including that of identified stakeholders and the consultants on GPSNP) was relied upon to predict the impacts of the project components. Implementation successes and lessons documented through program implementation and research that occurred in similar programming, specifically in the implementation of GSOP and GPSNP were used for predictions, analysis, and trends.

1.4.3 Discussions with Stakeholders

Project stakeholders are people who have a role in the project, or could be affected by the project, or who are interested in the project'. Project stakeholders can be categorized into:

Primary stakeholders: Individuals, groups or local communities that may be affected by the project, positively or negatively and directly or indirectly especially those who are directly affected, including those who are disadvantaged or vulnerable. The primary stakeholders identified for this project include:

- Poor and vulnerable individuals
- Poor and vulnerable households
- Poor communities in rural and urban areas
- Community leaders and members of poor communities

Secondary stakeholders: Broader stakeholders who may be able to influence the outcome of the project because of their mandate, relationship and knowledge about the affected communities or political influence.

Discussions with stakeholders centred on experiences under GPSNP, concerns and recommendations, and community concerns and individual interests with regard to project implementation. A variety of stakeholders were consulted including beneficiaries (and potential beneficiaries), communities, private sector entities, contractors, service providers, government agencies, and Civil Society Organizations (CSOs).

1.5 ESMF Disclosure

The EPA and World Bank policies require that environmental and social reports for projects are made available to project-affected groups, local NGOs, and the public at large. Following clearance from the World Bank, district and regional disclosure sessions will be held in selected beneficiary districts and regions, particularly in areas where there will be a large number of potential beneficiaries. E.g., Upper East, Northern, Ashanti and Volta Regions. Additionally, copies of the ESMF will be made available in selected public places for information and comments. The notification will be done through a newspaper announcement. The notification will provide:

- a brief description of the project
- a list of venues where the ESMF report is on display and available for viewing
- duration of the display period
- contact information for comments

The ESMF will finally be disclosed on the MoGCSP and MLGRD websites and the World Bank's external website.

1.6 Project Duration and Scope

Like its predecessor, the coverage of GPSNP 2 will be national, with interventions targeted at poor Districts, Communities, households, and individuals. GPSNP 2 will however extend to selected poor peri-urban and urban areas to address urban poverty. Under the LIPW component, only projects that lend themselves to the Labour-intensive methods of construction/ production will be considered. The project is expected to be implemented between July 2021 and December 2025.

2. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

The Environmental Policy and EA legislation and procedures of Ghana and those of the World Bank, which are relevant to the project, are outlined in this chapter. In principle, the two sets of policies and procedures on environmental and social assessment are similar in many respects.

2.1 Relevant National Policy Frameworks

National Environment Policy, 2013

Revised in year 2013 with the new policy objectives of improving the effectiveness of institutional and legal framework; and, promoting sustainable resource use and impact management inter-alia, Ghana's first environment policy was developed in 1991. The goal was to provide a broad framework for the implementation of the National Environmental Action Plan (NEAP) 1991-2000. The policy provides an enabling environment for several initiatives to address environmental concerns. The aim was to ensure that environmental resources are effectively exploited for the well-being of the people without sacrificing the integrity of the environment for future generations.

National Environmental Action Plan (NEAP), 1991

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 major areas: Land management; Forestry and wildlife; Water management; Marine and coastal ecosystems; Industrial pollution; Mining; Hazardous chemicals control; and Human settlements. The NEAP was thus the strategy through which the key issues to the protection of the environment and better management of renewable resources were to be pursued. Some of the specific resultant developments from the NEAP was the establishment of the Ghana Environmental Protection Agency (EPA) with a more enhanced mandate than its predecessor Environmental Protection Council (EPC), to regulate, set standards and enforce them, etc; and, the establishment of the Water Resources Commission, and subsequent adoption of policy framework for water abstraction for different uses, water law, and control of waste discharges into water bodies, etc.

Environmental Sanitation Policy (Revised), 2009

The Environmental Sanitation Policy was first published in 1999 and revised in 2009 with an updated scope to meet current development objectives and address the aspirations of sector actors. The revised environmental sanitation policy seeks to refocus the priorities of the sector, so it is forward-looking and effectively embraces the challenges of changing lifestyles associated with modernization 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.

Forestry and Wildlife Policy, 1994

The Policy was developed to manage and enhance Ghana's permanent estate of forest and wildlife resources for the preservation and conservation of vital soil and water resources, biological diversity, and the environment in general. It shifted focus from over-reliance on timber harvesting to conservation of biodiversity and watershed management and encouraged reforestation and restoration of degraded landscapes.

National Water Policy, 2007

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:

- 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
- Regulation and control of demands of water use and waste disposal to maintain the natural capacity of the water resources base, which must necessarily meet its regeneration and self-purification characteristics.

Climate Change Policy, 2014

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.

National Land Policy, 1999

The Policy sets out a broad framework and policy guidelines for land administration and utilization. The main objective is to provide guidelines aimed at enhancing land management systems, land use, conservation of land resources and enhancing environmental quality. The policy provides the framework and direction for dealing with the issues of land ownership, security of tenure, 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.

National Employment Policy, 2014

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 living conditions within the framework of equity, security, and dignity. The primary focus of the National Employment Policy is to address the unemployment situation, and deal with decent work deficits, targeting in particular, vulnerable groups, the youth, women and persons with disability (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.

National Labour-Intensive Public Works Policy, 2016

Access to employment opportunities, gradual increase in income, and stability in economic and social securities of the economically active poor and the vulnerable are the key performance indicators of the LIPW Policy. The LIPW Policy is intended to reduce Ghana's over-reliance on external financial flows for investment projects and

provide public infrastructure and income-earning opportunities for local economic development by relying on the available abundant low-skilled unemployed labour pool rather than sophisticated equipment. The Policy, however, recognises that not all public goods and services can be delivered entirely using labour-intensive techniques. The method will be applied only where feasible, in the delivery of selected public goods.

National Social Protection Policy, 2015

The National Social Protection 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 for Ghana 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 as well as stakeholder collaboration in monitoring and ensuring accountability. It is linked to 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 facilitating.

This includes the implementation of five flagship programmes, namely, the LEAP program, the LIPW, the Ghana School Feeding Programme (GSFP), the National Health Insurance (NHIS) Exemptions and the Basic Education Capitation Grants. The medium-term efforts are preventive and promoting. The long-term orientation is transformation. Operationally, it proposes reforms to programming, targeting, funding, public understanding of social protection and knowledge management. The policy’s strategic imperatives are coordination and complementarity; emergency assistance; social welfare and facilitation services; productive inclusion; decent work; capacity and capability building; and mainstreaming gender and disability issues in social protection.

National Gender Policy, 2015

The Policy seeks to mainstream gender equality and women’s empowerment into national development processes. The Policy outlines 5 commitments namely: 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. It is noteworthy that the Government of Ghana considers the Gender Policy as complementary to the implementation of national social protection strategies, the Policy itself has contributed to the successful advocacy for the adoption of the National Social Protection Policy.

National Workplace HIV/AIDS Policy, 2004

The National Workplace HIV/AIDS Policy formulated in 2004 aims at providing 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.

National Child and Family Welfare Policy, 2015

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 basic necessities of life as well as minimising the levels of violence, exploitation, abuse and neglect.

Justice for Children’s Policy, 2015

The Policy aims to promote greater cooperation between the formal and the community justice systems to work together as a cohesive national system that ensures access to justice for all children. The objectives of the policy are to:

- Prevent juvenile offending
- Strengthen programmes for rehabilitation and social reintegration
- Strengthen formal and community justice systems and link them up to enhance access to justice and protection for children in conflict with the law
- Protect child witnesses and victims of crimes
- Provide protection for children involved in family and other civil proceedings
- 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 level
- Ensure the provision of financial and human resources for implementation of the policy

2.2 Legal and Regulatory Framework

Environmental Protection Agency Act, 1994 (Act 490)

The Act, enacted in 1994 transformed the then Environmental Protection Council to an Agency and granted it the authority among other things to: “issue environmental permits and pollution abatement notices for controlling the volume, types, constituents and effects of waste discharges, emissions, deposits and other sources of pollutants and substances which are hazardous or potentially dangerous to the quality of the environment or any segment of the environment” This Act generally grants the EPA enforcement and standard setting powers, and the power to ensure compliance with such standards and guidelines. Again, Section 12 (1) states... “The Agency may by notice in writing require any person responsible for any undertaking which in the opinion of the Agency has or is likely to have adverse effect on the environment to submit to the Agency in respect of the undertaking an environmental impact assessment containing such information within such period as shall be specified in the notice”.

Environmental Assessment Regulations, 1999 (LI 1652)

Pursuant to section 28 of the EPA Act 1994, the Environmental Assessment Regulations, 1999, (LI 1652) was enacted to provide the necessary specific and complete legal backing for EIA system in Ghana. The procedures contain a logical stepwise environmental assessment system with provisions for, among others:

- registration of proposed and existing undertakings
- screening with schedules of undertakings requiring EPA registration and mandatory EIA
- submission of various levels of Environmental Reports for review and approval
- Environmental Assessment Reports Review System
- Issuance of environmental permits and certificates prior to commencement of developments

The Act prescribes the guidelines for conducting EIA and identifies the various projects for which EIA is mandatory. The regulations prohibit commencing an “undertaking” without prior registration and environmental permit.

After the screening under regulation 5 the Agency shall issue a screening report on the application and shall state in the screening report whether the application—

- is approved; or
- is objected to; or
- requires submission of a preliminary environmental report; or
- requires the submission of an environmental impact statement.

Where the screening of the project identifies some limited significant impacts that require further explanation, the EPA may require a Preliminary Environmental Assessment (PEA) to be conducted and a Preliminary Environmental Report (PER) provided in which adequate provision is made for mitigation and management measures for identified adverse impacts.

Whenever the screening of the initial registration indicates that a significant adverse environmental impact may result from the development of the project, the proponent will be required to submit an Environmental Impact Statement (EIS). This will require a Scoping Report on fact-finding evaluation of the proposed development and stakeholder consultations to determine stakeholders’ concerns as well as the general public to be addressed in terms of reference for the EIA. A scoping report will have to be submitted to the Agency for review and approval prior to the preparation of the EIS.

Under Regulation 24, in respect of the preparation of an Environmental Management Plan, the law requires the person responsible for an undertaking in respect of which a Preliminary Environmental Report (PER) or an Environmental Impact Statement (EIS) has been approved shall submit to the Agency an Environmental Management Plan (EMP) in respect of his operations within 18 months of commencement of operations and thereafter every 3 years.

Fees and Charges (Miscellaneous Provisions) Instrument 2019 (L.I. 2386)

The Fees and Charges (Miscellaneous Provisions) Instrument 2019 (L.I. 2386) provides comprehensive rates, fees and charges collectable by Ministries, Department and Agencies (MDAs) for goods and services delivered to the public. It contains the stipulated fees and charges to be paid by proponents with respect to Environmental Permits and Certificates or provides a guide for its determination.

Water Resources Commission Act 1996 (Act 522)

The Water Resources Commission Act 1996 (Act 522) establishes and mandates the Water Resources Commission as the sole agent 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 Environmental Protection Agency, 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.

Forestry Commission Act, 1999 (Act 571)

This Act provides for the management of the forest and wildlife resources in the country. The Commission is responsible for the regulation of the utilization of forest and wildlife resources, the conservation and management of those resources and the co-ordination of policies related to them.

The Commission regulates the utilization 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.

Forestry Protection (Amendment) Act 2002, Act 624

It is an offence under the Forest Protection (Amendment) Act, 2002, Act 624 for any person to enter into a Forest Reserve or protected area without the written consent of a competent forest authority to undertake any activity within the reserve or protected area.

Wild Animals Preservation Act, 1961, Act 43

This is the principal Act relating to wild animals, birds and fish preservation and trade in Ghana. It empowers the Forestry Commission to set regulations and provides guidelines for the conservation of wild animals, birds and fish. Under Subsection 6, A person shall not use a motor vehicle or an aircraft, including aircraft lighter than air for the purpose of hunting, killing or capturing animals or in a manner that would drive, stampede or disturb the animals including that of filming or photographing. Under Subsection 7, A person shall not surround animals by fires for hunting purposes.

Wildlife Conservation Regulations, 1971, LI 685

The Wildlife Conservation Regulation, 1971 (LI 685) specifies the wildlife species that are completely protected from hunting, capturing and destruction of any form. The Regulation under Restriction on Hunting- Regulation 1 (Animals wholly protected), stipulates that, no person shall at any time hunt, capture or destroy any wild animal species whose protection, whether owing to their rarity or threatened extermination may be considered necessary.

Environmental Standards

The Ghana Standard Authority (GSA) in collaboration with the Environmental Protection Agency (EPA) and other stakeholders has issued standards for the environment and health protection. The relevant ones for this project include:

- GS 1236:2019 Environment and Health Protection –Requirements for Ambient Air Quality and Point Source/Stack Emissions. It specifies the requirements and methods of analysis for ambient air. It also specifies the requirements and test methods for point source or stack emissions based on the sources of energy.
- GS 1222:2018 Health Protection –Requirements for Ambient Noise Control. It specifies the requirements for acceptable ambient noise levels within categorized locations. According to the Standards, the test method should be in accordance with the relevant test methods given in GS 1253:2018 (Acoustics-Guide for the measurement of outdoor A-weighted sound levels).

Factories, Offices and Shops Act 1970, Act 328

The Factories, Offices and Shops Act of 1970 (Act 328), as amended by the Factories Offices and Shops (Amendment) Law 1983 PNDCL 66, the Factories Offices and Shops (Amendment) Law 1991 PNDCL 275 s.1 (a), and the Ghana National Fire Service Act, 1997 (Act 537) requires all proponents to register every factory/workplace with the Chief Inspector of Factories Inspectorate Department. The Act requires all factories, offices and shops to among others to notify the Chief Inspector of accidents, dangerous occurrences and industrial

diseases, post in a prominent position in every factory the prescribed abstract of the act and other notices and documentation, to safeguard the health and safety of workers.

Labour Act, 2003 (Act 651)

The Labour Act, 2003 (Act 651) consolidates existing laws relating to labour, employers, trade unions and industrial relations. It provides for, among others, the rights and duties of employers and workers; what is a legal or illegal strike; guarantees trade unions and freedom of associations. Section 9 (Duties of an Employer) specifically states that the duty of an employer includes the duty to take all practical steps to ensure that the worker is free from risk of personal injury or damage to his or her health during or during the worker's employment or while lawfully on the employer's premises. This is further stated under Part XV (Occupational Health, Safety and Environment), that it is the duty of an employer to ensure that every worker employed by him or her works under satisfactory, safe and healthy conditions. The Act led to the establishment of the Labour Commission to mediate and act in respect of all labour issues.

The Children's Act 1998, Act 560

The Act spells out the rights of the child, quasi-judicial/ judicial child adjudication, parentage/ custody/ access/ maintenance, fosterage/ adoption and employment of children issues. 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 fifteen years and the minimum age for the engagement of a person in hazardous work is eighteen years. No person shall engage a child in exploitative labour, and labour is exploitative of a child, if it deprives the child of its health, education or development.

Workmen's Compensation Law 1987

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. The GPSNP 2 may have health and accident risks. The Law enjoins Contractors and employers in general to ensure and be responsible for the safety of their workers and ensure compensation measures in place for their workers for injuries, and fatalities arising in the course of work in accordance with this Law.

Persons with Disability Act, 2006 Act 715

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 disability. Section 10 of the Act 10. (1) The Government shall grant a person who employs a person with 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.

Local Governance Act, 2016 (Act 936)

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 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.

2.3 Relevant Intentional Conventions and Protocols

The following international laws and conventions which Ghana is a signatory are considered applicable to this proposed Project:

- African Charter on Human and Peoples' Rights (adopted 1998, entered into force 2005)
- African Convention on the Conservation of Nature and Natural Resources (adopted 1968, entered into force 1969)
- International Covenant on Economic, Social and Cultural Rights (adopted 1966, entered into force 1976)
- International Labour Organisation's (ILO) Core Labour Standards on
- Freedom of association and collective bargaining; conventions 87 (1950) and 98 (1951)
- Elimination of forced and compulsory labour; conventions 29 (1932) and 105 (1959)
- Elimination of discrimination in respect of employment and occupation; conventions 100 (1953) and 111 (1960)
- Abolition of child labour; conventions 138 (1976) and 182 (2000)
- United Nations Convention on the Protection of the Rights of All Migrant Workers and Members of their Families (adopted 1990, entered into force 2003)
- United Nations Framework Convention on Climate Change (adopted 1992, entered into force 1994)
- Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 1997, entered into force 2005)
- United Nations Convention on Biological Diversity (adopted 1992, entered into force 1993)

2.4 The World Bank's Environmental and Social Standards (ESS)

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 in order for projects to be sustainable, non-discriminatory, transparent, participatory, environmentally and socially accountable as well as conform to good international practises. There are ten (10) Environmental and Social Standards under the new World Bank Environmental and Social Framework that all projects/investments that are supported with Bank Financing must conform to. Eight of these standards are relevant to this project. These are:

ESS1 – Assessment and Management of Environmental and Social Risks and Impacts. ESS 1 places the responsibility of ameliorating the environmental impacts of a Bank-financed project on the borrower. Specifically, the objectives of ESS1 are to:

- Identify, evaluate, and manage the environment and social risks and impacts of a Bank-financed project in a manner consistent with the Bank's Environmental and Social Standards. ESS1 recommends the following hierarchy in the amelioration of impacts (a) Anticipate and avoid risks and impacts; (b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; (d) Once risks and

impacts have been minimized or reduced, mitigate; and (e) Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.

- To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project.
- To utilize national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development, and implementation of projects, whenever appropriate.
- To promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.

ESS 1 is relevant because project activities and investments under components 1, 2, 3 and GSFP are expected to engender some impacts on the environment. These impacts need to be ameliorated. With specific sub-project locations being unknown, ESS 1 is the basis for the preparation of this ESMF.

ESS 2 – Labour and Working Relations. Employment creation, income generation and welfare of labour are the core of ESS2. It recognises the importance of these in the pursuit of poverty reduction and economic growth. It requires management to treat workers fairly and provide them with safe and healthy working conditions to enhance the development benefits of projects. The specific objectives of ESS 2 are to:

- To promote safety and health at work.
- To promote the fair treatment, non-discrimination, and equal opportunity of project workers.
- To protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) migrant workers, contracted workers, community workers and primary supply workers, as appropriate.
- 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.

ESS 2 is applicable to the following categories of labour: people employed or engaged directly by the Borrower (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 on the project on a full-time, part-time, temporary, and seasonal basis as well as migrant workers.

Activities under Components 2, 3 and GSFP of the project will make use of direct workers, contracted workers, vendors and community workers, thus making ESS 2 relevant to the project.

ESS 3 – Resource Efficiency and Pollution Prevention and Management. ESS 3 sets out the requirements to address resource efficiency and pollution prevention (air, water and land pollution and management arising out of economic activities and urbanization) throughout the project life-cycle consistent with Good International Industry Practice (GIIP). The specific objectives of this ESS are: To promote the sustainable use of resources, including energy, water, and raw materials; To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities; To avoid or minimize project-related emissions of short and long-lived climate pollutants; To avoid or minimize generation of hazardous and non-hazardous waste; and, To minimize and manage the risks and impacts associated with pesticide use. ESS3 enjoins the borrower to consider ambient conditions and apply technically and financially feasible resource efficiency and pollution prevention measures in accordance with the mitigation hierarchy. The measures are expected to be proportionate

to the risks and impacts associated with the project and consistent with GIIP, in the first instance the Environment, Health and Safety Guidelines of the Bank.

LIPW subprojects – construction of feeder roads, small earth dams and dugouts and clean school kitchens will involve land clearing, excavation, vegetation removal and also generation of dust and waste. Also, climate change mitigation initiatives (tree planting) may also require the use of agrochemicals. Again, cooking activities under components 1 and 3 i.e. PI and GSFP may involve the use of fuel wood which will pose pollution risk and forest depletion, making ESS 3 relevant.

ESS 4: Community Health and Safety. ESS4 addresses the potential health, safety, and security risks and impacts of Bank-financed projects (resulting from project activities, equipment, and infrastructure) on project-affected communities. It places a responsibility on the Borrower to avoid or minimize such risks and impacts, with particular attention to people who, because of their circumstances, may be vulnerable. The specific objectives of ESS4 are to: anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life-cycle from both routine and non-routine circumstances; promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams; avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials; have in place effective measures to address emergency events; ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.

ESS 4 is relevant because of the high level of community involvement and the fact that the LIPW and aspects of GSFP activities will be community-driven and located proximate to people and settlements.

ESS 5: Land Acquisitions, Restrictions on Land Use, and Involuntary Resettlement. ESS5 recognizes that Bank funded projects may result in involuntary resettlement, which, if unmitigated will lead to severe consequent undesirable socio-economic and environmental impacts on project communities. The specific objectives of ESS 5 are to: avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives; avoid forced eviction; mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at replacement cost and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher; improve living conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure; conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant; ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.

The project will not acquire new lands but will rely on lands voluntarily donated as well as communal and public lands. ESS 5 will be applicable because it will provide guidance for ensuring that land provided to the project by the community has been agreed upon by all parties (traditional authorities, community dwellers, etc.)

ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. ESS6 recognizes that Bank funded projects could negatively impact biodiversity and that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. The specific objectives of this ESS are to: protect and conserve biodiversity and habitats; apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity; promote the sustainable management of living natural resources; support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities.

ESS 6 is relevant because climate change mitigation initiatives and rehabilitation of feeder roads and dugouts may require land clearing which, although expected to be minimal, may potentially impact biodiversity.

ESS 8: Cultural Heritage. ESS 8 recognizes the importance of cultural heritage (natural areas with cultural and/or spiritual value such as sacred groves, sacred bodies of water and waterways, sacred mountains, sacred trees, sacred rocks, burial grounds, and sites) as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people’s cultural identity and practice. It provides continuity in tangible and intangible forms between the past, present and future and reflects constantly evolving values, beliefs, knowledge, and traditions. The specific objectives of this ESS are to: protect cultural heritage from the adverse impacts of project activities and support its preservation; address cultural heritage as an integral aspect of sustainable development; promote meaningful consultation with stakeholders regarding cultural heritage; and, promote the equitable sharing of benefits from the use of cultural heritage.

The requirements of this ESS 8 will apply to all projects that are likely to have risks or impacts on cultural heritage, regardless of whether it has been legally protected or previously identified or disturbed. This will include a project which: (a) Involves excavations, demolition, movement of earth, flooding or other changes in the physical environment; (b) Is located within a legally protected area or a legally defined buffer zone; (c) Is located in, or in the vicinity of, a recognized cultural heritage site; or (d) Is specifically designed to support the conservation, management and use of cultural heritage.

ESS 8 is relevant to this project because small earth dams and dugouts and feeder roads rehabilitation under LIPW may involve earth works that could lead to the discovery or identification of certain cultural heritage, including archaeological relics, graves, shrines, sacred trees or groves that may require attention of relevant government agencies.

ESS 10: Stakeholder Engagement and Information Disclosure. This ESS places a premium on open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. The specific objectives of ESS 10 are to: establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, especially project-affected parties; assess the level of stakeholder interest and support for the project and enable stakeholders’ views to be taken into account in project design and environmental and social performance; promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life-cycle on issues that could potentially affect them; 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; and, provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow Borrowers to respond to and manage such grievances.

ESS 10 is particularly relevant to GPSNP2 because of the multiplicity of stakeholders that will be involved in the project – communities, government agencies, regional and district administrations as well as service providers such as caterers and cooks.

2.5 World Bank Environment, Health and Safety Guidelines (EHSG)

The following EHSGs of the World Bank will be relevant to this project:

Environment

Air Emissions and Ambient air quality. This guideline applies to facilities or projects that generate emissions into the 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 the 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. Feeder roads and small earth dams and dugout rehabilitation to be undertaken 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.

Hazardous material Management. These guidelines apply to projects that use, store, or handle any quantity of hazardous materials (Hazmats), defined as materials that represent a risk to human health, property, or the environment due to their physical or chemical characteristics. Hazmats 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 agrochemicals in the implementation of the Climate Change sub-project makes this guideline relevant to the project.

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 beneficiaries to be engaged) expected to be generated from various sites make this guideline relevant to the project's implementation.

Noise Management. This guideline addresses the impacts of noise beyond the property boundary of the facilities or projects 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 both the feeder roads and dugout sites.

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 beneficiaries to one form of occupational risk or the other. Guidance provided under this guideline will be helpful in managing such risks.

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 sub-project activities such as feeder road and dugout rehabilitation/construction.

Table 2: Gap Analysis – Comparison of Ghana’s Regulations/ Policies and World Bank ESF for Handling Environmental and Social Risks

Scope/Objective	Description of Bank Policy	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts				
<p>Identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs. To adopt a mitigation hierarchy approach to:</p> <ul style="list-style-type: none"> • 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. 	<p>The standard provides guidance on assessing the Project’s potential environmental and social risks and impacts and addressing potential impacts through planning and mitigation hierarchy approach.</p>	<p>Environmental Assessment. Regulation 1 (2) of LI 1652 mandates that no person shall commence an 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.</p>	<p>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 and social development indicators such as gender, inclusion, child labour, etc.</p>	<ul style="list-style-type: none"> • Assistance/compensations are provided for the affected parties by the government through the district and municipal assemblies at various project locations. • The MDAs and MMDAs were fully involved in the project preparatory stage through consultations for them to become abreast with project components roles they will play during implementation. • The capacities of the MDAs’ staff on world bank ESF will also be built at the early stage of project implementation to enable them collaborate effectively in addressing this gap
ESS2: Labour and Working Conditions				
<ul style="list-style-type: none"> • To promote safety and health at work, fair treatment, non-discrimination and equal opportunity of project workers including vulnerable workers such as 	<p>ESS2 promotes fair treatment, non-discrimination and the provision of equal opportunities for workers engaged on projects it supports. It strongly</p>	<ul style="list-style-type: none"> • 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 	<p>Although the Commission makes provision for anticipated labour-related complaints and redress, beneficiaries’ access (distance and processes) to</p>	<ul style="list-style-type: none"> • The project will adopt and enhance an existing transparent GRM which addresses concerns promptly • It has also developed Labour management

Scope/Objective	Description of Bank Policy	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
<p>women, persons with disabilities, children</p> <ul style="list-style-type: none"> • 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. <p>To provide project workers with accessible means to raise workplace concerns.</p>	<p>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 work force (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.</p>	<p>associations and establishes the 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.</p> <p>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.</p>	<p>the commission at the district-level may be a challenge. The law does not provide a clear system for referral, especially for child labour and SEA/SH</p>	<p>procedures e.g. working conditions, occupational health and safety, child labour, etc. (section 5.4). 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 laws in respect of child labour is respected. (LMP - Appendix 12).</p>
<p>OHS Hazard identification and right of employees to remove themselves from such workplaces without being punished.</p>	<p>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</p>	<p>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</p>	<p>The law does not explicitly mandate workers to remove themselves from such unsafe working places and also silent on they not being</p>	<p>Labour management procedures has been prepared as part of this ESMF, which adequately takes care of ESS 2 provisions. Workers will be sensitized on the LMP and their rights to remove themselves from unsafe workplaces and will not be</p>

Scope/Objective	Description of Bank Policy	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
	<p>reasonable justification to believe presents an imminent and serious danger to their life or health. Project workers 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.</p>	<p>silent on they not being retaliated against.</p>	<p>retaliated against if they should do so.</p>	<p>retaliated against if they do so in line with the LMP/ESS 2 provisions.</p>
ESS3: Resource Efficiency and Pollution Prevention and Management				
<ul style="list-style-type: none"> 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. 	<p>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</p>	<ul style="list-style-type: none"> 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 	<p>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</p>	<ul style="list-style-type: none"> An Integrated Pest Management Plan has been developed for the project and will guide CCMI implementation activities. (See TOR in Appendix 9)

Scope/Objective	Description of Bank Policy	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
	pollutants) given that the current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of present and future lives.	(Act 528) provides for the registration and use of pesticides and related matters		
ESS4: Community Health and Safety				
<ul style="list-style-type: none"> • To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project lifecycle from both routine and nonroutine circumstances. • To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams. • To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities. 	<p>This standard recognizes that project activities, project equipment and infrastructure increase the exposure of project 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 prepare regular reports on such monitoring. ESS4 also provides guidance on</p>	<p>The Public Health Act, 2012, Act 851 revises and consolidates all the laws and regulations pertaining to the prevention of disease, promote, safeguard and maintain and protect the health of human 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, the destruction of vectors including mosquitoes, the protection of water receptacles and the promotion of environmental sanitation.</p>	<p>The regulation does not consider assessment of events and measures to deal with occurrences and emergencies</p>	<ul style="list-style-type: none"> • The law provides the platform to engage with stakeholders. A stakeholder engagement plan has been prepared and will be in place for project implementation. Community needs with respect to project activities will be assessed and necessary measures taken. The project has developed a COVID-19 Response Plan to guide project implementation onsite. (See COVID-19 Response Plan in Appendix 11)

Scope/Objective	Description of Bank Policy	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
	emergency preparedness and response.			
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources				
<ul style="list-style-type: none"> • 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. 	<p>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 to the sites, and priorities for conservation.</p>	<p>The 1994 Forest and Wildlife Policy 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.</p>	<p>Adequate provisions are made under national laws and policies.</p>	<p>The project will take measures to protect and conserve biodiversity and habitats and all requirements specified in the ESS6</p>
ESS8: Cultural Heritage				
<ul style="list-style-type: none"> • To protect cultural heritage from the adverse impacts of project activities and support its preservation. • To address cultural heritage as an integral 	<p>This standard sets out general provisions on cultural heritage preservation and recommends protecting cultural heritage from the adverse impacts of project</p>	<p>The Fourth Republic Constitution (1992) recognizes culture as a necessary tool for national integration and development and, under the Directive Principles of State Policy</p>	<p>The regulations and policies do not address cultural heritage as an integral part of sustainable development and promotion of equitable sharing of benefits</p>	<p>The National Commission on Culture provides a platform for collaboration with Chiefs, opinion leaders, community representatives and other institutions to protect cultural assets. The project will go by</p>

Scope/Objective	Description of Bank Policy	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
<p>aspect of sustainable development.</p> <ul style="list-style-type: none"> • To promote meaningful consultation with stakeholders regarding cultural heritage. • To promote the equitable sharing of benefits from the use of cultural heritage. 	<p>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. Physical cultural resources 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.</p>	<p>(Article 39), declares as follows: “(1) Subject to clause (2) of this article, the State shall take steps to encourage the 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 Aspects of national planning. (2) The State shall ensure that appropriate customary and cultural values are adopted and developed as an integral part of the growing needs of the society as a whole; and, 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</p>		<p>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 enshrined in the SEP to educate communities 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.</p>

Scope/Objective	Description of Bank Policy	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
		preserves monument, forest reserves, national parks and recreational facilities		
ESS10: Stakeholder Engagement and Information Disclosure				
<ul style="list-style-type: none"> • To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, 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 issues that could potentially affect them. • To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders 	<p>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</p>	<ul style="list-style-type: none"> • 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 operationalise the right to information, people need to be effectively engaged and provided with information on issues that affect their lives. • The <i>Right to Information Act, 2019 (Act 989)</i>, 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. • <i>Articles 40 to 48 of the Local Governance Act,</i> 	<p>The regulations of the RTI Act, have not been developed to fully operationalize mechanisms for disclosure or dissemination of information and grievance redress.</p>	<ul style="list-style-type: none"> • The project has developed a stakeholder Engagement Plan. The SEP also includes a GRM based on an existing grievance redress mechanism for resolving grievances for the GPSNP. • 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 a 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 Policy	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
<p>in a timely, understandable, accessible and appropriate manner and format.</p> <ul style="list-style-type: none"> • 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. 	<p>allows for stakeholders' views to be considered in the project design and environmental and social performance. The Borrower is also expected to implement a grievance mechanism to receive and facilitate the resolution of concerns and grievances.</p>	<p><i>2016 (Act 936)</i>, mandate local authorities to create opportunities for residents and other stakeholders to access information and to participate in decision-making.</p> <ul style="list-style-type: none"> • Stakeholder engagement is an integral part of the Environmental Impact Assessment process. <i>Ghana Environmental Assessment Regulation LI 1652 (1999)</i>, as amended (2002), requires effective public consultation and participation as an integral component of Environmental and Social Impact Assessment (ESIA) 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 		

Scope/Objective	Description of Bank Policy	Description of Government of Ghana Regulation	Gaps Identified	Gap Bridging Actions
		to ensure active participation in all environmental matters.		

2.6 World Bank COVID-19 Guidelines

The World Bank COVID-19 guidelines emphasize the importance of careful scenario planning, clear procedures and protocols, management systems, effective communication and coordination and the need for high levels of responsiveness in a changing environment due to the COVID-19 pandemic. It recommends assessing the current situation of projects and putting in place mitigation measures to avoid or minimize the chances of the spread of the virus. Recommendations are made to cover cleaning and waste disposal, medical services, and general hygiene for the workforce together with management of site entry and exit points, work practices and medical supplies for site workers. The guidelines acknowledge that national and local laws may impose social distancing, restrictions on movement and large gatherings as measures to minimize the spread of COVID 19 together with the fact the general public may be averse to large gatherings as they protect themselves from COVID-19. The Bank further acknowledges that COVID-19 spread, and restrictions can adversely affect the extent to which the project can meet the requirements of ESS10.

3. ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS OF GHANA

3.1 Location

Ghana lies along the Gulf of Guinea in West Africa. It lies within longitudes 3°5'W and 1° 10'E and latitudes 4°35'N and 11°N. It covers an area of about some 239,000 km², with the Exclusive Economic Zone (EEZ) constituting an additional 110,000 km² of the sea to the territorial area. Ghana has a southern coastal shoreline of 550km. The country is bordered by Togo to the east, La Cote d'Ivoire to the west and Burkina Faso to the north.

3.2 Physical Environment

3.2.1 Climate (Mainly Rainfall, Temperature and Humidity)

The climate of Ghana is characterized by dry and wet seasons, a typical tropical monsoonal climate. Rainfall in this region is mainly associated with mesoscale convective systems and is controlled by the advection of moisture from the Gulf of Guinea in the low-level atmosphere. This system is usually referred to as the West African Monsoon (WAM), and it is driven by the energy and temperature gradient between the Gulf of Guinea and the Sahara. The maritime tropical air mass, which originates from the Atlantic Ocean, is moisture-laden and converges with the dry northeast continental tropical air mass, usually along the Inter-Tropical Discontinuity (ITD). Therefore, the spatial pattern of annual rainfall is closely related to the north- and southward migration of the ITD, resulting in changes in the rainfall regime from the south to the north of the country. This gives rise to two rainfall regimes: bi-modal in the south, consisting mainly of coastal and forest zones, and uni-modal in the northern part of the country, consisting of part of the transition and savannah zones (Amekudzi et al, 2015)

Using the average characteristics of rainfall, temperature, and humidity for a period of 25 – 30 years, Ghana has been classified into four main climatic regions - the South-western Equatorial Climatic Zone, Dry Equatorial Climatic Zone, Wet-semi–Equatorial Climatic Zone and Tropical Continental (savannah) Climatic Zone.

South Western Equatorial Climatic Zone. It is the wettest climatic zone in Ghana with a double maxima rainfall regime. Mean annual rainfall is above 190cm and an average monthly precipitation of not less than 2.5cm. The highest monthly temperature of about 30°C is recorded between March and April and the lowest of about 26°C in August. Monthly relative humidity (average) of 75-80% during the two rainy seasons and the lowest of 70-80% during the rest of the year. (Benneh and Dickson, 1988). Average annual wind speed, sunshine hours and solar radiation 133 km/day, 6.2 hours and 18.1 MJ/m² /day respectively. (EPA, 2002)

Dry Equatorial Climatic Zone. This Climatic zone has a more marked dry season even though it also has double rainfall maxima. Between 74 and 89cm of mean annual rainfall are recorded. Despite its location, this zone is the driest in the country. Temperatures recorded are however just like that of the South Western Equatorial Climatic Zone - mean monthly temperatures of 30°C between March and April and 26°C in August. The highest average relative humidity does not exceed 75%, with the lowest being about 60% (Benneh and Dickson, 1988). Average annual wind speed, sunshine hours and solar radiation are 251 km/day, 6.5 hours and 18.6 MJ/m² /day respectively. Annual potential evaporation is about 1504 mm, respectively. (EPA, 2002)

Wet-semi–Equatorial Climatic Zone. This zone is also characterized by a double maxima rainfall regime but has a mean annual rainfall of between 125 and 200cm. Some of the wetter areas include the Akwapim-Togo Ranges and the Southern Voltaian Plateau where annual rainfall exceeds 165cm. The first rainy season is from May to June and the second rainy season is from September to October. With a more pronounced dry season, temperatures and relative humidity are, however, as in the southwestern equatorial and the dry equatorial climatic zone (Benneh and Dickson, 1988). Average annual wind

speed, sunshine hours and solar radiation are 138 km/day, 7.3 hours and 19.6 MJ/m² /day respectively. Potential evaporation is 1720 mm per annum. (EPA, 2002).

Dry Equatorial Climatic Zone. The characteristics of this climatic zone are in sharp contrast with all the others. This is the only climatic region with a single rainy season which starts in May and ends in October, followed by six months of dry season. Mean annual rainfall of between 100 and 115cm is recorded. Mean annual temperatures vary from about 36°C in March to about 27°C in August. Relative humidity of between 70 and 90% may be recorded during the rainy season but may fall to as low as 20% during the dry season (Benneh and Dickson, 1988). Average annual wind speed, sunshine hours and solar radiation are 81 km/day, 7.9 hours and 20.4 MJ/m² /day respectively. Potential evaporation is 1652 mm per annum and the annual aridity index is 0.60. (EPA, 2002).

Climate Change. Projections made in Ghana's Third National Communication Report to the United Nations Framework Convention on Climate Change (UNFCCC) indicate the following:

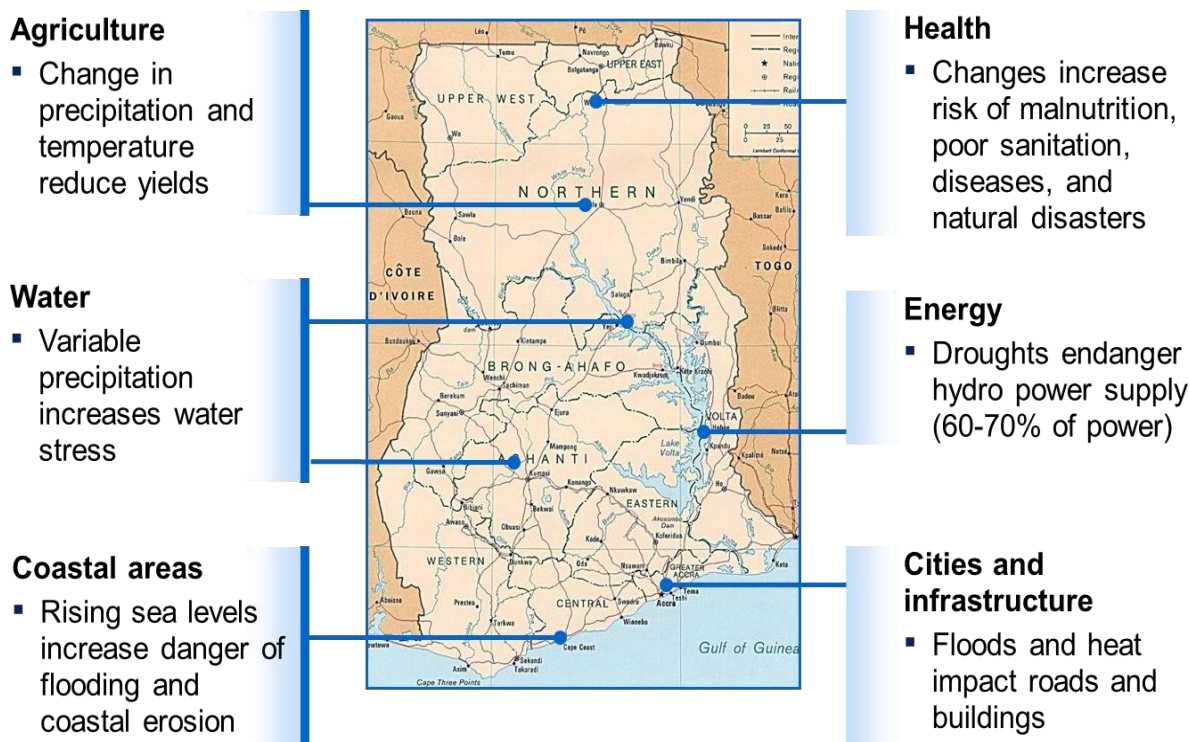
- Ghana will continue to get warmer.
 1. Mean temperature is projected to increase by 1.0-3.0°C by 2060, and 1.5°C to 5.2°C by the 2090s. The projected rate of warming is more rapid in the northern inland than in the coastal regions.
 2. All projections indicate substantial increases in the frequency of days and nights that are considered 'hot'. There is likelihood that 'hot' days will occur on 18-59% of days by 2060.
 3. Most projections indicate decreases in the frequency of days and nights that are considered cold.

- Rainfall will continue to be uncertain and difficult to predict.
 1. Projections of mean annual rainfall from different models predict a wide range of changes. About half of the models predict increases while the other half project decreases.
 2. The proportion of total annual rainfall that falls in heavy events tends towards an increase in the ensemble projections.
 3. Projected changes in 1-and 5-day rainfall maxima trend towards increases, but projection ranges between both increase and decrease in all seasons.

- Sea level rise will continue intensely in already vulnerable coastal areas.
 1. Scenarios of sea level changes with respect to the 1999 mean, predict an average rise of 5.8cm, 16.5cm and 34.5 cm. by 2020, 2050 and 2080 respectively.

Further assessments suggest that vulnerabilities in Ghana due to Climate Change are not evenly nationwide, but are greatly influenced by the following: economic sectors, ecological zones (geographic spread) and poverty levels.

Figure 1: Spread of Climate Change Vulnerabilities in specific localities in Ghana



Source: (EPA, 2015) 2015 Climate Change Report. Ghana's Third National Communication to the UNFCC

Table 3: Climate Change risk in the different ecological zones in Ghana

Ecological zone	Identified risk	Risk level (ranking)**
Coastal Savannah	Sea level rise	High
	Out-migration	Medium
	Weak livelihood support	Medium
	Sea erosion	Extreme
High forest	Erratic rainfall	Medium
	Late start of rains	High
	Early termination of rains	High
	Drought spell	Low
Transition	Low rainfall	High
	Rainfall extremes	High
	Crop failures	High
	Reduced minor rains	Low
Guinea and Sudan Savannah	Long dry spell	High
	Frequent flooding	High
	Out-migration	Extreme
	Erratic rainfall	Medium
	Rising temperature	High

Source: 3rd National Communication Report to UNFCC, 2015

3.2.2 Topography and Landscape

The physiographic regions of Ghana are broadly classified into the following: Coastal Plains, the Forest Dissected Plateau, the Savannah High Plains, the Voltaian Sandstone Basin (VSB) and the ridges and escarpments bordering the VSB.

The Forest Dissected Plateau. Many years of intensive erosion have reduced this area to a uniformly low height between 240m and 300m above sea level. The different rock formations in this region have given rise to different relief types, ranging from hills that stand up to 60-90 metres above sea level to steep-sided hills rising above 240m above the flat valley bottom (Dickson and Benneh, 1988).

The Savannah High Plains. The topography is gently rolling with an average height of the plain ranging between 180m and 300m above sea level. Small, rounded hills composed mainly of granite are scattered on this plain (Dickson and Benneh, 1988).

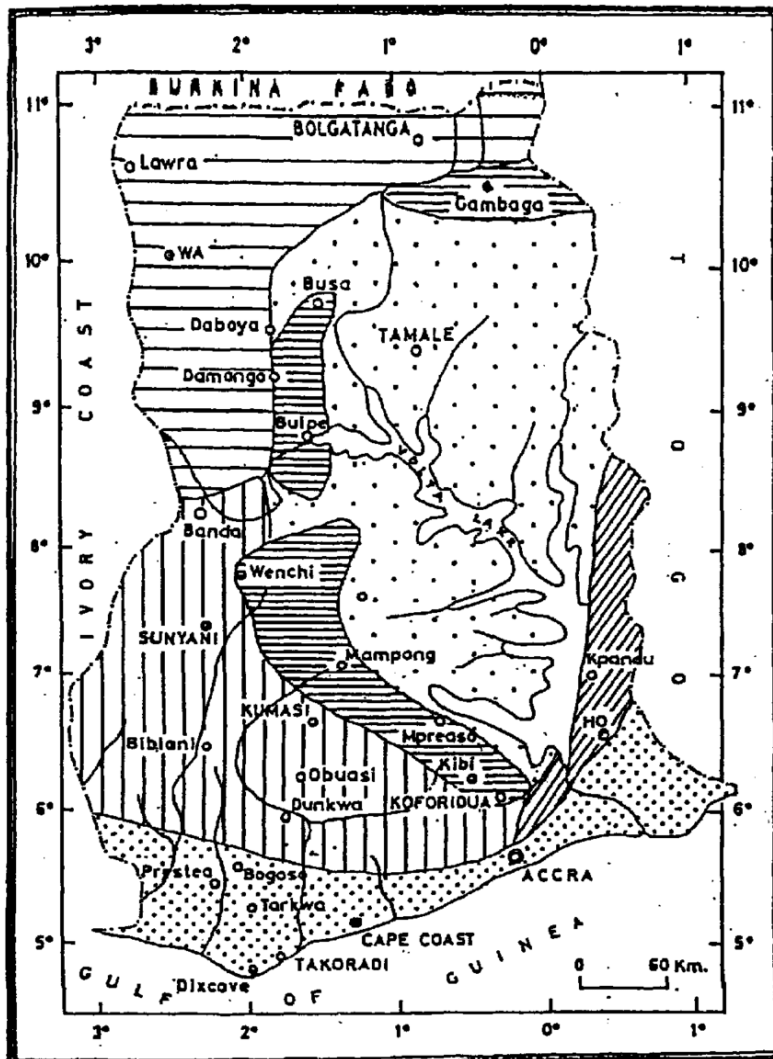
Voltaian Sandstone Basin (VSB). Covering an area of about 112,768km², the VSB is made up of an almost flat extensive plain with heights ranging between 60m and 150m in that part of the basin south of the east-west Black Volta and up to about 180m above sea level in that part north of the river (Dickson and Benneh, 1988).

Rides and Escarpments. These comprise the Southern Voltaian Plateau (SVP), the Gambaga escarpment and the Akwapim-Togo Ranges. The SVP marks the southern boundary of the Volta Basin while the Gambaga scarp marks the northern limit of the VSB. The average elevation does not exceed 450m above sea level. The Akwapim-Togo Ranges are fold mountains forming the eastern boundary of the VSB. The ranges start from near the mouth of the Densu, West of Accra, and run in a north-easterly direction across the Volta Region and Togo and beyond (Dickson and Benneh, 1988).

The low-lying coastal plains. The coastal plains, only about eight kilometres in width at its western end, stretches eastward through the Accra Plains, where it widens to more than eighty kilometres, and terminates at the south-eastern corner of the country at the lower end of the Akwapim-Togo Ranges. Almost flat and featureless, the Accra Plains descend gradually to the gulf from a height of about 150 meters. The topography east of the city of Accra is marked by a succession of ridges and spoon-shaped valley.

The map below shows the physiographic regions of Ghana.

Figure 2: Physiographic regions of Ghana



Source: Physiographic regions of Ghana (Dickson and Benneh, 1980)

3.2.3 Drainage and Water Resources

Ghana has three major drainage systems, covering about 5% (911,800 km²) of the total area of Ghana. These are the Volta River System (70%), South Western River System (22%) and Coastal River System (8%) (EPA, 2005). Nearly three-fourth of the total land surface area of Ghana lies within the Volta River Basin. The basin can be subdivided into smaller basins – the Black Volta, the White Volta, the Oti and the Volta. The Volta River system basin includes the Oti, Daka, Pru, Sene and Afram Rivers. Many of the streams and tributaries of the major rivers in northern Ghana, all of which are tributaries of the Volta System dwindle in the dry season and flood in the rainy season (Dickson and Benneh, 1988). The Volta Lake, with a surface of 8,500 km², is one of the world's largest artificial lakes. The total renewable water resources are estimated to be 53.2 billion m³ per year (EPA, 2016).

The South Western River System comprise the Bia, Tano, Ankobra and Pra basins. The Pra has the largest basin in the closed forest. Unlike the rivers in northern Ghana, the forest rivers are perennial with higher flow pattern (Dickson and Benneh, 1988).

The Ochi-Nawuka, Ochi Amissah, Ayensu, Densu and Tordzie rivers make up the coastal river system (EPA, 2016). The only area of internal drainage in Ghana is that around Lake Bosumtwi, a natural lake

with a surface area of approximately 39km² and surrounded by hills. It is located about 34km to the South-East of Kumasi (Dickson & Benneh, 1988) where numerous streams flow into the lake.

The above characteristics of water bodies in the two halves of Ghana imply that any disturbance of water quality resulting from human activity (feeder road and dug-outs construction, etc.) could exert severe effects in the northern half during the long dry season. The characteristic widespread seasonal flooding requires careful sub-project site selection or the need to elevate the base of roads significantly above the general elevation of the corridor neighbourhood. In the southern half, the regularity and high flow of rivers potentially enhance the assimilative and regenerative capacity of the water bodies to support water quality and aquatic life (MRH, 2007).

3.2.4 Water Quality

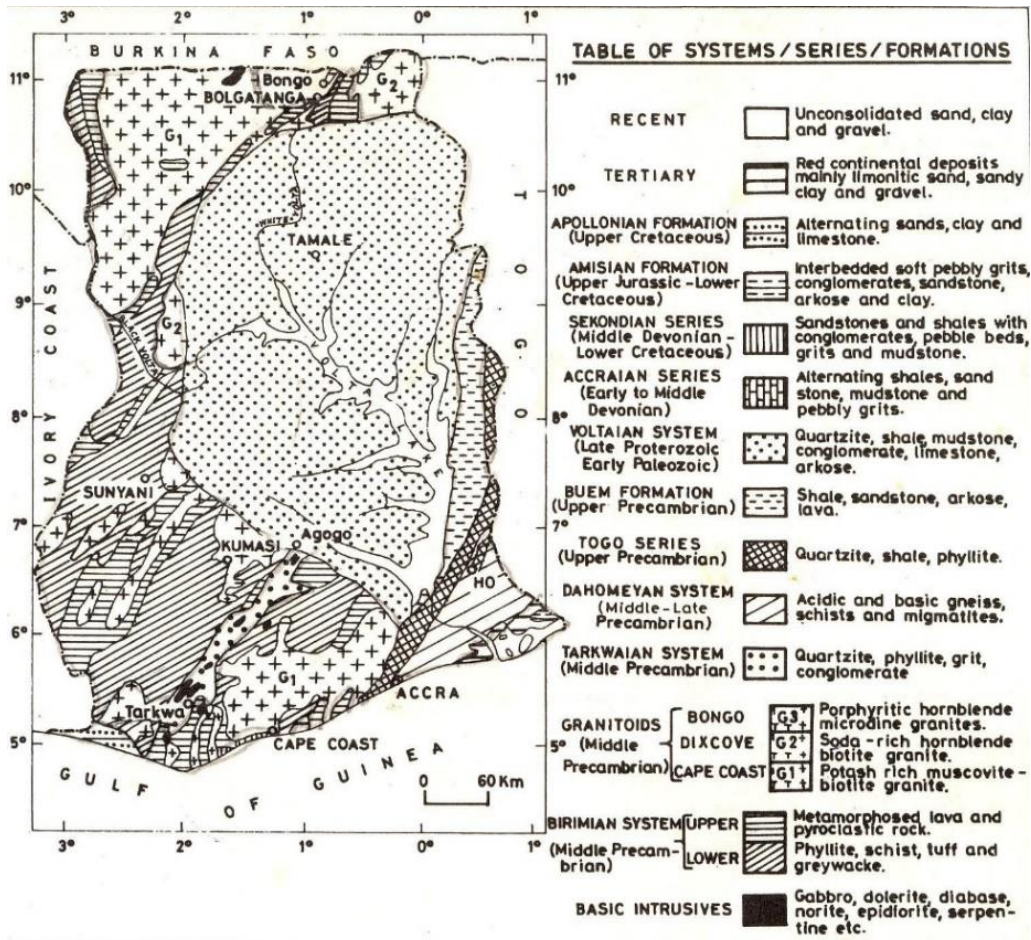
Compared to groundwater, surface water quality is below drinking water quality standards. This is mainly attributed to anthropogenic activities such as the discharge of untreated waste materials into water bodies, farming along water systems and illegal artisanal mining (EPA, 2017).

The water quality in many of Ghana's surface water systems has been declining since 2004. Water quality analyses conducted between 2005 and 2014 showed a decreasing water quality over the period (EPA, 2017). Studies conducted (Ansa-Asare & Gordon, 2012) on the pollution of the Densu, Birim and Ayensu showed high levels of concentration of ammonium and other nutrients in the rivers. These contaminants were largely from domestic and agricultural sources. In the case of the Birim, the poor quality is because of mining activities (EPA, 2017).

3.2.5 Geology

About two-thirds of the country is dominated by Paleoproterozoic Birimian rocks consisting of five evenly spaced volcanic belts trending northeast-southwest. The intervening basins between the volcanic belts are filled by sediments. The remaining one-third is made up of post-Birimian rocks. The map below shows the geological map of Ghana.

Figure 3: Geological map of Ghana



Source: Geological Map of Ghana: (in Geophysical Investigation Report of the Komenda Sugar Factory - Ebenezer Gyamera, 2018)

3.2.6 Soils

The soils of Ghana are derived from rocks of the mid-Paleozoic age or older, comprising mainly SiluroDevonian sandstone and shales and some igneous and granitic material (Dickson and Benneh, 1980). In the forest zone, where the annual rainfall is between 1,000 and 2,000 mm, forest ochrosols are found. These soils developed from a wide range of highly weathered parent materials including granite, Tarkwaian and Birimian rocks. The soils are porous, well-drained and generally loamy. In the wetter forest areas, sandy Oxysols are found. Lithosols are usually found on steep slopes made up of hard-resistant rocks. The soils in the Voltain and savanna plains are mainly of groundwater laterites and savanna ochrosols. The laterites are developed over both the Voltain shales and granites. They are characterized by the presence of a cemented layer of ironstone (also called iron pan) at shallow depths below the surface of the soil, through which rainwater does not percolate easily. Thus, the top layers of the soil become waterlogged right up to the surface in the rainy season but dry up in the dry season. The savanna ochrosols are formed over granites, Birimian rocks and Voltain shales. They are well-drained, porous, and loamy.

In the coastal plains, the soils are younger and are closely related to the underlying rocks. They are mainly a mixture of savannah ochrosols, lateritic sandy soils, tropical black earths, sodium vleisols, tropical grey earths and acid gleisols and coastal sands (Dickson and Benneh, 1980). The lateritic soils found here are developed over acid gneiss and granite and consist of sandy soils overlying a hardened layer of clay, not iron pan. It is this layer of clay which impedes downward drainage and causes water

logging in the wet season. The tropical black earths are developed over basic gneiss. During the rainy season, they are heavy, plastic and sticky but in the dry season, they become hard and compact and develop wide cracks. The tropical grey earths consist of a few centimetres of firm grey sand overlying a very hard and compact clay layer.

3.3 Biological Environment

3.3.1 Vegetation/ Flora

Ghana has six agroecological zones, distinguished by natural vegetation and influenced by climate and soil characteristics: Sudan savannah, coastal savannah, Guinea savannah, transition zone, semi-deciduous forest and rain forest.

Sudan Savanna. The Sudan savanna, which covers an estimated area of 1,900 km², consists of short drought and fire-resistant deciduous trees interspersed with open savanna grassland. Grass cover is very sparse and in most areas, the land is bare and severely eroded. Common grasses include *Andropogon* spp., *Heteropogon* spp; *Hyparrhenia* spp; *Aristida* spp; and *Loudetia* spp. (Sam et al; 1996). The tree cover is very low. Common trees include *Anogeissus leiocarpus*, *Acacia* spp; *Terminalia microcarpa* and *Vitellaria paradoxa*. In the densely settled and cultivated areas, important economic trees such as *Adansonia digitata*, *Ceiba pentandra*, *Butyrospermum parkii*, *Faidherbia albida* and *Parkia Antiaris africana*, *Ceiba pentandra*, *Albizia zygia* and *Azadirachta indica*. *Baphia nitida*, *Grewia* spp, *Griffonia simplicifolia* and *Milletia* spp. are among shrubs found in the zone and of importance for browse feeding for livestock. Short and medium grasses are the dominant plant species. These include *Andropogon gyanus* and *Hyparrhenia dissoluta* in upland areas and *Vetiveria fulbibarbis* and *Brachiaria falcifera* in low-lying areas. *Panicum maximum* often occurs in moist areas.

The Forest-Savanna Transitional Zone (Derived Savanna). This zone, covering about 8,300 km², occurs as a normal strip about 48 km wide along the north and the northeastern limits of the semi-deciduous forest. Most of the tree species of the forest zone occur in this area in addition to such species as *Daniella Oliveri*, *Terminalia macroptera* and *Borassus aethiopum*. These trees occur in association with tall to medium tall grasses such as *Andropogon* and *Pennisetum* spp.

The High Rainforest. The rainforest covering an area of about 7,500 km² is located in the south-western corner of the country. The vegetation is generally evergreen although some species common to the semi-deciduous forest may be found. Such species tend to shed their leaves during the dry season. The zone is characterized by the *Cynometra-Lophira-Tarrietia* association with *Cynometra ananta*, *Lophira alata* and *Tarrietia utilis* as indicator trees. The topography is undulating to rolling with numerous freshwater swamps potentially suitable for rice cultivation occupying low-lying valley bottoms. The swamp vegetation consists of *Raphia* palms with shrubs such as *Alchornea cordifolia*, *Caropa procera* and *Macaranga* spp. entangled by various climbers.

The Semi-deciduous Forest Zone. The semi-deciduous forest zone is about 66,300 km² in extent and forms about 90% of the total forest zone. The characteristic associations are *Celtic-Triplochiton* and *Antiaris Chlorophora*. The indicator trees for the former consist of *Celtic milbraedii* and *Triplochiton scleroxylon* whilst the latter is characterized by *Antiaris africana* and *Chlorophora excelsa*. It is within this zone that most food crops and cocoa cultivation takes place. Most of the timber for both local needs and export comes from the zone. As a result of these activities, the vegetation outside forest reserves consists mainly of forest regrowth, thicket, secondary forest, and swamp thicket.

The Rangelands of Ghana. The Sudan, Guinea and Coastal Savanna constitute the rangelands of Ghana. These cover an area of about 156,000 km² which is approximately 65.7% of Ghana's land area. The Interior Savanna (Guinea and Sudan) holds about 74.4% of the nation's cattle population of 1.25 million and 40% of the small ruminant population of 4.95 million. The annual forage production of the rangelands was estimated as 10.6 million mt of which some 70% were from grassland herbage.

3.3.2 Fauna

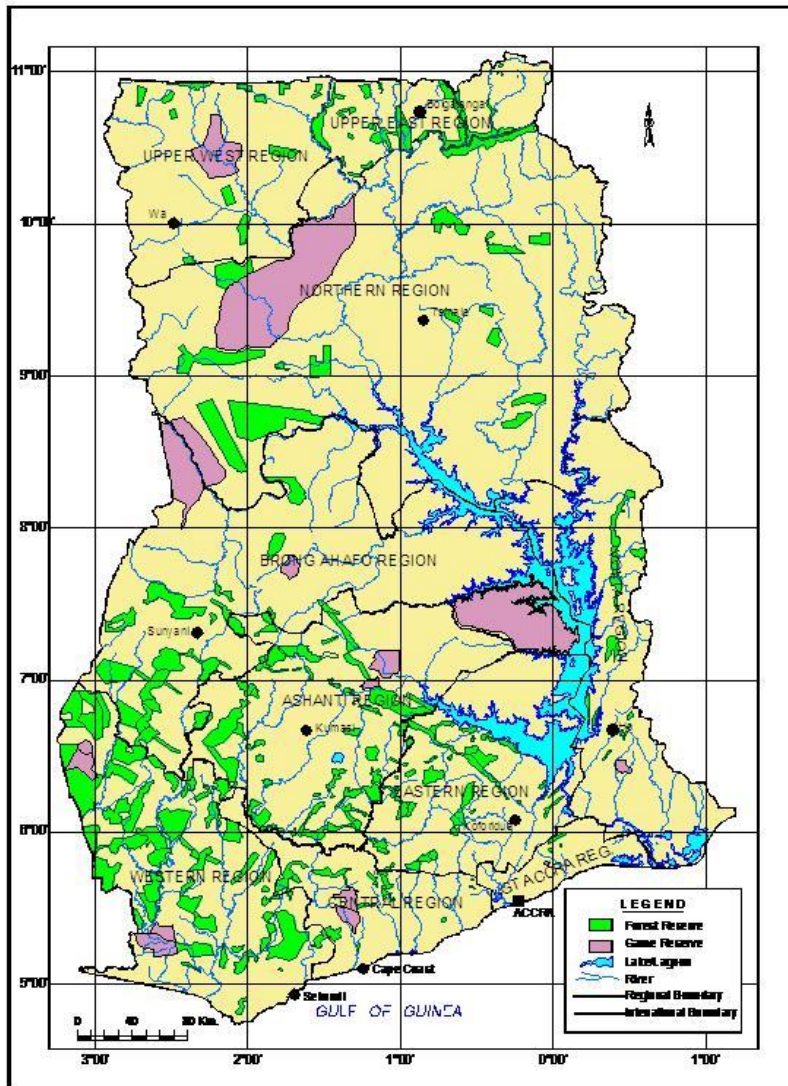
The fauna of Ghana, though thought to be relatively impoverished, comprise a diverse array of species including several of conservation concern (MES, 2000). Many of the ecologically important areas are protected. These include:

- Bia and Kakum Conservation Areas
- Bomfobiri, Owabi and Agumatsa Wildlife Sanctuary;
- Kogya Strict Nature Reserve
- Digya National Park
- Kalakpa Resource Reserve
- Gbele Resource Reserves
- Mole National Park

Current records indicate that there could be as many as 221 species of amphibians and reptiles, 724 species of birds and 225 mammalian species (with 93 recorded to inhabit the savannah ecological zone; MES, 2002, cited in Ashong, 2004). Threatened species in Ghana include four species of marine turtles and three species of crocodiles. Three species of frogs (*Hyperolius baumanni*, *H. fusciventris* and *H. sylvaticus*) and the lizard, *Agama sylvanus* have been found to be endemic in the country (MES, 2002).

A total of over 3,600 plant species, representing the three major taxonomic groups can be found in Ghana (MES, 2002). The wet evergreen forest exhibits the most diverse level of endemism and species richness in Ghana. The Ankasa and Nini-Suhien Conservation Areas are biological ‘hotspots’, because of their high biological diversity (CI, 2002, cited in EPA, 2005).

Figure 4: Map of Protected Areas in Ghana



Source: Forestry Commission (2017) ESMF for REDD+ Mechanism in Ghana

3.4 Socio-economic and Cultural Environment

3.4.1 Population

The 2021 Population and Housing Census of Ghana Statistical Service estimated the total population of the country to be 30.8 million, made up of 49.3% males and 50.7% females with a dependency ratio of 66.0%

Age-Sex Distribution. Data generated from the LFS indicates that a higher proportion of the population exists in the lower age groups. The proportion in the age group 0-14 stands at 39.9 percent of the nation, while the proportion for urban and rural areas was found to be 35.7 percent and 44.2 percent, respectively. This demonstrates higher fertility in the rural areas compared to the urban areas (GSS, 2016). Ghana's dependency ratio (the ratio of persons in the "dependent" age group (generally under age 15 and age 65+ to those in the working population; 15-64 years) is 81.3 percent, with the males having a higher dependency ratio of 92.2 percent as against the female population (72.5%). With regards to urban-rural differentials, the dependency ratio in the rural population (98.1%) is higher than that of the urban population (67.4%). It is notable that, for both sexes, the population in the working age group 15-64 at the national level is more than half (55.1%) of the total population. The same pattern is

observed in both urban and rural areas, with the urban area having more than half (59.7%) of the population in the working age group 15-64, while the rural area has a little over half (50.5%) of the population in the working age group 15-64 years (GSS, 2016).

Mean Household Size. There has been a reduction in the mean household size in Ghana from 4.4 during the 2010 Population and Housing Census to 3.2 in the 2015 Labour Force Survey, which implies a difference of 1.2 in the mean household size (GSS, 2015). The mean household sizes for urban and rural areas are 2.9 and 3.5 respectively. Prior to the creation of six additional regions in year 2019, the Northern region had the highest mean household size of 5.1 in 2015, followed by Upper East with 4.3. Greater Accra region has the least mean household size of 2.6.

School Attendance. At the national level, more than half (72.1%) of the population 3 years and older, in rural areas, has never attended school compared to 27.9% in urban areas. Among the male population 3 years and older in the urban area, a little over one-fifth (20.8%) has never attended school, compared to more than half (79.2%) of their male counterparts in rural areas (GSS, 2016).

Literacy. At the aggregate level, the literacy rate of the population 11 years and older in Ghana is 63% for both sexes, 71.8% for males and 55.5% for females. Urban-rural variations exist, with the literacy rate for both sexes in the urban area (74.5%) being higher than in the rural areas (50.1%). This means that there are more literate individuals in the urban communities than in the rural communities. The distribution by region indicates that the Greater Accra region has the highest literacy rate for both sexes, as well as for urban and rural communities in the region, while the lowest literacy rate for both sexes is observed in the Northern region (34.5%).

Educational Level. Of the total population 3 years and older, 32.8% have attained primary education while less than one percent (0.7%) have attained a post-graduate degree. There are variations in the level of education by urban-rural location and by sex, particularly for higher education. At the national level, less than 4 percent (3.9%) of the male population had attained a Bachelor's degree compared to less than 3 percent (2.2%) of the female population in the same category (GSS, 2016).

3.4.2 Economic Activity

Employment. About two-thirds (67.6%) of the population is employed (all those of working age (15 years and older) who, during the seven days preceding the interview, were engaged in any activity to produce goods or provide services for pay or profit) 9.1% are unemployed and 23.3% are not in the Labour force. Irrespective of sex, per the definition, the population in rural areas (70.4%) is more likely to be employed than those in urban areas (65.1%).

The regional distribution of the current activity status of the population indicates that the Northern region has the highest proportion of persons employed (76.4%) while the Upper East region has the lowest (58.7%). It also shows that more males than females are employed, depicting the national pattern. Conversely, the Upper East region has a higher proportion of persons who are unemployed (13.2%) compared to the other regions; the region also recorded the highest proportion of those who are not in the Labour force (28.0%).

The data generated also suggest that the proportion of the employed Labour force increases with increasing age except after 49 years. The proportion of the employed increased from 24.9 percent for age 15-19 through to age 45-49 where it peaks at 88.7 percent. The employed population then starts decreasing from age group 50-54 (88.1%) to age 65 years and older (44.3%).

Occupation. Skilled agricultural, forestry and fishery workers constitute the largest occupational group, engaging 2,949,805 of the currently employed. However, more females (1,910,966) are engaged as service and sales workers compared to any other occupation. Whereas in the rural localities, skilled agricultural, forestry and fishery work is the main occupation for the employed (employing 2,537,466

of those in current employment), service and sales is the main occupation for those in urban localities, engaging 1,792,906. More than half of females (52.2% or 1,366,355) in urban localities are engaged in service and sales work (GSS, 2016). Agriculture, forestry, and fishing remain the main industries of employment, engaging 3.3 million of the currently employed. This is followed by wholesale and retail trade and the repair of motor vehicles and motorcycles (1.9 million). Manufacturing is the third major industry of employment, engaging about 1.2 million of the currently employed.

Female Labour force participation over the years has been lower than that of their male counterparts. However, data gathered shows that in absolute numbers, there are more women working in Ghana today (4,981,953) than the number of men (4,281,393) in current employment.

Hours of Work. Most males (29,103) who are managers work at least 40-49 hours a week. More females (157,582) than males (115,047) who work as service and sales workers work at least 70 hours a week. The average hours worked a week by currently employed persons is 33.4. The highest mean hours of work per week were by persons engaged in administrative and support service activities (54 hours) and those in the transport and storage industry (45.4 hours). The least number of hours worked per week is in the agriculture, forestry and fishing industry (26.3 hours), (GSS, 2016).

Secondary Occupation. A secondary occupation is any task or activity that the employed performs continually or at a certain point in time in addition to their main employment. Workers take a second job to tackle “working poverty” (make ends meet and help maintain their standard of living).

About six percent (5.3%) of the currently employed have a secondary activity. The proportion of those engaged in secondary activity is higher in rural (6.4%) than urban (4.3%) localities. Available data also indicates that about one in every ten male professionals (10.4%) in rural localities engaged in a secondary activity. Again, 6.1% of female skilled agricultural, forestry and fishery workers in urban localities engaged in secondary activities. More than one in ten females engaged in craft and related trades in rural localities (10.9%) engaged in secondary activities.

Agricultural Activities. A total of 2,203,965 households representing 25.8 percent of Ghanaian households are engaged in agricultural activities of which 1,690,026 are headed by males (76.7%) and 513,939 or 23.3 percent by females. Among the urban households, 428,065 (9%) were engaged in agricultural activities out of which 318,409 and 109,656 households were headed by males and females respectively.

Among the rural households, nearly 47% are engaged in agricultural activities of which 1,321,429 and 402,051 are headed by males and females, respectively. Agricultural activities in Ghana are predominantly rural (80.6% or 1,775,900).

The Northern region has the highest proportion of households (54.5%) engaged in agricultural activities, out of which 272,173 and 22,499 are headed by males and females, respectively. This is followed by the Brong Ahafo region with 45.7 percent (made up of 242,828 male-headed households and 82,987 female-headed households). The Greater Accra region (2.4%) had the least number of households engaged in agricultural activities of which 31,392 and 9,281 households are headed by males and females, respectively.

3.4.3 Infrastructure

Roads. The Ministry of Transport (2011) reported that 95% of transportation in Ghana is by road. This is an indication that road transport is the predominant means of transportation by Ghanaians which is used for passenger travel as well as movement of goods across the country and neighbouring West African countries. According to the Medium-Term Expenditure report submitted by the Ministry of Roads and Highways (2016), there were 72,381 km of road networks in Ghana as of 2017 with 14,873 km being trunk roads, 15,463 km being urban roads and the remaining 42,045 km being feeder roads.

It was also reported that 31% of these roads are being maintained or rehabilitated as required with 66.6% of the roads having a rural accessibility index (i.e. the percentage of human population within 2 km of the roads). Routine maintenance was carried out so that 10,250 km of the trunk roads, 10,679 km of the feeder roads and 7,200 km of urban roads were being maintained as of September 2017. During this period, periodic maintenance (resealing works, spot improvement and re-gravelling) was carried out on 199km of trunk roads, 205 km of feeder roads and 295 km of urban roads. Minor upgrading was also carried out on 47 km of trunk roads, 313 km of feeder roads and 26 km of urban roads. A total of 75% of the paved road networks are in good condition while 74% of unpaved road networks are in good condition (Akinradewo et al, 2019).

Small Earth Dams and Dugouts.

A survey undertaken by Ghana Irrigation Development Authority (GIDA) in 1999 and updated in 2008 by the joint effort of GIDA and Ministry of Food and Agriculture (MoFA) in 2008 indicated that the total number of dams and dugouts on informal irrigation in all the hitherto 10 regions of the country was approximately 786 dams and 2,606 dugouts in the informal sector. Volta Region recorded the highest number of dams (167), while Ashanti Region recorded the least (22). In the case of dugouts, the highest number of 783 was recorded in Western Region with the Upper West Region recording the least (54).

4. POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

Environmental risks and impacts could occur in two ways – Potential impacts of prevailing baseline environmental conditions on the proposed projects; and, potential environmental and social impacts of the proposed project on the baseline environment and social conditions.

The Table 4 below postulates on the likely Impacts of current climatic conditions (and climate change) in the different climatic zones on the proposed sub-project implementation.

Table 4: Likely effects of climatic conditions on project activities

Climatic zone	Rainfall characteristics	Impact of Current Climatic conditions on LIPW subprojects	Potential Impacts of future Climatic conditions due to Climate Change on LIPW Activities
South-Western Equatorial Climatic Zone	<ul style="list-style-type: none"> • Wettest climatic zone in Ghana • Double rainfall maximum: <ul style="list-style-type: none"> • May to June • September to October • Mean annual rainfall is over 190cm • Average monthly rainfall of not less than 2.5cm. 	<p>Dust generation during construction will be minimal. However, between May and June, the construction of sanitary facilities, feeder roads and flood control structures may be heavily impeded. Collection and transportation of waste might also face challenges because of the poor nature of most roads. Movement of machinery may be difficult because of the amount of rainfall. Sand for road construction if kept unprotected could also be eroded into water bodies, thus causing siltation. Regular watering of planted seedlings may not be required but will require frequent weed control.</p>	<ul style="list-style-type: none"> • LIPW sub-projects very close to the coast could be submerged or eroded. • Late start coupled with erratic and early termination of rains could lead to lower plantation crop yields than expected.
Wet Semi Equatorial	<ul style="list-style-type: none"> • Double maxima rainfall regime: <ul style="list-style-type: none"> • May to June • September to October • Mean annual rainfall is 125cm • Akwapim -Togo ranges, however, record average annual rainfall of over 165cm 	<p>Construction of all forms between the months of May and June would be problematic. Precipitation experienced between September and October is not as heavy as that of May-June.</p> <p>Movement of noisy construction machinery in zone of the Akwapim Togo Ranges could cause landslides (and mudslides during the rainy season)</p>	<ul style="list-style-type: none"> • Low rainfall and rainfall extremes will negatively affect plantation crop yields. • Rainfall extremes could lead to increases in peak discharges beyond the designed capacities of drains and culverts.
Dry Equatorial Climatic Zone	<ul style="list-style-type: none"> • Driest climatic zone in the country • Double rainfall maxima: <ul style="list-style-type: none"> • May to June • September to October • Mean annual rainfall of between 74cm and 89cm 	<p>Due to the relatively low level of rainfall, construction might not face much difficulty even during the rainy season. However, due to the poor drainage network in Accra, flooding is common in rainy seasons, which can impede construction activities (between May and June). Construction of flood control structures during this period will be a challenge in flood-prone urban areas, especially in Accra.</p>	<p>Sub-projects very close to the coast could be at risk of sea erosion and flooding.</p>
Tropical Continental Climatic Zone	<ul style="list-style-type: none"> • Single rainy season: (May to October) • Mean annual rainfall is between 100cm and 115cm 	<p>Long dry period (November to April) gives enough ideal time for construction activities. Though the rainfall amount is relatively low, the existence of the iron pan implies that a relatively small amount of rainfall could still cause flooding. As a result, LIPW feeder roads and climate change mitigation initiative sites could get flooded. Many</p>	<ul style="list-style-type: none"> • Rising temperatures could lead to small earth dams/ dugouts drying out earlier than expected due to the increased rate of evaporation. • Long dry spells and erratic precipitation could affect tree crop yields.

Climatic zone	Rainfall characteristics	Impact of Current Climatic conditions on LIPW subprojects	Potential Impacts of future Climatic conditions due to Climate Change on LIPW Activities
		communities in this zone may require flood control structures.	<ul style="list-style-type: none"> • Frequent flooding could lead to LIPW sites being flooded. • High out-migration may result in a decrease in the supply of labour required to undertake LIPW sub-projects

As indicated previously, GPSNP2 AF will have six components. Of the six, four of the components will involve direct interaction with beneficiaries, potential beneficiaries and their communities, with the remaining being systems building and administrative. Based on past experience with GPSNP, it is expected that only the LIPW will have significant environmental and social impacts due to the nature of the public works, as such, this ESMF will largely focus on LIPW, but also discuss the impacts of some of the impacts of income generating activities of the productive inclusion component, and social impacts for the LEAP cash transfers program. Table 5 below provides the risk rating of the components.

Table 5: Summary of Project Components and Expected Impact

Component	Expected Impact
Productive Inclusion	Moderate (potential impact from this component to accommodate activities from grant to beneficiaries)
Labour-Intensive Public Works	Significant (especially construction and rehabilitation of roads, small earth dams and clean kitchens - main focus of this framework)
LEAP cash transfers	Low (possible social impacts discussed)
Ghana School Feeding Programme (GSFP) Payments	Moderate (risks related to the GSFP include risks around elite capture in the engagement of caterers under GSFP and occupational health and safety risks especially related to fire)
Ghana National Household Registry	Low (data collection exercise will interact with communities over a short period)

The identification of actual environmental and social Impacts (significance, duration of impacts, extent etc.) of any proposed project depends on several factors – key amongst them being the location, and hence the baseline environmental and social conditions, technology to be used, scale of the proposed project, the duration (implementation period) and the season of the year during which it is implemented. While some of the parameters of the proposed sub-projects are known, such as the type and scale of each sub-project and technology, the precise locations of each sub-project are unknown. Hence, generic impacts observed from similar projects (GSOP and GPSNP) will be leveraged for decision-making, given that as stated previously, GPSNP2 AF will be scaling up GPSNP initiatives.

Environmental Considerations for the Ghana School Feeding Program

The Ghana School Feeding Programme as a sustainable development tool is designed to reduce poverty and increase available food while conserving natural habitats. According to the National School Feeding Policy environmental sanitation and management must be a shared responsibility if school feeding is to be sustainable and effective. Policy awareness and interpretation, acquisition of technical knowledge, applied research, public education, information communication, and advocacy of environmental management and school feeding are therefore required. School feeding does involve the use of natural

resources, but it also provides an opportunity for responsible environmental utilisation. The GSFP seeks to identify new sources of sustainable and renewable energy including the utilization of LPG as opposed to firewood as a cooking means wherever applicable and enhancing the hygiene of cooking areas through the construction of clean kitchens using locally sourced sustainable materials i.e. compressed earth. Caterers are also required to keep up-to-date certifications from the Environmental Health Department of the Assembly.

4.1 Expected Positive Effects of GPSNP 2 AF Implementation

Potential reduction in the rural–urban migration. The phenomenon of rural-urban migration is fuelled by the inability of individuals, particularly youth, to find gainful employment, especially during the slack agricultural period in many poor communities. The project when implemented, would offer large numbers of people and households’ gainful employment during the slack agricultural period. This will significantly discourage the rural-urban drift during such periods. Part of the income received could also be invested in farm expansion during the farming season, among others.

Community ownership for facilities. Experience under GSOP and GPSNP suggests that infrastructure constructed through Labour-based methods tends to engender community interest and ownership. The sub-projects typically last over a long duration, thereby benefiting the community as a whole.

Low migrant-worker influx. Reliance on local community members for the project presupposes that there will be a very low migrant-worker influx into these rural communities. The attendant social and health risks of, for instance, HIV/AIDS spread, cultural insensitivity and conflicts, social inequalities, pressure on existing infrastructural facilities, increased incidence of teenage pregnancy and dropout rates, etc. otherwise associated with the influx of migrants will as such be minimized within beneficiary communities.

Enhanced institutional capacity to support decentralization. A plethora of training activities shall be undertaken especially at the Regional, Municipal and District Assemblies (MDA), and Community levels. Capacity building, especially in the project E&S issues, will be beneficial in the implementation of other community projects to be implemented by the various MDAs.

Skills development. Through the PI component, beneficiaries will receive varied vocational skills to enable them to earn sustainable incomes. Such skills include shea-butter processing, livestock rearing, rice parboiling, basket and hat weaving etc. Such skills will be beneficial to the trained beneficiaries, who can then teach and/or employ others in their communities to support their micro-enterprises. As part of the training, beneficiaries will receive tailor-made manuals in life skills and business management, and on-the-job skills training which will help them in their enterprises but can also be beneficial to the larger MDA for use in other projects.

Gender Empowerment. Under both GSOP and GPSNP, over 60% of the beneficiaries were female. This achievement will be replicated under GPSNP 2. This would eventually lead to the economic empowerment of women, especially those who are household heads. In addition to economic empowerment, through GPSNP programming, women were also given a voice in the decision-making aspects of the project including participation in the community validation committees and facilities management committees of LIPW. GPSNP2 will continue to identify opportunities to empower women. For instance, as the project continues to adopt full digitalization of the payment process, women can be trained in the use of ICT.

Again, the Ghana School Feeding Programme currently has 80 percent of contracted caterers being women while 100 percent of cooks are also women. GSFP provides valuable opportunities to enhance

women's income-earning capacities as well as men's. SDG 5 seeks to provide decent employment for women to bridge the gaps in empowerment between men and women; and this is possible under school feeding as farmers, marketers, traders, and caterers. On the other hand, it is also important that women are as appreciably represented alongside men in the governance, decision-making, planning, service delivery, and quality assurance aspects of the programme.

Nutrition and food security: GSFP is in all 261 MMDAs across the 16 Regions of Ghana. As of the close of the 2022 academic year, a total number of 3,620,468 pupils had benefitted from the program. The program provides children, from Kindergarten to Primary 6, with one hot meal per day for the approximately 196/200 days of instructional learning at school. The GSFP addresses Goals One, two, and Four of the Sustainable Development Goals (SDGs) which are: to end poverty in all its forms everywhere; end hunger and achieve food security and improved nutrition, and to ensure inclusive as well as equitable quality education opportunities.

Financial inclusion. A large portion of the Ghanaian populace is outside of the financial system. Under GPSNP, beneficiary payments are issued onto their E-zwich cards, and each beneficiary has a bank account. This will be replicated under GPSNP 2. Access to a transaction account is a first step toward broader financial inclusion since it allows people to save money and send and receive payments. A transaction account can also serve as a gateway to other financial services. Further, under GPSNP2, the project will explore additional options for accessing finance, including the use of mobile money, as well as will provide periodic training to beneficiaries on financial inclusion, particularly focusing on savings.

Improved social cohesion. The implementation of these social projects allows beneficiaries to access cash, which has been reported to boost social cohesion. Based on assessments from GPSNP, beneficiaries indicated that they have gained respect within their communities as a result of participating in these projects. Observations from the project's impact evaluation pointed to enhanced social cohesion and strengthened networks. Some women indicated that they did not have to consider employment options outside their communities, which would have required them to leave their homes. As one respondent observed, "We can (now) stay back in our communities with our families". Focus group discussions revealed that having additional incomes for women reduced domestic disagreements and communal conflicts over water for animals. Generally, beneficiaries and respondents suggested that the participation of women in various LIPW sub-projects enhanced their visibility and agency in public decision-making and resulted in their empowerment. (Osei-Akoto et al, 2016).

On the impact of the GSFP on children, there has been a direct and positive relationship between the presence of the GSFP and the enrolment and retention of pupils. Research has also proven that the food pupils eat in school contributes significantly to the nutritional absorption of children, increased muscle mass, enhanced immunity to diseases and general improvement in learning outcomes. The GSFP also encourages community participation and ownership through the formation of school management committees which is an important ingredient for sustainability.

4.2 General Potential Risks of GPSNP2 and GPSNP2 AF Implementation

Upsetting the spirit of community volunteerism. Many community projects are undertaken through communal (self-help) labour. Such regular free labour is regarded as a community contribution towards improving livelihoods. The LIPW's approach is likely to diminish the communal spirit and the self-help practice commonly exhibited by the people. It is however noted that the type of sub-projects – feeder roads and small dams involved in the project are not the usual type of candidate projects for self-help labour. The 'money-for-community work' may therefore not significantly affect the willingness to contribute free labour in future for community services.

Low expertise in labour-based works at the local level. Though experience exists for labour-based works for LIPW under GSOP and GPSNP, it is mostly at the regional or national level, with capacity

at the district level still limited. Good numbers of experienced local labour-based contractors are needed to enhance competition, which will eventually lead to quality work products. Local contractors will also have some level of commitment towards the work because they are locals themselves, as compared to others who might not feel as obligated.

Potential delays in project completion. LIPW projects are non-conventional requiring that contractors engaged possess relevant onsite labour management skills. Where this is lacking, it is often difficult to achieve planned milestones. In situations where work drags on for months, fatigue may set in, especially in cases where workers are subjected to long hours of work. Diminishing returns could reduce output and delay contracts beyond the stipulated completion schedule. Improper management of the labour (beneficiaries) at the site could result in reduced profitability for the contractor, causing the contractor to lose interest in the project, and possibly abandon the site.

Failure of sub-project activities due to political interference. Experience from GSOP and GPSNP suggests that sub-project activities have the possibility of failure due to political interference. For instance, some politicians dictate where subprojects should be which may go outside project guidelines of working in the poorest communities.

Social conflict (Unclear ownership of resources). Interactions with the M/DA and the communities revealed that ownership of completed resources could cause social conflict if proper measures are not put in place. This is particularly in the case of the Climate Change Mitigation Intervention (CCMI) activities where yields can draw in some good amounts of money.

Spread of COVID-19. LIPW methods require a large pool of labour to accomplish reasonable tasks within a day. For instance, in a typical dugout construction site, as many as 300 people may be engaged daily. With the recent peak of the COVID-19 pandemic, and its possibility to exist over a long period, the regular daily work of public works could pose a danger to skilled and unskilled workers. In response to the COVID-19 pandemic, both the GPSNP teams developed COVID-19 response plans for each component (enclosed in the Appendices). The strategies detailed in these response plans will be used in GPSNP2 should the COVID-19 pandemic persist over the implementation period.

4.3 Potential Positive Impacts and Risks to Rehabilitation of Feeder Roads

4.3.1 Potential Beneficial Impacts

The socio-economic benefits expected to be realized under the feeder roads rehabilitation sub-projects include the following:

Improvement in Rural Economy. Money earned by beneficiaries is expected to engender increased demand for goods and services. Increased demand is expected to engender increased production and hence, improvement in the economy of rural and peri-urban areas where implementation will occur. In addition, Improvement in accessibility to farms, communities and market centres in the project communities is expected to facilitate the integration of economic and social activities at all levels. Feeder road rehabilitation might engender increased production of goods and farm produce as producers are able to access market centres easily. This might also reduce post-harvest losses. The improvement in the economic activities might also contribute towards reducing rural-urban migration.

Increased accessibility to social services. Rehabilitation of feeder roads will help improve the welfare and general well-being of rural and peri-urban Ghana through increased access to health care, education, and other social services, rendered closer due to enhanced accessibility. The effect on overall vehicle operational costs of improved feeder roads will be positive and significant. This will significantly reflect in improved travel and waiting times, increased frequency of transport services and reduced transport costs.

Women's empowerment. Improvement in the economy of rural and peri-urban communities is expected to bring new economic openings for women such as improvement in the agriculture and trading sectors. As the rural economy improves, women will expand their opportunities for various enterprise activities, such as catering and trading, since there will be increased demand for food, goods, and services. Additionally, Feeder road improvement (or availability) will indirectly benefit women by easing the drudgery of long-distance walking with children to healthcare centres, schools etc. The transportation of people and products between the engaged communities will become faster and safer.

Gender equality and disability inclusion. The project design makes provision for equal opportunities for men and women, and Persons with Disabilities (PWDs) on subproject activities without discrimination. The project will use the existing Gender Inclusion Plan to guide processes aimed at promoting inclusion for all vulnerable individuals. The project will also intentionally identify work opportunities that can be undertaken by PWDs and sensitize the community on these opportunities.

4.3.2 Potential Undesirable Impacts

Occupational Health and Safety Risks

Injuries. Injuries constitute one of the most important risks in LIPW feeder road rehabilitation. Disregarding health and safety measures could pose risks to onsite workers. Injuries may also arise from road traffic accidents which may occur when parts of roads are being plied while rehabilitation works by numerous project beneficiaries (workers) are underway. This has the potential to harm both workers and road users, including pedestrians. Other sources of injuries are cuts from simple equipment such as pickaxes and cutlasses. Both skilled and unskilled workers will also be exposed to noise and vibration from the use of the hand-held compactor, and, snake bites especially during the site-clearing phase.

Exposure to extreme weather and dust. Beneficiaries working on the feeder roads rehabilitation sites will be exposed to hours of extreme weather. This is likely to be severe in sites located in the Savanna zones (Guinea and Sudan Savanna climatic zones) where temperatures of over 34°C are recorded during the dry season. Additionally, beneficiaries (workers) are expected to be exposed to dust which might compromise their health and well-being.

Public Health Impacts. Feeder roads (especially those constructed under the project) are untarred and generally very dusty. Upon the transformation of a footpath into a feeder road, its usage might engender dust generation, especially during the dry season. Expected health impacts include acute respiratory disorders, lung and heart diseases, and the type of ailment depending on the size of dust particles as well as the materials adsorbed on them. Larger dust particles cause acute irritation of the upper airways resulting in coughs and colds while particles with diameters of the order of 2.5 μ to 10 μ are inhaled into the lower airways, (bronchi and bronchioles) and may enter the lungs. Acute manifestations of its effects include inflammatory conditions like bronchitis, bronchiolitis and pneumonia which may be rapidly fatal. These include damage to health from air (dust) pollution and communicable diseases such as tuberculosis, and malaria whose transmission may be enhanced by pits (collecting water) created from the excavation of borrow pits during construction activities. The public may also be exposed to unguarded ditches. Asthmatics are particularly sensitive to irritant substances like sulphur dioxide (SO₂) which may bring on attacks. Long-term exposure is associated with chronic lung diseases such as lung cancer and silicosis. Apart from respiratory effects, dust may result in irritation of mucous membranes or allergic reactions that may be particularly harmful to the eyes and skin.

Environmental Impacts

Potential water resources. Feeder Road rehabilitation/ development may potentially modify the hydrology of an area, affecting flow characteristics. There can also be deterioration in the water quality of both surface and groundwater. Potential sources of impacts are site preparation and clearing

activities, heaping of materials, blocking and narrowing water channels and flow at certain points. In some cases, the speed of flow may be increased resulting in flooding, ponding, soil erosion, channel modification and siltation of streams. Earthworks, road drainage and excavation, erection of embankments and structures can reduce or raise the water table (by restricting flow). Other sources of water pollution include sedimentation, changes in biological activity in streams and on their banks and contaminated runoff from waste generated by workers (beneficiaries)

Landscape Alteration. Feeder Road rehabilitation/development may lead to landscape modifications. This may be prevalent where the feeder road construction leads to conflict with adjoining landscape features (e.g. natural relief and morphology, hydrology, recreational areas, and cultural heritage sites). Quarrying, burrow pits and gravel winning associated with road construction potentially scar and degrade the landscape.

Impacts on soil. Soil properties may be altered through compaction, topsoil removal and sheet erosion (especially in the South Western Equatorial Climatic Zone), construction waste dumping, excavations and borrow pits. Erosion might result in adverse cumulative effects far beyond the road corridor and the project area of influence, affecting slopes, streams, rivers, and dams/dugouts. Agriculture may be affected and fishing through sediment transfer in run-off into water bodies. Road development although narrow and linear in character removes a considerable amount of land from production. The altered soil may lose its capacity to support plant growth and, hence, some biodiversity.

Noise and vibration. The development of new feeder roads may lead to the introduction of heavy-duty machinery and vehicular movement in the project communities, tooting vehicles' horns, construction, and maintenance activities. These may lead to increased ambient noise levels and vibration far beyond the immediate road corridor. These may cause elevated stress levels and associated behavioural and health problems. Noise also has the potential to disrupt wildlife habitats and movement in sensitive areas.

Habitat destruction and disruption (flora and fauna impacts). Important wildlife habitats are threatened, and endangered species of flora and fauna may be destroyed during feeder road development/rehabilitation. Road corridors, particularly in new construction may cut through ecosystems and compromise their stability and health. Plant and animal communities may be fragmented into weaker ecological sub-units, rendering them vulnerable to invasions and degradation. The opening up of burrow pits to support feeder road construction could be equally destructive to wildlife and habitats. Erosion from constructed and rehabilitated sites (of both road and related areas) can lead to downstream siltation, contaminating water resources and ruining fish spawning grounds. Alterations of flow regimes, flood cycles, tidal flows and water levels can upset trophic dynamics by affecting the life cycle of plankton, with corresponding effects on the entire food chain.

Waste generation and disposal. Different forms of solid and liquid waste including excavation spoil, construction waste, sewage, and garbage are expected to be generated during the construction phase. Areas along roads under construction tend to become centres of local trading which may leave in its trail serious sanitation problems.

Socio-economic Impacts

Land acquisition and property loss. Compulsory land acquisition (expropriation of property for public projects) for feeder road development can result in loss of crops and incomes, social stress, social and psychological disruption for the affected individuals and families.

Cultural resources. Feeder Road developments/ rehabilitation could potentially lead to the destruction of areas of historic, scientific, social and amenity values, and also affect the aesthetics of cultural monuments and archaeological resources. This can occur where road design and construction do not

take account of such cultural heritage and resources. Damage may also be caused by road construction-related works such as quarries and burrow sites, and unregulated access to cultural heritage sites by workers.

Traffic disruptions and diversion. Feeder road construction may engender localized road traffic during the construction/rehabilitation phase. The situation can be aggravated without carefully planned detours and road closures. The effect of traffic disruptions includes increased travel time, congestion, social stress, and agitation.

Utility disruption. Feeder road Construction/ rehabilitation activities may require re-alignment of utility supply lines such as water and electricity. This can disrupt the supply of essential services to communities for rather long periods, especially where road project execution takes an unusually long duration.

Labour risks associated with Civil Works and contractor workers at the subproject level: Given the nature of the project activities, no major Labour risks are envisaged. Subprojects will be implemented by local contractors and most contracted workers will be hired locally. All contractors will be required to have a written contract with their workers materially consistent with the objective of ESS2, in particular about child and forced Labour.

Sexual Exploitation and Abuse, Sexual Harassment, child labour and forced labour are considered low given the nature of project activities. Since civil works to be supported under the project will be very small in scale and prioritized by local communities themselves, the risk of forced Labour is expected to be minimal. Nonetheless, the contractors will be required in their contracts to commit to the use of forced Labour. Every worker on site will be required to sign an anti-sexual harassment policy which was developed during the implementation of GPSNP. Further, as part of monitoring activities, the M&E teams will conduct spot checks to ensure that rules are not violated, and in cases where they are, swift actions will be taken to respond and resolve them.

Table 6: Summary of potential environmental and social risks of feeder roads sub-projects

Potential Risks and Impacts	Possible Sources
Dust/ Emissions	<ul style="list-style-type: none"> • Removal of topsoil/clearing and site preparation • Dumping of spoil materials • Compaction (Manual) • Burrow pits and gravel winning • Haulage of materials
Noise and vibration	<ul style="list-style-type: none"> • Compaction with machinery • Burrow pits and gravel winning • Haulage of materials • Use of implements
Pits/ trenches near road	<ul style="list-style-type: none"> • Landscape disturbance • Gravel removal • Trenching
Construction waste generation and disposal	<ul style="list-style-type: none"> • Over-extended site preparation and unnecessary waste generation • Poor handling of cleared vegetation and topsoil • Inappropriate disposal of spoil and other construction wastes
Water contamination and flooding	<ul style="list-style-type: none"> • Construction-related activities – land clearing, gravel removal, drain/ culvert construction, etc. • Inappropriate disposal of waste • Blocking of drains and drainage/ stream diversion
Disruption or destruction of wildlife	<ul style="list-style-type: none"> • Land clearance
Increased road kills	<ul style="list-style-type: none"> • Higher speeds and traffic volume

Potential Risks and Impacts	Possible Sources
Disturbance of historical or culturally important sites e.g. graveyards, monuments	<ul style="list-style-type: none"> • Land clearance • Sourcing of earth materials
Involuntary resettlement / loss of property and livelihood	<ul style="list-style-type: none"> • Establishment of Right-of-Way
Public health and safety	<ul style="list-style-type: none"> • Exposure to atmospheric emissions from construction equipment • Exposure to excessive and continuous noise and vibration from construction activities • Lack of warning signs and safeguards • Excessive manual work
Workers' safety/ health accidents	<ul style="list-style-type: none"> • Exposure to atmospheric emissions from construction equipment • Exposure to excessive and continuous noise and vibration from construction activities • Lack of warning signs and safeguards • Exposure to extreme weather conditions
Community health and safety	<ul style="list-style-type: none"> • Stench from waste food (GSFP) • Exposure to rodents (GSFP)

4.4 Potential Positive Impacts and Risks to Small Earth Dams (SEDs)

4.4.1 Beneficial Impacts

Improved water supply – Domestic, livestock use, and potentially irrigation. Most rural communities have no access to reliable water for domestic purposes, livestock rearing and irrigation. Such communities rely on boreholes, some of which dry up during the long dry season. Thus, many community dwellers are forced to trek long distances to access domestic water sources. A Small Earth Dam when constructed, could add to the pool of available water sources. This is crucial, especially to communities in the Dry Equatorial Climatic Zone which has a single rainy season with long periods of drought (5 – 6 months) during which period many of the small streams totally dry out.

Increased productivity of Labour/ Agriculture production. Being mostly peasant farmers, communities in the Dry Equatorial Climatic Zone are only engaged productively during the short rainy season (June– October). Thus, most people sit idle during the long dry season as they wait for the onset of the next rainy season. A dugout when constructed could ensure the availability of irrigable water for at least limited vegetable farming during the long dry season.

Empowerment of individuals and communities. With improved incomes of even a limited number of farmers in a community due to dry season farming, their communities in general are expected to become more empowered financially. An economically active and financially empowered individual is more likely to discharge his/her family responsibilities (provision of education, healthcare, shelter etc.). With more empowered families, the communities are likely to become empowered as well, as families remain the basic units of communities.

4.4.2 Potential Negative/ Undesirable Impacts

The potential impacts expected to arise from the dugout construction are very similar to the ones discussed under feeder road construction. These include – fugitive dust generation, erosion generation, noise and vibration, construction and domestic waste generation, loss of flora and faunal habitat, and aesthetic damage (visual intrusion). Added to these are the risk of drowning and increased transmission of waterborne diseases.

Table 7: Summary of potential environmental and social risks of the proposed SEDs

Potential Risks and Impacts	Possible Sources
Siltation and modification of the flow of watercourses	<ul style="list-style-type: none"> • Site preparation and clearing • Excavation, transportation of raw materials • Run-off from exposed surfaces • Stream diversion works
Water quality degradation (surface and groundwater)	<ul style="list-style-type: none"> • Exposed soil surfaces • Sediment laden run-offs • Concentrating flows at certain points and, in some cases, increasing the speed of flow resulting in flooding, soil erosion, channel modification, and siltation of streams.
Impacts on downstream river flows and fisheries.	<ul style="list-style-type: none"> • Flow reduction and sediment interception due to impoundment may lead to channel bed aggradation. • Siltation • Pollution from upstream use of impounded water

Potential Risks and Impacts	Possible Sources
Community/ Public and worker health and safety	<ul style="list-style-type: none"> • Exposure to atmospheric emissions from construction equipment • Exposure to excessive and continuous noise and vibration from construction activities • Excessive manual work • Health and safety risks due to inadequate use of PPE • Dam breaches may lead to flooding of communities and drowning of community members if SEDDs are not well constructed and or sited.
Ground water table modifications	<ul style="list-style-type: none"> • Stream drainage excavation and embankments (restricting flow) • Sedimentation, changes in biological activity in streams and on their banks • Uncontrolled construction activities • Chemicals (agro-chemicals spillage)
Involuntary resettlement/ loss of property and livelihood	<ul style="list-style-type: none"> • Securing of reservoir area and adjoining lands upstream • Inundation of communities by flood waters
Disruption or destruction of wildlife	<ul style="list-style-type: none"> • Land and vegetation clearance

4.5 Potential Positive Impacts and Risks to Climate Change Mitigation Initiatives (CCMIs)

4.5.1 Expected Positive Impacts

Income for project communities. Rural Ghana is endowed with large tracts of suitable land and a climate conducive to the production of many crops. Additionally, the availability of numerous small rivers and streams provides ready sources of water for irrigation. Income earned by project communities from the communal cultivation of tree crops such as mango, cashew, coconut, etc., could provide available financial resources to undertake social infrastructural projects such as construction of schools, clinics and community markets which are lacking in many rural communities in Ghana.

Enhancing the rural economy. Wages received by the project's beneficiaries working on the plantation sites will ensure a constant injection of capital (at least during the period of the project's implementation) into the economies of such communities with potential positive rippling effects in all sectors of the local rural economy.

Enhancing national food security. It is expected that the aggregate of all plantation crops produced under the project albeit in different communities will help close the national gap between demand and supply in food production.

4.5.2 Potential Negative Impacts

This sub-section discusses the potential undesirable impacts of the proposed CCMI sub-projects. Potential negative impacts identified include:

- Water quality deterioration
- Soil degradation/pollution
- Biodiversity losses
- Air quality deterioration
- Waste generation
- Noise pollution
- Public health and safety risks
- Occupational Health and safety risks

- Socio-economic impacts

Potential water quality deterioration. Clearing of the land for planting is expected to expose the soil directly to the erosive effects of water and wind. Where water bodies exist near the project sites, clearing activities may result in the deposition of eroded soil material into the water bodies. This could result in siltation. Erosion is expected to be immense if clearing activities are undertaken during the rainy season when run-off is expected to be high. Wind erosion can also occur at the initial stages where large areas of the land are cleared of vegetation. Siltation can lead to reduced capacity, especially of the seasonal streams that are found on the project sites causing eutrophication and consequent change in the hydrological regime in the area.

Biodiversity decline in the project communities. Though the project intends to target degraded lands cultivation of tree crops in many communities might require land clearing in many areas. This will deny existing fauna species of their habitat and feeding grounds. This may also affect the existing variability among the flora species since the different species will be replaced by only a few crops such as cashew, coconut, cocoa, palm etc. The planted tree crops will serve as the main source of forage for species within the project area. This apparent lack of diversity will be detrimental to the fauna species and consequently lead to the decline in certain species of wild animals found in the project area. The animals may migrate to areas with similar vegetative cover.

Waste generation. The main sources of waste anticipated would be vegetative matter from pruning which is organic material that is expected to decompose quickly. Other waste types expected are food scraps, sewage and plastic bags, empty sachet water bags, as well as empty polybags generated after transplanting of the seedlings.

4.5.3 Occupational Health and Safety Risks

Various activities to be undertaken by the beneficiaries may predispose them to various risks of injury to their health and safety. These potential risks may include:

Risk of contracting Upper Respiratory Tract Infection (URTI) (due to air quality deterioration). The second is from fugitive dust from land preparation. Fugitive dust generation is expected to be more pronounced during the dry season. This could potentially affect the health of machine operators and other farmhands. Both types of impacts may be of high intensity but of relatively short duration.

Risk of Exposure to Agrochemicals. Pesticide infestation may require the use of agro-chemicals. Pesticide poisoning to workers due to poor handling, inhalation, and the likely usage of empty pesticide containers for storing water or food may occur. Overexposure to these agrochemicals may result in irritations, nausea, headache, and stomach disturbances.

Cuts. Cuts could also occur from the use of sharp-edged tools such as cutlasses, pickaxes, hoes etc. Being labour-based, beneficiaries may work close to each other. Hence, swinging of cutlasses can result in cuts if adequate spacing is not ensured among those engaged to weed.

Snake bites. Beneficiaries may be exposed to the risk of snake bites during land clearing. Besides, sheds provided for the seedlings may create a congenial environment for most snakes, especially in the savanna regions during the hot dry season.

Risk exposure to excessive heat and Burns: GSFP caterers may be exposed to the risk of excessive heat and burns from hot water and fire as they prepare food in the kitchens.

Musculoskeletal injuries. This may result from repetitive motion tasks and long-term exposure in extreme environments of sunlight. Available data shows that ambient temperatures could be as high as

36°C in the dry equatorial Climatic Zone. Long-term exposure to such extreme temperatures could cause suntans and consequent skin diseases among the workers.

Table 8: Summary of potential environmental and social risks of the proposed CCMI initiatives

Potential Impacts	Predominant Source(s) of Impact
Pressure on existing water resources	<ul style="list-style-type: none"> • Use of key community water sources to plant watering
Pollution	<ul style="list-style-type: none"> • Waste generated from bags during tree planting (for polyethylene nurseries) • Use of fertilizers and pesticides
Social conflicts	<ul style="list-style-type: none"> • Unclear ownership of resources after project implementation
Loss of fauna	<ul style="list-style-type: none"> • Clearing of existing vegetation to establish woodlots
Involuntary resettlements resulting in loss of livelihoods or productive lands	<ul style="list-style-type: none"> • Land-take for sub-project implementation
Pollution of groundwater and of surface waters	<ul style="list-style-type: none"> • Use of fertilizers and pesticides
Disruption of sites of cultural, religious, or historical relevance	<ul style="list-style-type: none"> • Land and vegetation clearance

4.6 Potential Positive Impacts and Risks to Construction of Community Water Supply Facilities

Major challenges persist in providing water services in many rural, peri-urban and urban areas; water provided by the Ghana Water Company Limited is rationed because of a gap between (high) demand and (inadequate) supply – much of which is caused by poor planning and inefficient funding and management. The use of public works to support the supply and availability of water would therefore be a public good for the beneficiary communities. Further, with the emergence of COVID-19, where the use of running water has become even more crucial this activity will be important to addressing this challenge. Ultimately this activity will contribute towards meeting Sustainable Development Goal (SDG) 6 – Ensure Availability and Sustainable Management of Water and Sanitation for All.

4.6.1 Potential Positive Impacts

Improved health and hygiene. Diarrhoeal diseases such as cholera, typhoid and amoebic dysentery obtained through the ingestion of contaminated food and water still occur in Ghana. Other diseases, such as yaws, scabies, trachoma, and conjunctivitis caused by poor personal hygiene and skin and eye contact with contaminated water also occur. Access to safe water, both for drinking and other sanitary uses, will lead to a drastic reduction in the prevalence of these diseases in project communities.

Improved welfare: Improved health of beneficiary community members will have a profound positive impact on their finances as hitherto, money expended on healthcare could be channelled into providing for other family needs such as good nutrition and education.

Women and Girl Child Empowerment. Traditionally, women and children are the drawers of water in Ghana. In many underserved communities, children and women spend countless hours conveying water from nearby communities. This has affected the education of many girls as they either get to school very tired or are compelled to stay home to support their mothers. Improved access to water through community water supply facilities will reduce these occurrences and help empower the girl child.

4.6.2 Potential Negative/ Undesirable Impacts

Dispute over tap sharing. Disputes may arise at community standpipes especially where the number of standpipes installed is inadequate to serve the entire population.

Time wasting. Community stand-pipe posts may also engender queuing which can be time-wasting.

Reliability. In places where boreholes and hand-dug wells are dug, seasonal variations in supply may reduce reliability. Additionally, any occasional change in water quality may be difficult to detect if regular assessments to ensure good water quality are not instituted. Due to the assets being for community use, their maintenance may be a problem if facility management committees (FMCs) are not strictly instituted.

Wastage. In instances where connections are made to households, wastage may be occasioned if metering and realistic pricing are not used.

Wastewater disposal challenges. Many urban communities in Ghana lack drainage facilities (gutters). Parsimonious water usage only generates a minimum volume of wastewater. The supply of water to communities which lack drainage facilities will come in its wake, and wastewater disposal challenges as the volume of water used will increase. Poor wastewater management may lead to a hype in diseases such as malaria. Wastewater removal will therefore require additional investment in the construction of drains.

Occupational health and safety risks. Beneficiaries engaged to undertake the construction activities will be exposed to construction-related safety risks such as cuts, exposure to high ambient temperatures and Musculo-skeletal injuries. This will result from the use of tools such as pickaxes, cutlasses and performing repetitive motion tasks for a long time.

Public health and safety risks. Construction of water supply systems will require linear excavations. In many areas, street lighting is extremely poor. Members of the public could be placed in harm's way if adequate measures are not taken to warn the public of such excavated areas.

Table 9: Summary of potential environmental and social risks of community water supply Initiatives

Potential Impacts	Sources of Impacts
Weakening Community Cohesion	Dispute over tap sharing
Time wasting	Queues if supply sources are inadequate
Reliability Challenges	<ul style="list-style-type: none"> • Seasonal variations • Difficulty in establishing changes in quality if boreholes are dug. • Poor maintenance
Wasteful use	<ul style="list-style-type: none"> • Lower pricing • Illegal tapping (metering)
Wastewater disposal challenges	<ul style="list-style-type: none"> • Increased water use (more wastewater generated) • Poor drainage facilities
Occupational health risks	<ul style="list-style-type: none"> • Cuts from use of excavation tools • Exposure to high ambient temperatures
Public Health risks (injuries)	<ul style="list-style-type: none"> • Uncovered trenches • Poor illumination at night

4.7 Potential Positive Impacts and Risks to Construction of household toilets with improved hand washing facilities

4.7.1 Potential Positive Impacts

Improved health and general well-being. Diseases such as cholera which is linked to poor human waste disposal are still a challenge in Ghana. Epidemiological studies undertaken between 1998 to 2017

indicate that as many as 82,754 cases were reported in Ghana, with the worst occurring in 1999 in which 9,432 cases were reported with 260 deaths. The provision of places of convenience with improved handwashing facilities will ensure proper containment and disposal of excreta, are a sine qua non for the nation's quest to eradicate such diseases. Beneficiary communities will enjoy improved health and general well-being upon the completion of the facilities.

Convenience: The provision of toilet facilities in the project communities will eliminate the inconvenience community members have to endure in attending to nature's call in the dead of night or during periods of heavy downpours.

4.7.2 Potential Negative Impacts

Potential hub for disease transmission. Public places of convenience, if not well kept could also be a hub for diseases' transmission. Such places of convenience tend to be poorly managed. Very often, people refuse to pay whatever small fee is charged for their usage, thus leaving no funds available for their maintenance. With the over-concentration of faecal matter, they become the hub for bacteria and other disease vectors. As such, instituting FMCs early on in the project will be crucial.

Time Wasting: Inadequate supply of such facilities in heavily populated communities will engender long queues, and possibly time wasting. This has the potential to culminate in disputes. This could culminate in psychosocial stress, thus breaking existing community cohesion.

Table 10: Summary of potential environmental and social risks of improved sanitation initiatives

Potential Impacts	Sources of Impacts
Hub for disease transmission	Poor sanitation arising from poor management
Time Wasting	Queues to access the facility if inadequate

4.8 Potential Positive Impacts and Risks to Construction of Community Flood Mitigation Structures

4.8.1 Potential Positive Impacts

Family/ community cohesion: Flooding has become an annual phenomenon in many parts of Ghana, particularly in areas where poor and vulnerable populations dwell (e.g. slum areas in urban cities). This has led to the destruction of buildings and other structures in many places. Community members are often compelled to migrate to nearby towns and villages to live with friends and families during such periods. Families tend to be torn apart in instances where they are unable to find a common refuge. This brings untold hardships, especially to women and girls, who generally become vulnerable during such periods of distress. The construction of flood mitigation measures will promote less disruption within the family and household setting, thereby enhancing family and community cohesion.

Lifesaving. Rapid urbanization has led to the construction of houses in flood-prone areas. This has led to the loss of many lives in Ghana. Thus, any structure constructed to ameliorate the potential flooding of any community could save lives and livelihoods.

Disease-prevention. People living in flood-prone areas are exposed to high incidences of diseases such as cholera, malaria, and hepatitis. Measures to redeem such communities of annual flooding will reduce the incidence of such diseases among them.

4.8.2 Potential Negative Impacts

Drowning. Flood preventive infrastructure such as ponds and dams could endanger the lives of children if adequate measures are not taken to safeguard them. Children tend to be attracted to such pools of

water either to swim or fish. In instances where the water-holding structure is deep, the lives of these adventurous children could be harmed.

Occupational health and safety risks: Construction activities will expose beneficiaries to construction-related risks such as cuts, falls and exposure to extreme ambient temperatures. The risk of exposure is high since typical LIPW subprojects require high numbers of people.

Public health and safety risks: Inadequate safety measures such as the use of caution tapes to fence excavated sites could result in injuries to members of the public who may be oblivious to the ongoing works. Additionally, vehicles delivering construction raw materials could endanger the lives of community members through careless driving, wrongful overtaking, or faulty brakes.

Table 11: Summary of potential environmental and social risks and impacts of the community flood control initiatives

Potential Impacts	Sources of impacts
Risk of drowning	Unregulated access to water-holding structures (dams, ponds)
Occupational health and safety risks	Use of construction equipment (pickaxes, cutlasses etc.) Closeness of large pool of workers to each other
Public Health and safety risks	Excavations (trenches, ponds etc.)

4.9 Potential Positive Impacts and Risks to **Community Solid Waste (Refuse Collection) Services**

According to UNICEF, rural and urban sanitation challenges stem from a lack of national strategies and policies to guide sanitation activities, limited funding from both the public and private sectors, an increase in populations, especially in urban swam dwellings, limited and public education, lack of adequate waste disposal and treatment facilities, among others (<https://www.unicef.org/ghana/sanitation>).

The negative effects of plastic waste, in particular, on the climate are well documented. In Ghana, per capita generation of plastic wastes stands at 0.016–0.035 kg/person/day, and plastics make up between 8–9% of the component materials in the waste stream. Now most products are packaged in polyethylene films, which form about 70% of the plastic waste in the municipal waste stream. (Fobil, 2000). The severe challenge of reducing plastic waste (and other waste) pollution in Ghana makes it essential to find innovative methods to deal with the situation. Using public works to contribute to improving sanitation therefore becomes critical to reducing climate vulnerability.

4.9.1 Potential Positive Impacts

Disease Prevention. Ineffective solid waste management has led to heaps of garbage in many rural, peri-urban and urban areas in Ghana. This results in the spread of diseases such as cholera, especially during the rainy season. Any effective mechanism instituted to address waste collection will be beneficial in addressing the spread of such disease. This will have a positive rippling effect on the socio-economic lives of the people.

Climate-smart practices. Contributing towards improving sanitation, in addition to the training that is planned around this activity, will contribute towards long-term benefits as beneficiaries and their communities will begin to practice climate-smart strategies around sanitation.

4.9.2 Potential Negative Impacts

Occupational Health and safety risks: Beneficiaries engaged to undertake waste collection could be exposed to disease-causing pathogens if the necessary personal protective equipment is not worn. In

addition, hours of exposure to high ambient temperatures and the sun's rays could be detrimental to the health of the participants. Musculo-skeletal injuries may also result from repetitive motion tasks and the lifting of heavy items.

4.10 Social Impact of Safety Net Program Transfers - Livelihood Empowerment Against Poverty (LEAP) Cash Transfers and Ghana School Feeding Programme (GSFP) Payments

LEAP Cash Transfers

Cash transfers have proven to be an effective way of supporting the smoothening consumption of the extreme poor. Impact evaluations have demonstrated that even though minimal, cash transfers to the poorest have a number of positive effects because some of the funds are used to boost human capital including increasing access to education and health (LEAP Impact Evaluation 2012). Further, through programs like the LEAP cash transfers initiative which was initiated in 2008, Ghana was able to reach the Millennium Development Goal 1 – Eradicate Hunger and Poverty, in 2015. Continued support to the extreme poor is therefore important. Implementation of this activity will have minimal social impacts which are detailed subsequently.

4.10.1 Potential positive impact

Women's empowerment. Currently, 55 percent of the total household beneficiaries of the LEAP cash transfers program are female. Under the GPSNP 2, the female proportion is expected to be sustained if not increased. Access to the cash grants economically empowers the female beneficiaries and builds household human capital which are key in addressing gender imbalance and its resultant implications including entrenched household poverty and vulnerability to domestic and gender-based violence.

Financial Inclusion. The LEAP program targets extremely poor households. The electronic system (E-Zwich) through which beneficiaries are paid automatically creates an account for the beneficiaries who otherwise would not maintain a financial account. Additionally, sensitization activities including better financial practices like savings create opportunities for financial transactions like trading and access to credit facilities with its attendant benefits for program beneficiaries.

Improved community health outcomes. LEAP beneficiary communities will enjoy improved health outcomes under GPSNP 2. The program's behavioural change communication activities on nutrition and improved access to health care through beneficiary enrolment on NHIS will be scaled up and provided in a more structured approach for maximum impact.

Enhanced Human Capital. Improved health and literacy outcomes (the latter from the program's co-responsibility on education) will enhance human capital within LEAP communities. Additionally, economically empowering households to meet their basic needs will eliminate the burden of dependence on other families within the community. These create the enabling environment for improved relationships among community members.

4.10.2 Potential negative impact

Political interference. Although the identification of LEAP beneficiary communities is hinged on the current poverty map, there is a high risk of political interference in the targeting process which will adversely impact the program's objective of reducing extreme poverty. Political leaders in an attempt to become popular among their constituents consistently attempt to usurp the targeting process by identifying their communities/ constituencies for targeting, whether or not they meet the targeting criteria.

Gender-based violence. The economic empowerment of women however potentially creates a gender-based violence risk for women beneficiaries as their economic empowerment may be deemed a

contravention of accepted social norms like the expectation for men to be the breadwinners of their households and in charge of major decision-making in their homes. Thus, attempts by women as beneficiaries and account holders to exercise their agency and make decisions concerning household spending may be deemed a challenge to men’s authority, which may expose women to gender-based violence.

Stigmatization. While society generally approves of government support to poor households, the receipt of support considered as handouts creates a risk of beneficiary stigmatization. Beneficiaries of cash grants under the LEAP program, therefore, risk being stigmatized as poor within their communities, especially during cash-out activities where they are mobilized to various payment points to receive their grants.

Ghana School Feeding Program

GSFP provides one hot nutritious meal per school-going day to children in primary schools and kindergartens in the poorest areas of the country using locally grown foodstuffs.

The National School Feeding policy encourages:

1. Improve children's nutritional status, increase enrolment and retention
2. Promotes food security among beneficiary pupils
3. Promoting gender equity through participation of women alongside men in policy decision-making and employment opportunities (including encouragement of both female and male caterers and cooks).
4. Encourage gender equality by engaging both women and men in planning and capacity-building in nutrition education.
5. Encourage women’s enterprises to partner with school feeding in agro-processing, storage, and suppliers/wholesalers in proteins, vegetables, and fruits.

Potential environmental and social impacts of GSFP are detailed in Table 12.

Table 12: Summary of potential environmental and social risks of GSFP

Potential Impacts	Sources of Impacts
Low nutritional levels	<ul style="list-style-type: none"> • Insufficient funding allocation per child • Delays in payment • Ineffective monitoring • Poor food storage • Timely access to nutritious ingredients due to seasonal variations
Depletion of forest	<ul style="list-style-type: none"> • Use of charcoal and firewood for cooking
Occupational health risks	<ul style="list-style-type: none"> • Cuts from use of cooking tools e.g. knife, scissors etc. • Exposure to high ambient temperatures • Lack of Personal Protective Equipment
Public Health risks	<ul style="list-style-type: none"> • Poor disposal of waste food and materials • Use of cooks without Environmental and Health clearance certificate • Ineffective monitoring

5 ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES

This section discusses generic measures that can be taken to avoid, minimise, restore or offset environmental and social impacts that might arise from the implementation of the proposed project.

5.1 Good Employment Practices

To ensure recruitment terms are streamlined for the protection of the rights of community members in LIPW the following measures would be observed:

- Sensitization of the people prior to commencement of sub-projects on their roles, contract specifications and mechanisms for addressing grievances, etc.
- Signing of the Beneficiary Agreement Form must be ensured
- Specification of work hours
- Formation of work teams and use of shift systems (to address fatigue and maximize benefits)
- Payment of wages to be supervised by the DAs and also verified in E&M
- Training of contractors (at the district levels) in Labour-based methods
- Prevention of child labour and forced labour

For GSFP the following measures shall be observed;

1. Training and certification of caterers and their cooks such as sensitising all caterers/cooks on the applicable health and safety policies and food safety policies of the GFSP and ensuring compliance.
2. Timely payment to caterers
3. Sensitization of the people prior to commencement of cooking activities by caterers; on their roles, contract specifications and mechanisms for addressing grievances, etc.
4. Prevention of child labour and forced labour
5. Provision of a clean and safe environment for cooking

5.2 Particulate Emission Abatement Measures

Implementation of sub-projects would factor the following measures in controlling air pollution (on feeder road works, dams, and dugout development, etc.):

- Enclosing all construction sites and activities, especially close to communities in order to limit exposure to dust generation
- Ensuring effective use of water (dousing) to control or minimize dust emission
- Mounting speed control signals and ramps
- Contract specifications to include dust control measures
- Covering of sand heaps (or hauling trucks carrying sand) to avoid dust emission
- Planting tall, leafy, and dense species between feeder roads and settlements to filter pollutants
- Exploration and use of energy-efficient forms of fuel for cooking under GSFP
- Provision of clean kitchens

5.3 Cultural Resources Management Measures

- Feeder roads and other sub-projects would avoid areas that cut through known cultural sites;
- Cultural resources uncovered during works would be handed over to the National Museums and Monuments Board (NMMB) for preservation and/or preservation of the site;
- Salvage excavation and relocation of artefacts or ruins from a cultural site;

- collaboration between the DAs and the NMMB in determining and avoiding damage to cultural sites and resources; and
- Marking and fencing important cultural sites during the works period.

5.4 Waste Generation and Management

Management measures will include:

- Disposal of construction materials, food waste and other related waste materials at designated/approved dump sites;
- Adoption of waste minimization measures such as composting, recycling food waste etc.
- Incorporation of waste management plan in contract specifications;
- DAs to enforce appropriate sanitation and related bye-laws; and
- Worker awareness program to observe proper waste management measures

5.5 Workplace HIV/AIDS Prevention Measures

Highlights of the measures to be followed by contractors and service providers are set out below, based on ILO guidelines and those of the Ghana AIDS Commission:

- HIV/AIDS prevention clauses would be incorporated into works/service contracts
- Ethical principles in handling persons with medical conditions will apply
- Relations with infected/potential workers would be governed by the basic human rights as enshrined in the Constitution of Ghana
- Refusal of employment or dismissals would not be based on HIV status
- HIV/AIDS prevention and treatment guidelines for the community/workplace would be prepared.
- Due care and confidentiality would be exercised in handling information on HIV status of workers
- Prevention programs on HIV by contractors and service providers would include education and information provision, peer counselling, condom use promotion and distribution, and facilitation of voluntary counselling and testing.
- Prevention of SEA/SH

5.6 Landscape Improvement Measures

Management measures to protect the soil and landscape would include:

- Minimizing the area of ground clearance along the construction corridor
- Avoiding sensitive alignments, including steep slopes
- Prompt reclamation of degraded lands (e.g. burrow pits)
- Progressive replanting of disturbed areas during construction
- Specifying as contractors' obligation - erosion control, spillage prevention and effective re-vegetation
- Erection of intercepting ditches at the tops and bottoms of slopes, with gutters and spillways used to control the flow of water down a slope
- Emergency response procedures for spillages

5.7 Water Resource Protection Measures

Mitigation measures to prevent, minimize and manage impacts on water resources would include:

- Avoiding alignments which are susceptible to erosion (as much as possible)
- Minimizing the number of water crossings through alternative route surveys
- Using clean fill materials around watercourses such as quarried rock containing no fine soil
- Providing settling basins to remove silt, pollutants, and debris from road and other construction run-off before discharge to adjoining streams or rivers
- Constructing run-off channels, contouring or other means of erosion control
- Paving sections of feeder roads susceptible to erosion and sedimentation
- Compensating by providing alternative sources of water such as boreholes for communities adversely affected

5.8 Habitat Protection Measures

Mitigation measures to address habitat destruction and disruption would include:

- Avoiding environmentally sensitive areas to prevent severe impacts on flora and fauna
- Replanting in road rights-of-way and adjacent areas to accelerate re-vegetation and succession
- Re-engineering road cross-section designs by using narrower widths, lower vertical alignments, smaller cuts and fills, flatter side slopes, and less clearing of existing vegetation
- Installing roadside reflectors to scare animals away from the roadway when vehicles approach at night

5.9 Project design features that may potentially enhance beneficial impacts

Strong Gender Considerations. The project makes adequate provisions for women and the disabled. As much as 60 percent of the income-earning opportunity is reserved for women. To ensure that nursing mothers are not disadvantaged, creches are constructed at each site and caregivers are engaged. Additionally, each site is provided with two bush latrines to ensure that beneficiaries attend to nature's call in dignity. Due to the role women generally play in most communities, it is expected that a high female-male ratio will generally enhance the positive rippling effect of income earned from the project.

Community Driven. Selection of sub-projects, though done by the District Assemblies based on their medium-term development plans, are approved by the communities before the commencement of actual sub-project activities. The high community involvement in the sub-project selection ensures that only projects deemed important to the communities are implemented.

Short Working Hours. LIPW sub-projects are designed to engage beneficiaries for only six hours (compared to eight hours) daily. This provides beneficiaries adequate time to engage in domestic chores and probably other income-earning opportunities.

Provisions for alternate beneficiaries. The opportunity offered beneficiaries to register people to work in their stead on days when they are not able will ensure that beneficiaries can attend to other important social functions when need be without losing the opportunity to earn.

Financial Inclusion. Registration of beneficiaries on digital payment platforms (E-zwich) through which wages will be paid will provide the beneficiaries with security against theft.

The Tables below present a summary of specific mitigation measures that will be implemented during the implementation of Productive Inclusion and LIPW sub-project activities.

Food Preparation

Key steps:

1. The caterer must prepare food according to the approved menus.
2. The caterer shall prepare food in a hygienic manner by washing hands before any contact is made with food. Keeping utensils clean and dry, washing fruits and vegetables before cooking and covering food to prevent any contact with animals and insects as well as contaminants from the environment.
3. The Headteacher shall be responsible for preventing any presence of children in the cooking facility during food preparation. Neither should pupils be involved in water fetching or wood collection.
4. The caterer shall have working clothes dedicated to cooking activities and be kept clean on-site.
5. The caterer shall ensure that cooks start the cooking process early (7 am latest) enough so that, the food can be ready for serving at the required time.
6. Caterers are forbidden to reheat leftovers from the previous day to feed the children. On a daily basis, it is the responsibility of the caterer to make sure that the kitchen is left clean and free from any leftovers at closing time. Utensils must be cleaned at the end of the day. No stagnant water must surround the kitchen and water container/s must be covered.
7. The quantities of the various food items to be used for the daily cooking shall be measured and recorded using the approved calibrated tools and units of measurements
8. Caterers shall record all food items and their corresponding quantities on the Meals Preparation Form (GSFP-F1) daily.
9. The head teacher of the school shall verify all the recordings on the GSFP-F1 made by the Caterer, prior to the endorsement.
10. Efforts shall be made to ensure that all foods are prepared aggregately so as to ensure that food quality is consistent and that food is served hot.
11. The Headteacher shall ensure that the food is thoroughly cooked, but not over-cooked and
12. The Headteacher shall ensure food palatability, acceptability, and appeal as much as possible.

Food Service

Key steps:

1. The caterers shall be responsible for serving the daily prepared meal to the school pupils.
2. Caterers shall serve food to pupils between 12 p.m. and 12:30 p.m. at the school feeding facility area.

3. The school head teacher and the class teachers shall actively supervise meal service. To ease the supervision, children should be sitting together at the same location in the school, preferably within the feeding facility area and on chairs and at tables. Children should remain seated during the mealtime.
4. The caterer with support from the various class teachers should ensure that bowls and plates are thoroughly washed with soap before food is served into them.
5. Any catering staff member who shows signs of ill health (e.g. a cold or fever) must not report to work.
6. The caterer should put in place staff substitution arrangements.
7. The caterer should never serve food to any child in a polythene bag/carrier.
8. There should be hand washing by pupils with supervision by the school teachers.
9. The various class teachers shall ensure that Caterers serve the pupils with clean serving tools such as ladles, plates, bowls and cups.
10. The class teachers shall ensure that each pupil is served the same quantity of prepared food.
11. The Headteacher shall keep and maintain a Daily Records form and ensure that whatever is fed to the pupils is recorded on every school-going day – and
12. At the end of every month, the class teachers shall complete and forward the GSFP-F5 to the School Headteacher for endorsement.

Table 12: Potential Environmental and Social Impacts and Mitigation Measures of Productive Inclusion Income-Generating Activities

IGA	Impacts	Potential Sources of Impacts	Mitigation Measures
Animal rearing (Livestock, Grasscutter, Rabbitary, Poultry, etc)	Animal diseases could be zoonotic (transmitted to humans)	Diseased animals/ birds	<ul style="list-style-type: none"> • Ensure animal feed and water are of adequate quality and quantity. • Control storage conditions of feed raw materials and feed. • Seek early assistance from veterinary experts. • Ensure proper animal density per pen • Ensure animals are free from thirst, hunger and malnutrition.
	Antibiotic/veterinary drugs used in treating animal diseases may persist in edible products potentially affecting human health	<ul style="list-style-type: none"> • Improper application of veterinary drugs • The short duration between drug application and slaughter 	<ul style="list-style-type: none"> • Ensure strict adherence to veterinary experts' advice in the application of drugs • Ensure adequate time lag between drug application and slaughter. Confer with a veterinary expert.
	Waste generation – liquid and solid waste from animal rearing	<ul style="list-style-type: none"> • Expired animal feed • Animal excreta • Dead animals 	<ul style="list-style-type: none"> • Use the principle of First-in-first-out when using stored feed. • Use animal excreta to fertilize crops (organic manure) • Appropriately bury animals that die of diseases.
	Malodour	<ul style="list-style-type: none"> • Faecal matter/animal droppings. • Urine 	<ul style="list-style-type: none"> • Ensure optimal stocking of pens. • Provide adequate ventilation in pens. • Take predominant wind direction in relation to your residence (and that of neighbours) into consideration when siting pens. • Frequent removal of animal droppings from the pens and use as manure for crops. • Plant trees around pens to trap dust particles laden with odorous compounds.
	Exposure to snake bites	<ul style="list-style-type: none"> • Snakes are attracted to birds (for their eggs) 	<ul style="list-style-type: none"> • Keep the areas around the pens clean and tidy. • Wear Wellington boots and appropriate gloves when cutting grass to feed ruminants.

IGA	Impacts	Potential Sources of Impacts	Mitigation Measures
Agro-Processing <i>Shea butter</i> <i>Baobab Fruit</i> <i>Dawadawa</i> <i>Groundnut</i> <i>Beekeeping</i>	Solid waste	<ul style="list-style-type: none"> deshelled fruits Biomass (e.g. groundnut) Waste after generated extraction of oils etc (malt) 	<ul style="list-style-type: none"> Explore the use of solid waste generated as fuel for cooking Use biomass generated in composting Consider feeding biomass generated to domestic animals/ ruminants
	Exposure to snake bites	<ul style="list-style-type: none"> Picking of fruits/ harvested crops for either the farm or the wild for processing Storage areas tend to attract snakes 	<ul style="list-style-type: none"> Wear Wellington boots whilst on the farm or in the bush. Keep storage areas tidy and clean Ensure the storage room is well-lit
	Musculo-skeletal injuries (ergonomics)	<ul style="list-style-type: none"> Exposure to extreme weather (especially in the savanna zones) during harvesting Long periods of sitting during processing. Lifting heavy items (of various items such as pots, pans, seeds, etc.) 	<ul style="list-style-type: none"> Wear light clothing and a hat whilst on the farm or picking fruits from the wild Take regular short breaks whilst undertaking processing activities. Avoid continuous sitting for too long. Avoid lifting heavy items. Seek help when items are too heavy.
	Risk of sustaining burns	<ul style="list-style-type: none"> Use of fire in undertaking processing. Poor housekeeping could potentially lead to falls and consequently burns. Risk of causing bush fires e.g. During harvesting of honey. 	<ul style="list-style-type: none"> Ensure general good housekeeping in the processing area. Ensure areas around fires are not cluttered. Keep children away from the processing area. Ensure fires used in processing are well doused after use.
	Heat and emission of smoke	<ul style="list-style-type: none"> Use of fire in undertaking processing. 	<ul style="list-style-type: none"> Ensure general good housekeeping in the processing area. Encourage the use of nose masks during roasting Support improved methods of roasting (e.g. channelling the smoke into a chimney)
Weaving <i>Basket</i> <i>Smock</i>	Vegetation removal	Exploitation of cane for basket	<ul style="list-style-type: none"> Harvest only what will be used.
	Exposure to snake bites	Cutting of cane from the wild	<ul style="list-style-type: none"> Wear wellington boots and gloves. Avoid harvesting either too early in the morning or in the evening when visibility is poor.
	Waste generation	Biomass from unused cuts	<ul style="list-style-type: none"> Explore other uses such as fuelwood
	Musculo-skeletal injuries	<ul style="list-style-type: none"> Poor posture during weaving Long hours of sitting while weaving 	<ul style="list-style-type: none"> Ensure good sitting posture. Loom must be well adjusted according to the height of the user
	Dye stuff and colouring material on the weavers, baskets and smock entrepreneurs	<ul style="list-style-type: none"> Contamination of surface water and/or soil 	<ul style="list-style-type: none"> Drill a receptacle for disposing of the colour, based on EPA recommendations Encourage the wearing of nose masks during processing Train on the timing of processing in order to minimize exposure

Table 13: Summary of Environmental and Social Impacts and proposed mitigation measures for LIPW feeder roads sub-projects

Construction/ Rehabilitation of Feeder Roads			
Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/Unit
CONSTRUCTIONAL PHASE IMPACTS			
Dust/Emissions	<ul style="list-style-type: none"> • Removal of vegetation / top soil • Dumping of spoil materials • Compaction (Manual) • Burrow pits and gravel winning • Haulage of materials 	<ul style="list-style-type: none"> • Water dousing to minimize dust. • Cover all heaped sand and flyable construction materials with tarpaulin. • Tarpaulin covering of haulage truck (for dust control) • Minimize the area of ground clearance. • Haulage speed limit in sensitive areas (40km/hr) • Regular Servicing of equipment/machinery Work-site dust management (nose mask) 	Contractor
Noise and vibration	<ul style="list-style-type: none"> • Use of handheld roller during compaction. 	<ul style="list-style-type: none"> • Avoid Noise-sensitive areas (include schools, hospitals/clinics, communities, wildlife sanctuary, reserves, etc.) • Maintain equipment noise level (less than 75dBs) • Hours of operation (between 8.30 and 5.00 pm) • Haulage speed limit in sensitive areas (40km/hr) • Work-site noise management (less than 65dBs, ear plugs) 	Contractor
Landscape disturbance	<ul style="list-style-type: none"> • Pits/trenches near road • Borrow pits/Gravel removal • Trenching 	<ul style="list-style-type: none"> • Restore topsoil and re-vegetate landscape after construction. • Reclaim borrow pits. • Cover all pits and trenches 	Contractor
Waste generation (Construction and domestic waste)	<ul style="list-style-type: none"> • land clearing, gravel removal • drain/culvert construction, etc • Beneficiaries/workers – food leftovers 	<ul style="list-style-type: none"> • Minimizing the area of ground clearance • Waste minimization measures • Ensure proper Work-site waste management Plastics, scraps, waste wood, etc.) • Provision of waste bins for use by workers Disposal of waste at approved locations 	Contractor
CONSTRUCTIONAL PHASE IMPACTS			
Water contamination and flooding	<ul style="list-style-type: none"> • Inappropriate disposal of waste • Blocking of drains and drainage/stream diversion 	<ul style="list-style-type: none"> • Water crossings to be minimized, and buffer zones of undisturbed vegetation left between construction sites and watercourses. • Redesign of road/construction to accommodate flood prevention methods. 	MCU/NE

Construction/ Rehabilitation of Feeder Roads			
Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/Unit
		<ul style="list-style-type: none"> Disposal of waste materials at designated site Provision of planned diversion routes 	
Occupational health risks	<ul style="list-style-type: none"> Use of sharp-edged tools (cutlasses, hoes etc.) Exposure to extreme weather 	<ul style="list-style-type: none"> Ensure the use of Personal Protective Equipment (PPE). Ensure workers are well-spaced. Wear light clothing and a hat in the hot season. 	Contractor
Disruption or destruction of wildlife	<ul style="list-style-type: none"> Land clearance 	<ul style="list-style-type: none"> Restrict land clearing to only the area required. 	Contractor
Disturbance of historical or culturally important sites e.g. monuments	<ul style="list-style-type: none"> Land clearance Sourcing of earth materials 	<ul style="list-style-type: none"> Consider alternative alignment Special measures to protect cultural sites 	MCU/ NE
Involuntary resettlement/ loss of property and livelihood	Establishment of Right-of-Way	Resettlement and Compensation	MCU/ NE
Public health and safety Risks	<ul style="list-style-type: none"> Exposure to excessive and continuous noise and vibration from construction activities Lack of warning signs and safeguards 	<ul style="list-style-type: none"> Regular servicing of construction equipment Use of equipment with low operating noise levels (less than 65dBs) Restricting construction works to daytime hours Intensive public awareness campaigns Open ditches and other hazard areas to be marked with visible tapes 	Contractor
Exclusion of vulnerable peoples and PwDs	<ul style="list-style-type: none"> Beneficiary targeting 	<ul style="list-style-type: none"> Sensitization, prioritizing inclusion of vulnerable people and PwDs Promoting work activities that are friendly to PwDs and other vulnerable groups 	MCU/DA
Complaints and grievances	<ul style="list-style-type: none"> Beneficiary targeting Wrong issuance of daily tasks at the site Delays and other payment-related issues Accident at site 	<ul style="list-style-type: none"> Provide a robust grievance redress system 	MCU/DA
OPERATIONAL PHASE IMPACTS			
Increased road kills	<ul style="list-style-type: none"> Higher speeds and traffic volume (operational phase) 	<ul style="list-style-type: none"> Introduction of safety design e.g. signs and speed humps in market areas and village centres/residential areas. 	MCU/ NE

Table 14: Summary of Environmental and Social Impacts and proposed mitigation measures for LIPW SEDDs sub-projects

Construction/ Rehabilitation of Small Earth Dams			
Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
CONSTRUCTIONAL PHASE IMPACTS			
Vegetation and Biodiversity losses	<ul style="list-style-type: none"> • Clearing of the reservoir area 	<ul style="list-style-type: none"> • Restrict clearing to only the required area. • Fell trees only when they will negatively impact the dam/dugout. • When possible, choose sites with low vegetation cover 	Contractor MCU/ NE/ DE
Siltation and modification of flow of water courses	<ul style="list-style-type: none"> • Site preparation and clearing • Excavation, transportation of raw materials • Run-off from exposed surfaces 	<ul style="list-style-type: none"> • Source raw materials away from water sources • Minimize the area of ground clearance • Vegetate upstream of SEDDS 	Contractor
Water quality degradation (surface and groundwater)	<ul style="list-style-type: none"> • Exposed soil surfaces • Sediment laden run-offs • Concentrating flows at certain points and, in some cases, increasing the speed of flow resulting in flooding, soil erosion, channel modification, and siltation of streams. 	<ul style="list-style-type: none"> • Minimize the area of ground clearance • Introduce speed reduction measures e.g. grasses, riprap, and other devices in water channels and stream diversions, etc. • Provide settling basins to remove silt and debris from run-off before discharge to streams, etc. • Construction of runoff channels, contouring or other means of erosion control • Use clean fill materials for dams and around watercourses such as quarry fine sand • Avoidance of increasing speed of water courses • Provide adequate spillways in dam constructions and other embankments • Provide reservations/ buffer zones of undisturbed vegetation between construction sites and water bodies. (Minimum of 60m on both sides of Volta Rivers and 30m for other water bodies) • Re-vegetate the dam banks to ensure dam stability and safety • Annual community maintenance of dams with strong oversight by qualified engineers • Compliance with the dam safety plan in the PIM 	Contractor
Community/Public and worker health and safety	<ul style="list-style-type: none"> • Exposure to atmospheric emissions from construction equipment • Exposure to excessive and continuous noise and vibration from construction activities • Lack of warning signs and safeguards • Excessive manual work 	<ul style="list-style-type: none"> • Regular servicing of construction equipment • Use of equipment with low operating noise levels (less than 65dBs) • Provision and use of appropriate PPEs • Restricting construction works to daytime hours • Intensive public awareness campaigns • Open ditches and other hazard areas to be marked with visible tapes • Ensure dams are constructed to the specifications (including the construction of a spillway) 	Contractor

Construction/ Rehabilitation of Small Earth Dams			
Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
	<ul style="list-style-type: none"> • Health and safety risks due to improper working gear and lack of monitoring • Dam breaches may lead to flooding of communities and drowning of community members if SEDDs are not well constructed and or sited. 	<ul style="list-style-type: none"> • Construction of dams too close to communities to be avoided. A minimum distance of at least 200m is to be observed. 	
Impacts on downstream river flows and fisheries.	<ul style="list-style-type: none"> • Flow reduction and sediment interception due to impoundment may lead to channel bed aggradation. • Siltation • Pollution from upstream use of impounded water 	<ul style="list-style-type: none"> • Undertake regular desilting. • The use of chemicals in the dams will be highly prohibited. • Ensure the construction of a spillway to channel water into the natural river course when the dam is full 	FMC
Ground water table modifications	<ul style="list-style-type: none"> • Stream drainage excavation & embankments (restricting flow) • Sedimentation, changes in biological activity in streams and on their banks • Uncontrolled construction activities • Chemicals (agro-chemicals spillage) 	<ul style="list-style-type: none"> • Introduce speed reduction measures e.g. grasses, riprap, and other devices in water channels, etc. • Provide settling basins to remove silt and debris from road runoff before discharge. • Construct run-off channels, contouring or other means of erosion control • Compensate with the provision of boreholes and wells for communities adversely affected • Adopt enhancements measures in design such as water retention structures in dry areas, and raising inlets to drainage • Culverts in high water table areas, retarding basins in areas prone to flooding to reduce runoff peaks, spillways. 	Contractor
Involuntary resettlement/ loss of property and livelihood	<ul style="list-style-type: none"> • Securing of reservoir area and adjoining lands upstream 	<ul style="list-style-type: none"> • Resettlement and Compensation 	MCU/ESSS/NE
Disruption or destruction of wildlife	<ul style="list-style-type: none"> • Land and vegetation clearance 	<ul style="list-style-type: none"> • Provision of corridors for the movement of wildlife 	Contractor
Waste generation	<ul style="list-style-type: none"> • land clearing, gravel removal • Drain/culvert construction, etc 	<ul style="list-style-type: none"> • Minimizing the area of ground clearance • Waste minimization measures 	Contractor

Construction/ Rehabilitation of Small Earth Dams			
Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
(Construction and domestic waste)	<ul style="list-style-type: none"> Beneficiaries/workers – food leftovers 	<ul style="list-style-type: none"> Work-site waste management (Plastics, scraps, waste wood, etc.) Provision of waste bins for use by workers Disposal of waste at approved locations 	
Occupational health risks	<ul style="list-style-type: none"> Use of sharp-edged tools (cutlasses, hoes etc.) Exposure to extreme weather and noise from compactor 	<ul style="list-style-type: none"> Ensure wearing of personal protective equipment (PPE) -ear plugs, safety boots, etc. Wear light clothing and a hat when in hot weather Ensure the provision of free potable water to workers 	
OPERATIONAL PHASE IMPACTS			
Public Health risks (Potential risk of drowning)	Inexperienced adventurous children trying to swim, children fetching water	<ul style="list-style-type: none"> Designing dams to ensure shallow points for the drawing of water. Public Education 	MCU FMC
Conflicts over water use rights	Undefined water user rights	Water use right to be clearly defined by recipient community	MCU/Community
Risk of waterborne diseases	<ul style="list-style-type: none"> Contaminated artificial water flows Solid waste disposal 	Education on proper sanitation and health	Community/FMC/CF
Child labour and forced labour	<ul style="list-style-type: none"> Representation of parents and adult relatives at the site 	<ul style="list-style-type: none"> Sensitization against the involvement of children at site Put in place punitive measures against child labour 	MCU/DA
Exclusion of vulnerable peoples and PwDs	<ul style="list-style-type: none"> Beneficiary targeting 	<ul style="list-style-type: none"> Sensitization, prioritizing inclusion of vulnerable people and PwDs Promoting work activities that are friendly to PwDs and other vulnerable groups 	MCU/DA
Complaints and grievances	<ul style="list-style-type: none"> Beneficiary targeting Wrong issuance of daily tasks at the site Delays and other payment-related issues Accident at site 	Provide a robust grievance redress system	MCU/DA

Table 15: Summary of Environmental and Social Impacts and proposed mitigation measures for LIPW CCMI sub-projects

Climate Change Mitigation Initiatives (CMMI)			
Potential Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
CONSTRUCTIONAL PHASE IMPACT			

Climate Change Mitigation Initiatives (CMMI)			
Potential Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
Loss of Biological Diversity	<ul style="list-style-type: none"> • Site clearing 	<ul style="list-style-type: none"> • Restrict land clearing strictly to areas earmarked for planting • Avoid felling economic trees and sites with cultural significance • As much as possible, spare big trees • Avoid burning as a form of land clearing 	ESSS/CCMI Focal Person
Waste generation	<ul style="list-style-type: none"> • Empty sachet water bags • Polybags generated after transplanting seedlings • Human waste generated by participants whilst at the site 	<ul style="list-style-type: none"> • Provide receptacles for waste collection at the site • Provide two bush latrines at the site, one each for both sexes. 	DA/ Desk officer/ CCMI Focal Person
Involuntary settlements or loss of livelihoods or productive lands	<ul style="list-style-type: none"> • Land take for sub-project implementation 	<ul style="list-style-type: none"> • Avoid the use of productive land/ prioritize the use of degraded lands. • Ensure land donors are included in the benefit-sharing agreements in the MOU • Prioritize livelihood-affected persons to be included as beneficiaries for selected sub-projects • Ensure proper documentation in instances of VLDs 	DA
Occupational health and safety risks	<ul style="list-style-type: none"> • Use of sharp-edged tools (cutlasses, hoes etc.) • Exposure to extreme weather (especially in the savanna zones) 	<ul style="list-style-type: none"> • Provide all beneficiaries with Wellington boots. • Provide other relevant PPE to beneficiaries at the site as and when needed. • Ensure the provision of free potable water at the site. • Ensure the provision of a shed (creche) at the site and a caregiver to take care of infants and toddlers, offering a safe and nurturing environment while parents or guardians engage in their activities. • Ensure adequate spacing among participants, especially during land-clearing 	MCU/ DA
Desecration of cultural and religious sites	<ul style="list-style-type: none"> • Site clearing 	<ul style="list-style-type: none"> • Where a proposed site is found to have any such place of religious or cultural significance, consider an alternative site. 	DA
OPERATIONAL PHASE			
Waste generation	<ul style="list-style-type: none"> • Empty sachet water bags • Human waste generated by participants whilst at site 	<ul style="list-style-type: none"> • Provide receptacles for waste collection at site • Maintain the two bush latrines at site, one each for both sexes. 	DA/ Desk officer/ CCMI Focal Person
Pressure on existing water supply source of project communities	<ul style="list-style-type: none"> • Use of key community water sources to plant watering 	<ul style="list-style-type: none"> • Locate sites close to other water sources (streams) other than the main local source of water (borehole, well). 	DA

Climate Change Mitigation Initiatives (CMMI)			
Potential Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
		<ul style="list-style-type: none"> Provide additional water sources for watering (SEDDs) if water sources (streams, rivers etc.) are not present 	
Social conflicts	<ul style="list-style-type: none"> Unclear ownership of resources after project implementation 	<ul style="list-style-type: none"> Ensure the signing of enforceable benefit-sharing agreements among stakeholders Ensure adequate community sensitization is undertaken 	DA
Occupational health and safety risks	<ul style="list-style-type: none"> Use of sharp-edged tools (cutlasses, hoes etc.) Exposure to extreme weather (especially in the savanna zones) 	<ul style="list-style-type: none"> Provide all beneficiaries with Wellington boots. Provide other relevant PPE to beneficiaries at site as and when needed. Ensure the provision of free potable water at site. Ensure the provision of a shed (creche) at site and caregiver to take care of infants and toddlers, offering a safe and nurturing environment while parents or guardians engage in their activities. Ensure adequate spacing among participants, especially during land-clearing 	MCU/ DA
Exclusion of vulnerable peoples and PwDs	<ul style="list-style-type: none"> Beneficiary targeting 	<ul style="list-style-type: none"> Sensitization, prioritizing inclusion of vulnerable people and PwDs Promoting work activities that are friendly to PwDs and other vulnerable groups 	MCU/DA
Complaints and grievances	<ul style="list-style-type: none"> Beneficiary targeting Wrong issuance of daily tasks at site Delays and other payment-related issues Accident at site 	<ul style="list-style-type: none"> Provide a robust grievance redress system 	MCU/DA

Table 16: Summary of Environmental and Social Impacts and proposed mitigation measures for LIPW Community Water Supply Subprojects

Community Water Supply Initiatives			
Potential Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
CONSTRUCTIONAL PHASE IMPACTS			
Occupational health risks	<ul style="list-style-type: none"> Cuts from use of working tools Exposure to high ambient temperatures 	<ul style="list-style-type: none"> Provision of PPE to all participants Regular breaks, provision of potable water 	ESSS/MCU
OPERATIONAL PHASE IMPACTS			
Weakening Community Cohesion	<ul style="list-style-type: none"> Dispute over tap sharing 	<ul style="list-style-type: none"> Population size to be used as a determining factor in the number standpipes to be provided in a community 	NE/MCU

Community Water Supply Initiatives			
Potential Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
CONSTRUCTIONAL PHASE IMPACTS			
Occupational health risks	<ul style="list-style-type: none"> Cuts from use of working tools Exposure to high ambient temperatures 	<ul style="list-style-type: none"> Provision of PPE to all participants Regular breaks, provision of potable water 	ESSS/MCU
OPERATIONAL PHASE IMPACTS			
Time wasting	<ul style="list-style-type: none"> Queues if supply sources are inadequate 	<ul style="list-style-type: none"> Population size to be used as a determining factor in the number of standpipes to be provided in a community 	NE/MCU
Reliability Challenges	<ul style="list-style-type: none"> Seasonal variations Difficulty in establishing changes in the quality of boreholes Poor maintenance 	<ul style="list-style-type: none"> When possible, a mix of supply sources will be provided (hand-dug wells, in-house connections, yard taps for families etc.) Reliance on GWCL/CWSA for continuous monitoring Training of FMCs on maintenance 	NE/MCU GWCL/CWSA
Wasteful use	<ul style="list-style-type: none"> Lower pricing Illegal tapping (metering) 	<ul style="list-style-type: none"> Education and awareness creation on responsible usage Education of community members to report illegal tapping through the SWCES 	ICDS/MCU
Wastewater disposal challenges	<ul style="list-style-type: none"> Increased water use (more wastewater generated) Poor drainage facilities 	<ul style="list-style-type: none"> Public awareness on sustainable water use When possible, include drainage provision in the menu of LIPW infrastructure to be provided in the community. 	NE/ICDS
Child labour and forced labour	<ul style="list-style-type: none"> Representation of parents and adult relatives at site 	<ul style="list-style-type: none"> Sensitization against the involvement of children at site Put in place punitive measures against child labour 	MCU/DA
Exclusion of vulnerable peoples and PwDs	<ul style="list-style-type: none"> Beneficiary targeting 	<ul style="list-style-type: none"> Sensitization, prioritizing inclusion of vulnerable people and PwDs Promoting work activities that are friendly to PwDs and other vulnerable groups 	MCU/DA
Complaints and grievances	<ul style="list-style-type: none"> Beneficiary targeting Wrong issuance of daily tasks at site Delays and other payment-related issues Accident at site 	<ul style="list-style-type: none"> Provide a robust grievance redress system 	MCU/DA

Table 17: Summary of Environmental and Social Impacts and Proposed Mitigation Measures for Improved Sanitation Facilities

Improved Sanitation Facilities			
Potential Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
CONSTRUCTIONAL PHASE IMPACT			
Occupational health risks	<ul style="list-style-type: none"> Cuts from the use of working tools Exposure to high ambient temperatures Musculo-skeletal injuries (from repetitive motion tasks) 	<ul style="list-style-type: none"> Provision of PPE to all participants Regular breaks, provision of potable water Undertaking job rotation 	ESSS/MCU
OPERATIONAL PHASE IMPACT			
Cost to beneficiaries	Emptying septic tanks that are full. Replacement cost malfunctioning Water closets.	<ul style="list-style-type: none"> Design human waste receptacles that require little maintenance. Public Education 	NE/DA
Spread of diseases	Poor sanitation in washrooms	<ul style="list-style-type: none"> Public awareness 	DA

Table 18: Summary of Environmental and Social impacts and proposed mitigation measures for Flood Control subprojects

Community Flood Control Initiatives			
Potential Impacts	Potential Sources of Impacts	Mitigation Measures	Responsible Organization/ Unit
CONSTRUCTIONAL PHASE IMPACTS			
Occupational health and safety risks	<ul style="list-style-type: none"> Use of construction equipment (pickaxes, cutlasses etc.) Closeness of large pool of workers to each other 	<ul style="list-style-type: none"> Provision of relevant PPE for workers Ensuring adequate spacing between workers 	Contractor
Public Health and safety risks	<ul style="list-style-type: none"> Excavations (trenches, ponds etc.) Vehicular accidents from trucks delivering construction raw materials 	<ul style="list-style-type: none"> Mark excavated areas with reflective caution tapes. Ensure vehicles used by contractors are in good working condition. Require drivers to have valid driver's licence. 	ESSS/MCU
OPERATIONAL PHASE IMPACTS			
Risk of drowning and use of reservoirs as receptacles for waste	<ul style="list-style-type: none"> Unregulated access to water-holding structures (dams, ponds) 	<ul style="list-style-type: none"> Fencing of deep ponds/reservoirs to restrict access 	NE

6. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

Sub-projects proposed under the eligibility criteria of LIPW – feeder road infrastructure and indeed the transport sector in general play a strategic role in the socio-economic development of Ghana. Small earth dams are especially critical in the savannah regions where the long dry season with high temperatures makes water availability for domestic use, livestock rearing and small vegetable farming extremely difficult. A wide range of social and environmental benefits will arise as a result of the Climate change mitigation initiatives. These will include economic benefits to project communities and the nation. Despite the numerous benefits, the sub-projects under the LIPW will also have adverse environmental and social impacts which need to be assessed using the ESMF prior to implementation of such projects.

This section discusses the general framework within which the project’s environmental and social considerations shall be managed

6.1 Community Exclusion Criteria

Communities experiencing the following will be ineligible for consideration:

- Conflict
- Abundance of active illegal mining sites (galamsey)

6.2 Thresholds for EPA Registration

The following are to be considered during sub-project registration with the Environmental Protection Agency.

Table 19: Sub-project registration with the EPA

Sub-project type		
1	Feeder Roads	All feeder roads sub-projects shall be registered with the EPA
2	Small Earth Dams/ Dugouts	All SEDDs shall be registered with the EPA
3	Climate Change Mitigation Interventions	Only sub-projects above 10ha shall be registered with the EPA. Sub-projects of 10ha or below shall only be subjected to the Project’s in-house Appraisal (Environmental and social screening)
4	Improved Water Supply	All water supply sub-projects will not be registered with the EPA
5	Improved Sanitation facilities	Sub-projects may be registered depending on the outcome of the project’s in-house screening.
6	Solid waste management	Solid waste management activities (waste collection) shall not be registered with the EPA
7	Flood mitigation measures	Only flood mitigation structures that require the construction of major retention structures shall be registered with the EPA.
8	Clean School Kitchens	All clean school kitchens shall be registered with the FDA or the Health Directorates of the respective MMDAs

6.3 Processes for Sub-project Environment Assessment

Table 20 below shows the environmental and social management requirements that sub-projects will be subjected to:

Table 20: Environmental and social management requirements for sub-projects

Subproject phase	Environmental and Social Compliance Requirements	Documentation required	Responsibility	Service Provider
Pre- Approval	Preparation of relevant safeguard documents	ESMF, RPF, ESCP, SEP	MCU	Consultant, WB
1. Sub-project Identification, Appraisal and Design	1.1 In-house E&S screening of sub-projects	LIPW In-house Appraisal Checklist (Appendix 1) including further and appropriate safeguard documentation as required	ESSS/ZE/ZSO/ DA Schedule Officer	
	1.2 Register subproject with EPA for environmental screening and clearance (<i>for sub-projects meeting eligibility criteria for registration</i>)	Copy of forwarding letter and EPA EA Form 1 (Appendix 2) including further documentation as required	ESSS/ ZC/ ZSO/ DA Schedule Officer	
	1.3 Obtain environmental permits for subprojects screened by EPA	Copy of permit and environmental compliance schedule for subproject implementation	ESSS/ ZC/ ZSO/ DA Desk officer	
	1.4 Incorporate EPA screening and permit recommendations, and E&S issues identified during In-house sub-project appraisal into subproject formulation and design and contracts.	Copy of contract specifications	NE/ZE/ZSO/ DA Engineer	
	1.5 Undertake field validation/verification on any land acquisition and crop/livelihood displacement and compensation issues identified during in-house screening	Completed guidelines for validating communal lands, pictures of meetings and signed lists and addresses of people consulted during validation	ESSS/ ZSO	Consultant (If needed)

Subproject phase	Environmental and Social Compliance Requirements	Documentation required	Responsibility	Service Provider
	1.6 Fully settle and properly document all land acquisition, crop and livelihood compensation issues before commencing subproject execution	MOU for land acquisition and benefit sharing completed and signed Pictures and signed list of affected persons	ESSS/ ZSO/ ZE	
2. Sub-project Execution (ESMP Implementation)	2.1 Community/ key stakeholder engagements and sensitization	Sensitization reports (Community/ stakeholders)	RCA	
	2.2 Undertake training of key project actors (National, Zonal, District, and Community levels in the project's E&S requirements for subproject implementation)	Training reports	ESSS/ ZC/ ZSO	
	b) Train contractors/ supervisors on E&S requirements. • Include safeguards issues on the agenda for community pre-commencement meetings	reports/ pictures	ESSS/NE/ZCO	

Subproject phase	Environmental and Social Compliance Requirements	Documentation required	Responsibility	Service Provider
	<p>2.3 Put in measures for handling grievances/ complaints and accountability and widely publicize them.</p> <ul style="list-style-type: none"> • Make available hotlines for receipt of grievances and complaints. • Install Transparency and Accountability Boards (TABs) • Ensure that the Toll-free numbers for the Single Window Citizens Engagement Service (SWCES) are boldly written on the TAB and educate the communities about the SWCES • Constitute Community Grievance/ complaints committee and train them • Appoint and train Community Facilitators expected to be focal persons for community/project-level grievances 	<p>Single Window Citizens Engagement Service toll-free hotline</p> <p>Transparency and Accountability Boards (TABs),</p> <p>Community complaints notebooks, district complaints file and records, RCO complaints file and records</p>	<p>ESSS/ ZSO</p>	
	<p>2.4 Institute and publicize measures for handling community exposure to diseases (IE malaria, guinea worm, Ebola, HIV/AIDS, and COVID-19)</p>	<p>Education Flyers/ posters</p>	<p>ESSS</p>	

Subproject phase	Environmental and Social Compliance Requirements	Documentation required	Responsibility	Service Provider
	2.5 Labour and Working Conditions 2.51 Enforce the under-listed E&S mitigation measures <ul style="list-style-type: none"> • Provision of temporary latrines at environmentally acceptable locations • Provision of adequate portable water to the workforce • Ensure the availability of a well-stocked first-aid kit • Ensure the construction of creches (children's care areas) • Appoint one beneficiary to serve as a caregiver 	Site inspection reports/ pictures	ESSS/ ZSO	
3. Post-Subproject Execution	3.1 Constitute Community Facility Management Teams and train them	Training reports	ESSS/ ZSO	
	Prepare and implement District Facility Management Plans	Facility Management Plans	NE/ DA Engineer/ RCA/ ZC	
	Maintenance of subprojects	Facility Management Plans	DA/ FMCs	Construction firms (when needed)

6.4 Sub-projects Environmental and Social Management Procedure

The successful implementation of the ESMF depends on the commitment of the beneficiary communities and MDAs, the contractors, the RCOs and PIU, as well as the capacity within the institutions and the institutional arrangement to effectively use the framework.

The MDAs will be responsible for E&S assessment and for securing the required permits for the sub-projects under the LIPWs, with the help of the RCOs. The District Engineer (MDA Works Department) will take custody of this ESMF and will play a lead role under the guidance of the RCO in conducting the initial sub-project E&S assessment. The DE will liaise with the EPA for submission of the completed assessment forms, for inspection and other processes leading to granting of the permit for sub-projects.

The Project Environmental and Social Management (ESM) is linked to the project implementation activities. The ESM commitment originates from the Initial Assessment/ EA Screening Form requirement. The ESM phase comprises monitoring, management (of E&S impacts and mitigations) and reporting during implementation activities such as rehabilitation, maintenance, decommissioning of sites, etc. The ESM process will verify:

- Effectiveness of mitigation measures being implemented.
- Compliance with mitigation and other environmental and social requirements.
- Unanticipated or residual impacts that have arisen requiring remedial action.
- How far contractors are meeting or adhering to required environmental and social principles, standards, and commitments; and
- The extent to which project monitoring and reporting requirements are met.

6.5 Working Conditions and Management of Worker Relationships

The project will adopt and implement human resources policies and procedures appropriate to its size and workforce that set out its approach to managing workers consistent with the requirements of the Environment and Social Standard 2: Labour and Working Conditions and national laws. A Labour Management Procedure prepared as part of the ESMF is provided in Appendix 12.

The project will provide workers with documented information that is clear and understandable, regarding their rights under national labour and employment law and any applicable collective agreements, including their rights related to hours of work, wages, overtime, compensation, and benefits upon beginning the working relationship and when any material changes occur. Community workers and contractors will be required to sign a code of conduct that will guide the onsite work environment.

The project will not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The project will base the employment relationship on the principle of equal opportunity and fair treatment and will not discriminate with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices, where applicable. The project will take measures to prevent and address harassment, intimidation, and/or exploitation, especially with regard to women.

The project will provide a grievance mechanism for workers to raise workplace concerns. The project will inform the workers of the grievance mechanism at the time of recruitment and make it easily accessible to them. The mechanism will involve an appropriate level of management and address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned, without any retribution. The mechanism will also allow for anonymous complaints to be raised and addressed. The mechanism will not impede access to other judicial or administrative remedies that might be available under the law or through existing arbitration procedures, or substitute for grievance mechanisms provided through collective agreements.

6.5.1 Protecting the Work Force

Child Labour: The project will not employ children. Under the Ghana Children Act 1998, the minimum age for admission of children into employment is fifteen (15). However, the minimum age for engagement of persons in hazardous work is eighteen (18). The minimum standard age for all employment set out in the World Bank's Environmental and Social Standard 2 is age 18. The project will comply with the World Bank's minimum age. The project will ensure that children under the age of 18 are not employed as workers.

The Ghana Child Labour Monitoring System (2010) is a holistic and dynamic process for eliminating the Worst Forms of Child Labour. It involves direct observations, repeated regularly, to:

- identify child labourers and to determine the risks to which they are exposed
- refer them to appropriate remediation services
- verify that they have, indeed, been removed,
- track them to ensure that they have satisfactory and sustainable alternatives in life. It involves direct action aimed at:
 - protecting boys and girls
 - enhancing better socio-economic planning of child Labour-related activities at the community, district, regional and national levels
 - a more effective national policy on child Labour, and
 - a better monitoring of national and international laws and conventions on child Labour.

Awareness-raising sessions will be regularly conducted in the communities to sensitize them on the prohibition and negative impacts of child and forced Labour as well as procedures for preventing abuse of child Labour. Such sessions will be organized in a culturally appropriate manner.

If a minor under the minimum labour-eligible age is discovered working on the project, measures will be taken to immediately terminate the employment or engagement of the minor in a responsible manner, taking into account the best interest of the minor.

Forced Labour

The project will not employ forced Labour which consists of any work or service not voluntarily performed but it is exacted from an individual under threat of force or penalty, this covers any kind of involuntary or compulsory Labour, such as indentured Labour, bonded Labour, or similar Labour-contracting arrangements. The project will not employ trafficked persons.

6.5.2 Workers Engaged by Third Parties

With respect to contracted workers, the project will make reasonable efforts to ascertain that the third parties who engage contracted workers are reputable and legitimate organizations and have an appropriate labour management procedure. The project will establish policies and procedures for managing and monitoring the performance of such third-party employers in relation to the requirements of this ESS

In addition, the project will incorporate these requirements in contractual agreements with such third parties. Contracted workers will have access to a grievance mechanism. In cases where the third party employing or engaging the workers is not able to provide a grievance mechanism to such workers, the project's grievance mechanism will be available to the contracted workers.

Contractors' labour management records and reports that may be reviewed would include representative samples of employment contracts or arrangements between third parties and contracted workers, records relating to grievances received and their resolution, reports relating to safety inspections,

including fatalities and incidents and implementation of corrective actions, records relating to incidents of non-compliance with national law, adherence to applicable contractor workers code of conduct and records of training provided for contracted workers to explain occupational health and safety risks and preventive measures.

6.5.3 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 five (05) calendar days 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 ongoing implementation of the said measures and plans.

6.5.4 Regular reporting

- Accidents and grievance logbooks will be placed in all construction sites
- The contractors' progress report will provide details on accidents
- All regular progress reports to the Bank will include information on accidents and incidents
- Any severe injury (requiring off-site medical care) or fatality incident shall be reported to the Bank within 24 hours with basic information and a detailed incident report including the following will be submitted within 10 working days:
 1. root cause analysis and
 2. corrective action plan on
 - a) immediate mitigation measures in case of continuing danger (e.g. fencing, signboard, guards)
 - b) compensation to the affected family based on a clear rationale
 - c) risk assessment and correct application of ESHS management procedures, and
 - d) medium- and long-term mitigation measures including enhancement of safety measures, audits, and additional training.

6.6 Chance Find Procedures

Extensive consultations with traditional leaders in the project area and many state institutions reveal that the proposed project area does not contain any critical cultural heritage site (i.e. site protected by both national and international laws. However, given that in some of the works of LIPW (Climate Change, SEDs and FR), there may be a rare possibility of chancing upon cultural heritage sites and/or materials, during land clearing, "Chance Find Procedures" will be incorporated into programming. The primary objective of this Chance Find Procedure is to provide practical and step-by-step procedures for protecting any cultural heritage that may be accidentally discovered during the project implementation.

6.6.1 Initial Identification/ Exposure

- The project will educate all workers, especially those undertaking land-clearing activities (Climate Change, SEDs and FR) to observe the following steps in the event of a discovery:

- The person or group (identifier) who identifies or exposes any such find must cease all activity in the immediate vicinity of the site
- The identifier must immediately inform the site supervisor/ community facilitator (focal person) of the discovery
- The site supervisor/ community focal person must ensure that the site is secured and access to the site is controlled

6.6.2 Consultations

The following consultations shall occur:

- The Supervisor and the community facilitator shall then inform the desk officer at the District Assembly. Together with the desk officer, they shall then consult with the leaders of the community where the Find was made.
- The Chiefs shall then be informed of the Find.
- The District Chief Executive (DCE), representing the District Assembly shall be responsible for contacting the National Museums and Monuments Board (NMMB) preferably by Telephone or Email.
- The NMMB shall be requested to send an expert to the field to advise.
- In the event of the NMMB's failure to honour the invitation and take relevant subsequent action, experts from the Archaeology Department of the University of Ghana shall be invited to do so.

6.6.3 Community Access

In the event of a religious or cultural site being used by a community, the District Assembly in consultation with the community shall establish an appreciable buffer around the religious or cultural site. The buffer shall be adequate to ensure that project-related activities do not impact negatively on the site.

6.7 Social Accountability

The project will mainstream social accountability into its implementation processes, intended to: (i) ensure efficiency and beneficiary satisfaction with service delivery; (ii) promote transparency and accountability; (iii) encourage participation and citizen engagement; (iv) assist in reducing leakages; (v) promote community management and ownership; and (vi) provide voice to the beneficiaries, who in most cases are deemed to be voiceless. In view of the nature of most activities where beneficiaries are mostly semi-literate or illiterate, the accountability tools employed will be simple and use pictures as possible, so that semi-literate populations can understand them, but also tailored to the particular area, e.g. rural versus peri-urban.

The starting point of social accountability under the project will be at the community entry and sensitization stage where managers take the opportunity during the sensitization exercise to fully disclose all relevant information on the project i.e. contract sum, percentage to be paid out as wages, frequency of wage payment, the mode and means of payment, the role of various stakeholders in the delivery process and other entitlements such as the asset that will eventually result from the intervention. This sensitization effort will transcend the entire duration of the sub-project i.e. at project pre-commencement meetings, site meetings and other outreach programs, as a way of reinforcing the

message on entitlement. At all these engagements, participants will be given the opportunity to ask questions and have their issues adequately addressed.

Community fora. A key activity of the project's social accountability efforts will be the creation of a community forum during which all interested parties will be brought together to review the implementation process. The specific features of the interface which will be facilitated by the DA and Community Facilitator under the guidance of the ZCO will include:

- An account of resources released towards the execution of the sub-project
- A report on Fiscal Disbursement and Progress by MDA and/or contractor
- Feedback from beneficiaries on their satisfaction with service delivery
- An interface (dialogue) aimed at improving the delivery process

Major concerns resulting from the dialogue will be identified for possible redress. Timelines for their resolution will be agreed upon in a participatory manner. The RCC and ZCO will be expected to follow up on these issues to ensure that they are addressed.

Transparency and Accountability Boards (TABs). As a further step towards deepening accountability, the project will continue with the installation of Transparency and Accountability Boards (TABs) at sub-project sites that will ensure the disclosure of critical project information such as beneficiary entitlements; expenditure to date, proportion of expenditure paid as wages and signed payment vouchers for beneficiary verification.

7. Institutional Arrangements and Capacity Analysis for Implementation of the ESMF

The MLGDRD and MCU, MOGCSP, EPA, RCOs, FDA, DAs and communities are the main implementers of environmental and social mitigation measures in the project. The other institutions and agencies whose functions relate to the project in terms of oversight, project design and technical support include the Project Oversight Committee (POC), Project Technical Committee (PTC), Department of Feeder Roads and GIDA.

7.1 Role of Key Institutions in the ESMF and Project Implementation

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

The MLGRD has oversight responsibility for the implementation of the Labour-Intensive Public Works and Productive Inclusion components of the Project. The Project, just like other World Bank/ Donor Supported projects are coordinated under the Policy Planning, Budget, and Monitoring & Evaluation Division. The Ministry is also a co-chair of the Project Oversight Committee (POC), which has general oversight over the Project together with MOGCSP.

7.1.2 Ministry of Gender, Children and Social Protection

The MOGCSP is responsible for the other components of the GPSNP; Social Protection Systems Strengthening, LEAP, GSFP and GNHR. The Ministry is also a co-chair of the POC. Environmental and Social Safeguards capacity at the Ministry is however generally low. It however has a good case management system in the Single Window Citizens Engagement Service.

7.1.3 Environmental Protection Agency

The EPA is responsible for ensuring compliance with laid down EA procedures in Ghana in accordance with the EPA Act 1994 (Act 490) and its amendment, and the Agency is expected to give environmental approval for Projects. The EA is applied in Ghana to development projects as well as other undertakings as an environmental permitting prerequisite and a major environmental management tool. The EPA is represented in all the sixteen (16) regions of the country and will support the project by exercising its permitting and monitoring role. The organizational structure of the EPA is appended.

7.1.4 The MLGDRD Coordinating Unit (MCU)

The MCU operates directly under the POC and the MLGRD and would spearhead project implementation and coordination. The MCU will have a dedicated Environmental and Social Safeguards Specialist who will have oversight responsibility for the implementation of environmental and social requirements of the Project. They will work closely with the five Zonal Safeguards Officers (ZCOs) and in collaboration with the MDAs.

7.1.5 Zonal Coordinating Office (ZCO)

The Project will have 5 Zonal Coordinating Offices in Koforidua, Wa, Bolgatanga, Tamale and Kumasi. The Zonal offices will work with the Regional Coordinating Councils to provide technical backstopping and monitoring to the implementing DAs and Communities. In terms of environmental and social safeguards implementation, the Zonal Safeguards Officer (ZSO) shall be responsible. The ZSOs will also serve as case management assistants.

7.1.6 District Assemblies

The DAs have full responsibility for the project implementation in collaboration with the beneficiary communities. The District Engineer and the Project Schedule Officer are the key environmental and social safeguards officers at the DA level. The Client Supervisors (mostly GIDA staff) and Agric Extension Agents (AEA), who also work for the DAs play key E&S roles to ensure the quality of facilities. Though implementation of E&S impact mitigation might not be new to the DAs since the predecessor project and other donor-supported projects have trained some DA staff in safeguards, the general E&S capacity of the DAs to mitigate E&S risks and impacts as required by the ESF is generally low.

7.1.7 Project (Beneficiary) Communities

The beneficiary communities are particularly the most important when it comes to environmental and social safeguards implementation since the benefits or otherwise are borne by the community. The Community Facilitator is expected to lead E&S-related activities at the community level. He is supported by a 3-member case management committee (case management) and 5-member community FMCs. E&S capacity is virtually non-existent at this level

7.1.8 The World Bank Group

The World Bank Group (WBG) is a group of five international organizations that make leveraged loans to low and middle-income countries. It is the largest development bank globally. The bank is headquartered in Washington, D.C. in the United States. The five organizations of the Group are: The International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA) and the International Centre for Settlement of Investment Disputes (ICSID). The first two (IBRD and IDA) are sometimes collectively referred to as the World Bank.

The WBG was established in 1944, and its purpose was to issue long-term loans to governments for reconstruction and economic development following the Second World War. It thus, provides loans and grants to the governments of low- and middle-income countries for the purpose of pursuing capital projects. The Bank is centred around the goals of sustainability, ending extreme poverty and promoting shared prosperity.

Borrowers and Bank financed Projects are required to abide by the relevant requirements of the World Bank Group’s Environmental, Health and Safety Guidelines (EHS) and the Environmental and Social Framework of the World Bank (IBRD and IDA).

Table 21: Summary of Roles and Responsibilities of Key MDAs

Agency	Existing E&S Specialists in each Agency	Proposed E&S specialists in each Agency	Responsibilities of each Agency on E&S aspects
MLGDRD	None. Represented by ESSS on the project		Has overall responsibility for the implementation of Components 1 and 2.
MCU	Environment and Social Safeguards Specialist(s)	Environment and Social Safeguards Specialist(s)	Leads the implementation of the safeguards requirements of the project.
ZCO	Case Management Assistant	Zonal safeguards officer	Assists the ESSS in a respective project zone in ensuring compliance to the overall project safeguards requirements. Undertakes occasional monitoring

DAs	None (Role played by District Works Engineer/Desk officer)	Desk officer	Sub-project registration with the EPA, provides regular supervision and monitoring for safeguards compliance. Monthly reporting on safeguards to the ZCO
Communities	None. Role played by Community Facilitator	Community Facilitator	Daily monitoring of environmental performance, case management at the community level, liaises between the DA and the Community
Consultants			Recruited when needed to perform specific tasks.

7.2 Institutional Capacity Assessment for Environmental/ Social Safeguards Implementation

Table 22 summarizes findings from the institutional capacity assessment of key implementers of the ESMF.

Table 22: Environmental and Social Safeguards Institutional Capacity Assessment

No.	Aspects	Criteria	Key Implementing Agencies						
			EPA	MLGDRD	MOGCSP	MCU	ZCOs	(M)DA	Community
1	Operational Structure and Staff Organogram	<i>Safeguard role explicit in organizational structure</i>	Yes, Organogram (Appendix 5)	Yes, Organogram (Appendix 3)	Yes, but at program level (LMS)	Yes, Organogram (Appendix 6)	Yes, Organogram (Appendix 6)	No, Organogram (Appendix 7)	No
		<i>Adequacy of staff compared to geographic area of jurisdiction</i>	Yes, staff is placed at the national, regional and district	Yes, But not Adequate, 1 National level ES officer and Focal officers at the district	Yes, Case management officers exist at LMS and SWCES and there are focal points at the district. However, GSFP lacks E&S administration (Staff and Training)	Yes, Adequate	Yes, Adequate	Yes	No
2	Budgetary Resources and Inventory	<i>Budget allocation for E&S administration</i>	Yes, but medium	Yes	Yes, but none for GSFP as a new component.	Yes, and High	Yes, and High	Yes, but low	No
		<i>Vehicles and equipment for monitoring</i>	Yes	Yes, but medium	Yes, but Low	Yes, and High	Yes, and High	Yes, but low	No
3	Relevant Skills and Experience	<i>Competence in scoping environmental and social risks, selecting appropriate E&S instruments, drafting TORs, and procuring consultant services)</i>	Yes, and High	Yes, but medium	Yes, But low	Yes, and High	Yes, but Low	Yes, and low	No
		<i>Sufficient technical competency of good international industry practice)</i>	Yes, and High	Yes, but medium	Yes, but low	Yes, and High	Yes, but ow.	Yes, but Low	No

No.	Aspects	Criteria	Key Implementing Agencies						
			EPA	MLGDRD	MOGCSP	MCU	ZCOs	(M)DA	Community
		<i>Practical experience in prescribing ESS requirements in contractor bidding documents, determining whether contractors have assigned sufficient resources in ESS assessment and management</i>	N/A	Low	No	Medium	Low	Low	No
4	Monitoring	<i>Practical experience in monitoring, assessing and supervising work of contractors in the field</i>	N/A	Medium	N/A	High	Medium	Medium	No
		<i>IA control over contractors and other parties in the project (e.g. Suspension of works, withholding payments and cancelling contracts)</i>	N/A	Medium	N/A	Medium	Low	High	No
5	Stakeholder Engagement	<i>Extent of stakeholder engagement on an informed and ongoing basis</i>	N/A	High	High	High	High	High	Low
	Grievance Redress and Disclosure of Information	<i>Grievance redress (dedicated Staff with expertise and experience)</i>	N/A	High	High	High	High	High	Low
		<i>Environmental and social information disclosure to stakeholders at all levels</i>	N/A	Medium	Medium	High	High	Medium	No

7.3 Role and Responsibilities of Key MCU Staff for ESMF Implementation

Under LIPW and PI, the following technical team in the MCU would be responsible for the implementation of the Framework. Table 23 summarises their roles and responsibilities.

7.3.1 National Coordinator (NC)

The NC is the head of the MCU and provides strategic direction for the overall management of the Project. The NC has overall oversight responsibility of the various units of the MCU – safeguards, procurement, financial management, monitoring and evaluation and management information systems.

7.3.2 Environmental and Social Safeguards Specialist (ESSS)

The ESSS leads the establishment of procedures and standard practices for environmental and social compliance in LIPW and PI delivery and ensures the Project's compliance with Country and World Bank's Safeguard requirements. The ESSS also among others provide technical guidance in the implementation of Environmental and Social Management Framework (ESMF) and the Resettlement Policy Framework (RPF) and on Case Management/Grievance Redress Issues.

7.3.3 Institutional Strengthening and Capacity Specialist (ISCS)

The ISCS provides leadership and direction for institutional strengthening and capacity building as regards activities within the Project, including environmental and social risk management capacity building. The ISCS also ensures the development of manuals and programming of the training sessions for all project-related training activities in collaboration with the appropriate training institutions and consultants.

7.3.4 National Engineer (NE)

The NE is the component lead for the Labour-intensive Public works component of the Project. The NE provides engineering specifications for all sub-project designs and requirements including designs for creches. The NE also ensures the inclusion of E&S requirements in subproject designs and budget preparation, assists in establishing procedures for achieving set targets, and ensures compliance with proper codes of conduct and standards in technical transactions.

7.3.5 Productive Inclusion Specialist (PIS)

The PIS is the component lead for component 1. The PI specialist provides strategic direction to the PI officers at the Zonal coordinating offices.

7.3.6 Procurement Specialist (PS)

The PS leads the procurement of works, goods, and services at all levels of the project implementation, including environment and social safeguards consultancy for the preparation of ESMPs, RAPs, ARAPs, Audits etc. The PS also ensures the integration of mitigation measures and E&S clauses in the sub-project bidding document.

7.3.7 Project Accountant (PA)

The PA maintains all project accounts by developing appropriate accounting/reporting/auditing systems, and the prompt collation of accounting information from all units for reporting purposes. The PA ensures the availability of resources to meet the requirements of all units – including payment of EPA processing and permit fees. The PA also provides sound Financial Management and accounting advisory services to all Project units and accounting staff.

7.3.8 Monitoring and Evaluation (M&E) Specialist

The M&E Specialist lead the development of the Monitoring and Evaluation System of the project and ensures that appropriate monitoring and evaluation procedures are established, implemented and coordinated, including E&S monitoring and evaluation. The Specialist also assists in the preparation, coordination, and collation of Annual Work plans/Budgets by the project implementing units and also prepares project progress reports, briefs, and status updates.

7.3.9 Management Information Systems Specialist (MISS)

The MISS develops functional specifications for MIS implementation and updates, including E&S issues. The MISS also generates LIPW reports from the MIS software for: the preparation of periodic reports, work plans and budgets, website updates, exhibitions, studies, and surveys and in response to requests from implementing agencies, committees and implementing partners.

Table 23: Role and Responsibilities of ESMF Implementation

No	Steps/ Activities	Responsible	collaboration	Service Provider
1.	Identification and/ or siting of the sub-project	Desk Officer, District Planning Officer and District Engineer, District Agriculture Officer at DA	Community	
2.	Screening, categorization and identification of the required instrument (use the national EIA procedure)	ESSS at MCU	Community DA ZCOs	
3.	Approval of the classification and the selected instrument by EPA	ESSS at MCU ZC at ZCOs	NE	EPA The World Bank
4.	Preparation of the safeguard document/ instrument (ESIA, ESMP, RAP/ARAP, and E&S Audit) in accordance with the national legislation/ procedure (taking into account the Bank ES framework requirements).			
	Preparation and approval of the ToRs	ESSS at MCU	DA ZCO - MCU	The World Bank
	Preparation of the report		NE – MCU ZCO – MCU DA Community	Consultant
	Report validation and issuance of the permit (when required)		NE – MCU ZCO – MCU DA	EPA The World Bank
Disclosure of the document	Project Coordinator		Media The World Bank	
5.	<ul style="list-style-type: none"> Integrating the construction mitigation measures and E&S clauses in the bidding document prior advertising Ensuring that the contractor prepares an ESMP (C- ESMP), gets it approved and integrates the relevant measures in the works breakdown structure (WBS) or execution plan. 	Procurement Specialist at MCU	ESSS - MCU NE - MCU DE - DA	EPA
6.	Implementation of the other E&S measures, including environmental monitoring (when relevant) and sensitization activities	ESSS at MCU	NE - MCU Financial Staff (FS PIU) DA Community	

No	Steps/ Activities	Responsible	collaboration	Service Provider
7.	Oversight of E&S implementation (internal)	ESSS at MCU	NE M&E Specialist ZCOs DA Community	Construction firm's supervisor/ DA (Supervisor)
	Reporting on project E&S performance and disclosure	ESSS at MCU	ZC ZSO MISS	-
	External oversight of the project E&S compliance/ performance	Regional Director at EPA	ESSS M&E ZC/ZSO	-
8.	Building stakeholders' capacity in E&S management	ESSS at MCU	ICDS – PIU ZCO	EPA
9.	Independent evaluation of the E&S performance (Audit)	ESSS at MCU	NE ZCO DA Community	Consultant

7.4 E&S Capacity Building

Effective E&S instrument implementation requires all key stakeholders and project actors to understand their respective roles and responsibilities. The RMCU, led by the ESSS and facilitated by the ICDS, shall execute a planned capacity-building program. The broad objectives of the capacity-building efforts would be to:

Ensure that all relevant actors understand their expected roles in all phases of the sub-project's implementation. These include site selection, registration, permit acquisition, actual field implementation as well as monitoring and reporting.

- The target groups for training include:
- All MCU technical staff
- Relevant Municipal/District Coordinating Office staff
- Contractors (supervisors)
- Decentralized Departments of the DAs (Agric, Social Welfare/Community Development)
- EPA staff in Project Zones
- Operations and M&E team of the GSFP
- Regional Coordinating Office staff
- Community actors (Community Facilitators (CFs) and Committee members)

The broad areas for capacity building would include the following:

- Project screening/ initial assessment techniques, screening tools, legislation and procedures.
- General project planning and management inter-faced with E&S assessment and management.
- Potential Environmental and Social Impacts of Sub-projects and their proposed mitigation measures (including monitoring, environmental audit, etc.)
- Grievance Redress/ Case Management
- Adherence to Decent Work
- The project's Gender Mainstreaming approaches
- Emergency response preparedness
- COVID-19 Protocols and Guidance Notes

The capacity building training requirements and the estimated cost are provided in the table below.

Table 24: Estimated Budget for Capacity Building

No.	Institution	Capacity Gaps Identified	Capacity Building Measures	Rate	Estimated Cost (\$)
1	MLGDRD	Inadequate capacity in environmental and social safeguards issues	Training course in environmental and social safeguards compliance for staff of the Ministry (3 days for 4 persons)	\$ 200/p/d	2400
2	Department of Feeder Roads (DFR)	Inadequate knowledge of staff in environmental safeguard principles for LIPWs	Two -day Training course for 30 Engineers on safeguards adherence in relation to design and supervision of LIPW Feeder Road intervention based on content of Safeguards Module in LIPW Practitioner's Manual	\$ 200 per head	6,000
3	Ghana School Feeding Program (GSFP)	Inadequate capacity in environmental and social safeguards issues	Training course in environmental and social safeguards compliance for staff of the Ministry (3 days for 7 Persons)	\$ 200 per head	4,200
4	Ghana Irrigation Development Authority	Inadequate knowledge of staff in environmental safeguard principles for LIPWs	Two-day Training course for 40 Engineers on safeguards adherence in relation to design and supervision of LIPW Small Earth Dams based on content of Safeguards Module in LIPW Practitioner's Manual	\$ 200 per head	4,000
5	District Assembly (DA)	Inadequate capacity in Safeguard adherence /compliance and monitoring	Identify a dedicated staff as Safeguards Focal Person. Organize a 2-day training program for a dedicated Safeguard Officer and one other key staff from 80 DAs in Safeguard compliance and monitoring	\$150 per head	24,000
6	Community	Weak capacity in Safeguard adherence/compliance and monitoring at the community level	1-day training program for all members of the FMC and timekeepers (6 people) in 400 Communities.	\$ 40 per head	96,000
7	Contractors	Inadequate capacity in safeguards management of LIPWs	2-day technical training in safeguards management as part of Standard LIPW training for 200 contractor supervisors –based on the Safeguard Module in LIPW Practitioner's Manual	\$ 50 per head	10,000
TOTAL					146,600

8. Environmental and Social Monitoring and Reporting

Monitoring is a key component of the ESMF. It will be essential that the basis for the choices and decisions made in the sub-project design and other E&S safeguard measures implemented are continuously verified. Monitoring will ascertain the effectiveness of management, including the extent to which mitigation measures are successfully implemented.

Monitoring of the general project and the specific sub-project activities will help to:

1. Improve environmental and social management practices,
2. Check the effectiveness of the districts' E&S oversight responsibility, and
3. Provide the opportunity to report the results on E&S, impacts and mitigation measures implementation.
4. Keep informed on COVID-19 data to inform programming

The District Engineer (DE), supported by the Client Supervisors and Agriculture Extension Agents (AEAs), will be responsible for E&S oversight and monitoring. The DE will ensure that contractors adhere to the E&S requirements.

The Community Facilitator will monitor the contractor's progress in carrying out his/ her obligations on E&S measures, and report progress on E&S compliance to the DA through the DE on a monthly basis. The DA on its part will submit monthly E&S monitoring reports to the ZCO, copying the RCO. The E&S monitoring reports of all participating districts will be collated by the ZCO and submitted to the MCU (through the Environmental and Social Safeguards Specialist - ESSS). The MCU will then collate the regional E&S management reports for submission to MLGDRD and PTC/POC. The ESSS will conduct annual or end-of-project environmental and social audits and report appropriately.

Table 25 below provides the project's comprehensive E&S monitoring plan that will guide overall monitoring processes, and the subsequent Table 26, the project monitoring checklist that will be used by staff to monitor implementation progress.

Table 25: Comprehensive monitoring plan for the ESMF

Phase	What (parameter is to be monitored)	Where (Is the parameter to be monitored)	How (Is the parameter to be monitored)	When (Is the parameter to be monitored)	Why (Is the parameter being monitored)	Cost	Who (Is responsible for monitoring)
Sub-project Preparation	All relevant permits (EPA, etc.)	Prior to start of works	Check documentation	Once at start of project	Ensure compliance with ESMF and ESS 1	Part of sub- project cost	MCU/ ZCOs/ DAs
	Land Agreements	Prior to start of works	Check documentation	Once at start of project	Ensure compliance with ESMF, and ESS 5	Part of sub- project cost	MCU/ ZCOs/ DAs
	Asset Management Agreement with DAs	Prior to start of works	Check documentation	Once at start of project	Ensure compliance with ESMF & ESS 1	Part of sub- project cost	MCU/ ZCOs
Sub-project Implementation	Environmental impacts (dust, noise, erosion, etc.)	Construction Site	Observation	Daily	Minimize environmental impacts and ensure compliance with ESMF & ESS 1	Part of sub- project cost	MCU/ Das / Dist. Eng. / CF
	Social impacts (skill development, female empowerment, etc.)	Construction Site	Observation	Daily	Minimize social impacts and ensure compliance with ESMF & ESS 1	Part of sub- project cost	ZCOs/DAs/Dist. Eng/ Community Facilitators
	OHS impacts (accidents, PPEs, etc.)	Construction Site	Observation	Daily	Minimize OHS Impacts and ensure compliance with ESMF & ESS 1	Part of sub- project cost	ZCOs/ Das / Dist. Eng/ Community Facilitators
	Burrow pit reclamation	Prior to the end of Construction	Observation	Project completion	Ensure compliance with ESMF & ESS 1	Part of sub- project cost	ZCOs/DAs/Dist. Eng/Community Facilitators
	Accident & Grievance reporting aggregated according to gender	Construction Site	Observation	Daily	Ensure compliance with ESMF and RPF, ESS 1	Part of sub- project cost	ZCOs/ DAs/ Dist. Eng/ Community Facilitators
	Social impacts, fire management, OHS impacts, PPEs, waste food disposal, etc	Beneficiary school kitchen	Observation	Daily	Ensure compliance with ESMF & ESS 1	Part of sub-project cost	GSF Monitoring team/ ESSS/ SMCs/ DAs

Phase	What (parameter is to be monitored)	Where (Is the parameter to be monitored)	How (Is the parameter to be monitored)	When (Is the parameter to be monitored)	Why (Is the parameter being monitored)	Cost	Who (Is responsible for monitoring)
	Incidents/accidents reporting	Construction Site	Observation/Reporting	Daily	Ensure compliance with ESMF and RPF, ESS 1	Part of sub- project cost	ZCOs/ DAs/ Dist. Eng/ Community Facilitators
	Inclusion of all relevant stakeholders						
Sub-project Operational Phase	Asset management (maintenance, erosion, siltation, flooding, etc.)	Operational site	Site visits, audits	Quarterly	Ensure compliance with ESMF & ESS 1	Part of sub- project cost	DAs/Dist. Eng/ Community Facility Management Teams/ Community Facilitators

Table 26: Project Monitoring Checklist

Date:		District			
Zone:		Region:			
Sub-project Type (SEDDs, FR, CCMI, GSFP):		Description of Sub-project:			
ENVIRONMENTAL SAFEGUARDS					
No	Compliance Issues	Yes	No	Corrective/ follow-up action Recommended	Responsibility for corrective/ follow-up action/ timelines
1	Land clearance is restricted to the designated right of way (RoW)/ or dam foundation area, future reservoir area, and locations of other ancillary facilities (e.g. spillway site, etc.)				
2	Chemicals or burning being used for bush clearing?				
3	Major/ economic trees saved where possible				
4	Winning of sand/ gravel from approved DA sites (Check from the DWE)				
5	All burrow pits well re-instated				
6	Solid waste generated on-site is adequately collected and properly disposed of (at the community's dump site)				
7	Measures in place to collect solid waste (plastics, food leftovers etc.) generated				
8	Channels created for stagnant waters to prevent the creation of water pools				
9	Dust suppression measures (dousing) being implemented				
10	Dam embankments reinforced with vetiver grasses and boulders				
11	Catchment area covered with grass and shrubs to reduce erosion and siltation				
12	Broken down canals and faulty valves repaired to reduce water loss from the reservoir and increase water availability to farmers.				
SOCIAL SAFEGUARDS/ GENDER					
No	Compliance Issues	Yes	No	Corrective/ follow-up action Recommended	Responsibility for corrective/ follow-up action/ timelines
13	Project location devoid of conflicts/disputes that will endanger human lives				
14	Women make up 60% of the workforce (beneficiaries) on site				
15	Pregnant women given opportunity to work				
16	Are any of the women beneficiaries suffering spousal violence because of income earned from LIPW?				

17	Is any of the women carrying her child on her back whilst working?				
18	Work schedule conflicting with period for household chores for women				
19	Women being discriminated against by supervisors				
20	Any woman on site suffering sexual harassment from any of the male supervisors				
21	No Minor working at site				
22	Nursing mothers not carrying babies whilst working				
23	Mandatory rest period of 1 hour being observed				
24	On-site Creche/ Nursery for babies established.				
25	Caregivers are on site				
26	Road marks to aid the visually impaired/ Road ramps to limit speed				
27	Designs of dams are user-friendly to the PLWD/ Aged				
28	Transparency and Accountability Board installed				
29	If the TAB is installed, is it updated regularly (within last 2 weeks)				
30	Is the Helpline of Hope Toll- Free phone number (SWCES) displayed and still visible on the TAB?				
31	Income paid regularly (Monthly)				
32	If yes to the above, are payments made on time?				
33	Beneficiaries aware of avenues to channel Grievances to (Case Mgt. Committee hotlines etc.				
34	Child labour/forced labour				
	OCCUPATIONAL HEALTH & SAFETY				
No	Compliance Issues	Yes	No	Corrective/ follow-up action Recommended	Responsibility for corrective/ follow-up action/ timelines
34	Workers well-spaced to reduce the risk of injuries when using cutting tools				
35	Well-stocked first aid kit for minor injuries provided at site				
36	Trained person (could be beneficiary) on site to administer First Aid in the event of an injury				
37	Health and First Aid education carried out for all workers				
38	Safe drinking water for participants provided at site with enough provision made for drinking cups (if possible, a cup for each participant)				

39	Engagement of workers in construction activities with no poor/damaged tools				
40	Engagement of workers to use machines and tools for which they have only been trained to use				
41	No Involvement of workers in activities without appropriate protective gear				
42	Where there are ongoing construction activities on feeder roads, are there signals to warn road users on ongoing works?				
43	Has gravels been heaped on the road in such a manner that it does not impede the free flow of traffic?				
44	Provision of temporary toilet facilities (pit latrines)				
45	Pit latrines provided are clean and odourless				
46	Provision of separate toilet facilities for both male and female				
47	Borrow pits fenced with caution tapes				
48	Adequate safety measures put in place to avoid incidents, accidents e.g. visible warning signs, diversions etc.				
49	Adequate provision made for alternative routes/ road diversions in case where LIPW activities affects access and smooth flow of movement/ traffic				
50	Adequate provision made for working tools				
51	Compliance with COVID-19 protocols				
52	Compliance with health certification				

9. STAKEHOLDER CONSULTATIONS AND GRIEVANCE MANAGEMENT

Stakeholder engagement was a key ingredient in the preparation of this ESMF. Being a successor to GPSNP, relevant actors of GPSNP were engaged to seek their views on the implementation process, environmental and social challenges encountered and practical mitigation principles, processes, and measures to consider in the formulation of GPSNP 2. Samples of these engagements are provided as a separate document.

Stakeholder consultations were conducted specifically to achieve the following objectives:

- To provide information about the project and its potential impacts to 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

Community participation 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 to ensure successful implementation and maximum benefits.

9.1 Summary of Previous Engagement Activities

GPSNP 2 is a follow-on project to the existing Ghana Productive Safety Net Project. The design and implementation of the GPSNP have been guided by stakeholder consultations carried out at the local, regional and national levels. These consultations have been carried out at different points of project implementation including sensitization activities carried out before beneficiary enrolment for Productive Inclusion (PI), public works interventions, and LEAP cash transfers as well as consultations with stakeholders on strengthening the overall Social Protection system that spans government institutions, Development Partners, CSO/ NGOs, academia, and private sector actors. Implementation of project interventions has followed the project's laid down stakeholder consultative processes and continues to be deepened. Stakeholder engagement was further deepened during the preparation of the ESMF, which sought to identify potential environmental and social impacts from the proposed project activities and to disseminate and disclose proposed mitigation measures. A summary of previous stakeholder engagements is presented below

Table 27: Previous Stakeholder Engagement Activities

Stakeholder Group	Institutions	Interest	Method of engagement	Topic of consultations
Government agencies	Ministry of Finance (MoF) Ministry of Gender, Children and Social Protection Ministry of Local Government and Rural Development	Project Implementing partners, implementing agencies, beneficiaries	Project preparation meetings Technical Review Meetings	Project objective, scope, implementation arrangement, costing and budgeting Environmental and social risk and mitigation planning
	Upper West Regional Coordinating Council North-East Regional Coordinating Council Northern Regional Coordinating Council Savannah Region Regional Coordinating Council Upper East Regional Coordinating Council Volta Regional Coordinating Council Greater Accra Regional Coordinating Council Eastern Regional Coordinating Council Rural Development Coordination Unit LEAP Management Secretariat Ghana National Household Registry Single Window Citizen Engagement Services (SWCES) Social Protection Directorate Ghana School Feeding Programme (GSFP) Secretariat	Project Implementing partners, implementing agencies, beneficiaries	Project preparation meetings Social Protection Sector Working Group meetings	Productive Inclusion interventions Public works interventions Cash transfers to LEAP beneficiaries Registration of poor households
	National Health Insurance Authority (NHIA) National Board for Small-Scale Industries (NBSSI) Ministry of Employment and Labour Relations (MELR) National Disaster Management Organization (NADMO) Ghana Federation of Disability Organizations (GFDOs) National Council on Persons with Disability Ministry of Health (MoH) National Development Planning Commission (NDPC) Ghana Refugee Board (GRB)	Project partners	Social Protection Sector Working Group meetings	Project design and implementation
	Municipal and District Assemblies (MMDAs) 41 District Assemblies for Productive Inclusion activities 80 districts for Public Works activities	Project Implementation	Project sensitization meetings Social Accountability Forums	Productive Inclusion interventions Public works interventions Cash transfers to LEAP beneficiaries

				Registration of poor households
Beneficiary Communities	126 communities targeted for PI interventions (15,069 individuals) 607 communities targeted for LIPW interventions	Project Beneficiary	Project sensitization meetings Social Accountability Forums Single Window Citizen Engagement Services	Project implementation successes, challenges and recommendations for improvement Environmental and social risk and mitigation planning COVID-19 pandemic
Vulnerable Groups	125,000 homeless persons (in Accra and Kumasi), persons with disabilities, kayayei (head porters), street children, persons in alleged witch camps, school children, and persons affected by floods	Affected by unforeseen shocks/disasters	Community meetings Community Information Centers Distribution of IEC materials	LEAP Program COVID-19 Pandemic Case management/GRM
Private sector Actors	Ghana Interbank Payment Settlement Systems (GhIPSS) British Council	Implementing Partners/Beneficiaries	Social Protection Sector Working Group meetings	Project research, design, scope and implementation
Academia/ Research Institutions	Innovations for Poverty Action (IPA) University of Ghana - Centre for Social Policy Study (CSPS) Institute for Statistics, Economic and Social Research (ISSER)	Project design and potential collaboration partners	Social Protection Sector Working Group meetings	Project research, design, scope and implementation
Development Partners	Foreign, Commonwealth and Development Office of the UK (FCDO) UNICEF USAID World Food Programme (WFP) European Union (EU) International Labour Organization (ILO) Food and Agriculture Organisation (FAO)	Project design and scale-up	Sector Working Group Meetings Development Partners' Working Group meetings One-on-one meetings	Project objective, scope, implementation modalities and research
CSOs/ NGOs	The Hunger Project Faith-Based Organizations	Project Design	Sector Working Group Meetings	Project objectives, scope and implementation

Additional consultations for GPSNP 2 were held with key representative stakeholders at the national, regional, district and community levels. The national and regional level institutions consulted for GPSNP 2 include the Ministry of Employment and Labour Relations, Ghana Statistical Services, Youth Employment Agency, Ministry of Food and Agriculture, Ministry of Education, Labour Department, Microfinance and Small Loans Centre (MASLOC), Ministry of Education, Ministry of Health, Ghana Health Service, Office of the Head of Local Government Service (OHLGS), Ghana Education Service, Department of Social Welfare, National Vocational Institute (NVTI), and the Department of Community Development,

The District Assemblies (DAs) consulted included Ho West and North Tongu in the Volta Region, Shai OsuDoku in the Greater Accra Region, Nandom in the Northern Region, East Mamprusi in the North East Region, North Gonja in the Savannah Region and Nanumba South In the Northern Region. At the community level, Unit Committee members, Assembly members, women groups, Traditional Authority, LIPW and PI beneficiaries and community members were consulted. Representatives from the respective DAs included District Social Welfare and Community Development Officers, District Directors of Agriculture, and District Works Engineers, The communities consulted included; Duffor (Shai OsuDoku DA), Kanjo-Kura (Nanumba South DA), Holuta, Avatime- Biakpa, and Avenui (Ho West DA). Pictures and information concerning these consultations are provided in the Stakeholder Engagement Plan (Appendix 14).

Some highlights of the consultations with all the stakeholders in the preparation of the ESMF include the following:

- The need to reduce the labour content (percentage of total expenditure on labour payment) in order to provide flexibility for adequately addressing other equally important safeguard requirements.
- Access to suitable land of adequate size for CCMI activities is very often a challenge. There is a need to consider making fencing of sites mandatory for all sites very close to communities.
- Consider speed ramps in the design of LIPW feeder roads to prevent communities from undertaking unorthodox means of reducing vehicle speed in their communities.
- Consider the provision of resources for road signages in the design of LIPW feeder roads.
- Adequate time (at least 3 days per site) should be allotted for educating the participants (beneficiaries) before the actual commencement of site activities with the beneficiaries. “My-First-day-at-work” doesn’t offer adequate time for educating the participants on the details of the concept of LIPW.
- Participating DAs should be well-resourced (Printers, paper, etc.) to enable them to effectively discharge their duties under the project as some DAs are not adequately resourced.
- Consider remuneration packages for Community Facilitators since they serve as the main people around whom the successful implementation of the project revolves.
- The Social welfare/community development officers have relinquished their roles as regards case management to the desk officers. The desk officers by their training (planners) can adequately play that role.
- In many DAs, the public relations and complaints committee is practically defunct. Consideration must be given to other alternate means of providing support to the desk officers in resolving community-level project-related disputes.
- Contractors’ supervisors must be required to sign on each page of the Daily Attendance Sheets (DASHES) at sites where attendance is recorded manually. A DASH that has any page unsigned by the supervisor must not be honoured.

9.2 Engagement during Project Implementation

A separate Stakeholder Engagement Plan has been prepared for the project to guide stakeholder engagement during project implementation.

Citizen Engagement in the project has already been initiated with consultations on the design of GPSNP 2 and preparation of the ESMF. During the implementation stage, this will continue with a consistent, comprehensive sensitization program, where for every sub-project and activity, the respective community will be brought together and briefed on the project, its objectives, implementation arrangements and delivery mechanisms (as was done during GPSNP implementation). This process will be led by the Metropolitan/ Municipal/ District Assembly sensitization team and Community Facilitator under the guidance of the ZCOs using the project's "Guidelines for Community Sensitization, Targeting and Enrolment". Key issues to be discussed during the program will include project features such as Labour-based technology, wage rate, project duration, period of engagement within the year, the importance of community participation and some common forms of fraud, as well as the Single Window Citizen Engagement (SWCES) grievance redress services.

Prior to actual commencement of sub-projects, each MMDA with technical backstopping from the ZCO would hold pre-commencement meeting(s) involving all key actors relevant to the subproject where at least the following issues would be discussed and feedback taken for improvement: the nature of the contract; roles and responsibilities of stakeholders; expected start date of the work; final work schedule; Labour requirements; payment arrangements; safeguard compliance requirements; issues on social accountability; and grievance redress mechanisms. This will be followed with site possession where the subproject site is handed over to the contractor in the full glare of the beneficiary community and an interface organized during which the opportunity is used to sensitize all stakeholders on the sub-project and accountabilities (roles) properly defined and entitlements well communicated to the beneficiaries.

The MDAs will continuously engage the project communities even during the operational phases of the sub-projects when the project termination period may have elapsed.

Citizens engagement will take into account COVID-19 protocol on hygiene and social distancing.

9.3 Grievance Redress Mechanism

The multiplicity of actors, and processes and the vulnerable nature of beneficiaries (being the poorest) may predispose participants to unfair treatment and abuse, while misunderstanding may also arise.

A grievance mechanism developed under the GPSNP will be used to address complaints to ensure that all direct and indirect beneficiaries, service providers and other stakeholders are given the opportunity at no cost to raise their concerns. These stakeholders will be informed of the grievance mechanism in place during sensitisations and other interactions as well as the measures put in place to protect the identity of complainants.

9.3.1 Single Window Citizen Engagement Service (SWCES) System

GPSNP 2 will continue to use and consolidate the SWCES established under GSOP and scaled up during GPSNP for implementing the grievance redress process. The SWCES was operationalized in December 2017 and provides a centralized channel for beneficiaries of all SP programs and other stakeholders to raise grievances, report malpractices, and request information on all social programs for free. This has been operationalized through the creation of the 'Helpline of Hope' Call Center that hosts toll-free phone lines and SMS. A key pillar of the single window system is an integrated Unified Case Management System (UCMS) which provides a single platform for citizens to log, manage, monitor, and escalate their grievances as well as to disseminate relevant information on behalf of the major SP programs. It is envisaged that GPSNP 2 will support the use of the SWCES through the decentralized governance system and in all 16 regions of the country, with the ultimate goal of becoming a national single-entry point for SP programs and social programming (and issues) led by ministries that do not have grievance redress systems.

As a further step towards deepening transparency and accountability, the toll-free numbers of the SWCES (0800800 800/0900 800 800) will be posted on the TABs. In addition, all safeguards and case management officers, and community facilitators, will be provided with the numbers so they can make them available for beneficiaries. Beneficiaries and community members will be encouraged to make the SWCES their first port of call.

9.3.2 Institutional Framework for Grievance Redress

To successfully operationalize the grievance redress system, roles and responsibilities have been identified at the community, district, zonal and national levels. The process for the registration of grievances and their resolution is a dual channel (bottom-up and top-down) and is facilitated by these roles at the different levels. These are outlined below:

Community Level. At the community level, this includes: (i) the appointment of CFs at all LIPW sites as focal points for project-related grievances. Additionally, the project will facilitate the initiation of a 3-member Case Management Committee at the community level to be drawn from the FMC. Membership shall comprise: the traditional leader's representative; a women's representative, and a male opinion leader preferably a member of the Unit Committee/ Assembly member or leader of the dominant religion in the area.

The membership of this committee will be validated by the beneficiaries. The CFs will be required to submit monthly reports on all cases that were reported at their respective sites and will ensure that these are also recorded through the SWCES (for those that were not called or texted in directly to the SWCES).

District Level. At the DA level, the LIPW Desk Officer will act as a focal point for case management and will be required to liaise with the statutory Public Relations and Complaints Committee, (when deemed necessary) to resolve all LIPW-related grievances that will be referred to the DA level. Cases once resolved will be passed on to the E&S Officers who will then ensure that they are recorded as closed in the SWCES system.

Zonal Level. At the zonal level, a Zonal E&S Officer (ZSO) will be assigned to each regional office who will receive all cases and follow up to ensure resolution of the cases. The resolution of the cases may require coordination with other actors – Zonal Coordinator, Engineer, MIS officer or Accountant.

National level. The National Coordinating Office will have an Environmental and Social Safeguards Specialist (ESSS) at the MCU who will be responsible for the overall case management process of the project. The ESSS will also liaise with the responsible person at the SWCES and see to the resolution of all cases through that channel (coordinating with any of the actors mentioned in the levels above). In the event that a complainant is still not satisfied with a resolution, the grievance will be sent to the MLGRD, and as applicable, could be sent to the Ministry of Employment and Labour Relations or the law courts for redress.

10. Implementation Schedule and Cost Estimates

10.1 Implementation Schedule

The project/ESMF implementation schedule is provided in the table below.

Table 28: ESMF Implementation Schedule Role and Responsibilities

Project Stage	Steps/ Activities	Responsible	collaboration	Service Provider	Funding Entity	
ESMF Preparatory Stage	ESMF Preparation	MCU	World Bank	Consultant	MLGRD	
	ESMF Approval	World Bank				
	ESMF Disclosure	MCU	MLGRD MoGCSP World Bank		MLGRD MoGCSP	
Subproject Appraisal and Design	Identification and/ or siting of the sub-project	Desk Officer, District Planning Officer and District Engineer, District Agriculture Officer at DA	Community		MCU	
	Screening, categorization and identification of the required instrument (use the national EIA procedure)	MCU	Community DA		MLGRD	
	Approval of the classification and the selected instrument by EPA	MCU	DA	EPA The World Bank	MLGRD	
	Preparation of the safeguard document/ instrument (ESIA, ESMP, RAP/ARAP, and E&S Audit) in accordance with the national legislation/ procedure (taking into account the Bank ES framework requirements).					
	Preparation and approval of the ToRs	MCU	DA	The World Bank		
	Preparation of the report		DA Community	Consultant		
	Report validation and issuance of the permit (when required)		DA	EPA The World Bank		
	Disclosure of the document		Project Coordinator	Media The World Bank	MCU	
	Integrating the construction mitigation measures and E&S clauses in the bidding document prior to advertising	MCU	DA	EPA		

Project Stage	Steps/ Activities	Responsible	collaboration	Service Provider	Funding Entity
	Ensuring that the contractor prepares an ESMP (C- ESMP), gets it approved and integrates the relevant measures in the works breakdown structure (WBS) or execution plan.				
	Registration of subprojects with EPA	MCU	DA		MLGRD
Subproject Execution Phase	Implementation of the other E&S measures, including environmental monitoring (when relevant) and sensitization activities	MCU	DA Community Contractors	Consultant	MLGRD
	Oversight of E&S implementation (internal)	MCU	DA Community		MLGRD
	Reporting on project E&S performance and disclosure	MCU	DA	-	
	External oversight of the project E&S compliance/ performance	EPA	MCU	-	EPA
	Building stakeholders' capacity in E&S management	MCU	DA EPA		MLGRD
Post-Execution Phase	Independent evaluation of the E&S performance (Audit)	MCU	DA Community	Consultant	World Bank

10.2 Estimated Cost for ESMF Implementation

Funding for the ESMF implementation has been included as part of the project. The following project activities will be undertaken for ESMF implementation:

- Screening
- Environmental assessment of project activities that require environmental permits
- Training programs i.e. training of implementation agency staff, field officers from implementing district departments in WB ESF and relevant project E&S issues at the district and community levels
- E&S monitoring activities
- E&S assessments/audits to ascertain the effectiveness of E&S measures periodically
- Purchase of PPEs

The activities outlined above would be financed from components 1-3 of the project. Screening and preparation of required due diligence documentation is imbedded in costs of respective substantive components. The estimated cost for implementing the ESMF for project duration is presented in Table 29 below. Though figures are provisional, they are estimated based on current prevailing conditions and may change during actual implementation.

Table 29: Estimated Cost of Implementing ESMF for Project Duration

No.	E&S Activities	Estimated Cost (USD)
1	Environmental assessment and permitting of project activities that require EPA permits	315,000
2	Training and capacity building programs (Training of Climate Change Focal Persons on Integrated Pest Management (IPM))	142,000
3	E&S safeguards Monitoring of activities and capacity building for all components. (LIPW, GSFP, PI)	60,000
4	Purchase of PPEs	1,500,000
5	E&S Assessment or Audit	100,000
6	Construction of creches	1,100,000
7	Construction of Temporary latrines	160,000
8	Provisions for COVID-19 (Veronica buckets, handwashing soaps, nose masks)	240,000
9	Coordinate and undertake environmental and social mitigation measures, climate change education and awareness creation for communities, including proper pesticide handling and use	150,000
Total		3,767,000