**MINISTRY OF SANITATION AND WATER RESOURCES (MSWR)**

**GAMA SANITATION AND WATER PROJECT**

**(ADDITIONAL FINANCING)**

# FINAL ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

**JUNE 2020**

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| | |
|---|---|
| ABNMA | Able Kuma North Municipal Assembly |
| Adman | Aden tan Municipal Assembly |
| AEMA | Ayawaso East Municipal Assembly |
| AERs | Annual Environmental Reports |
| AF | Additional Finance |
| AMA | Accra Metropolitan Assembly |
| ANMA | Ayawaso North Municipal Assembly |
| ARAP | Abbreviated Resettlement Action Plan |
| AsHMA | Ashaiman Municipal Assembly |
| ASMA | Able Kuma South Municipal Assembly |
| AWMA | Ayawaso West Municipal Assembly |
| CAPEX | Capital Expenditures |
| CBOs | Community Based Organizations |
| CTBT | Comprehensive Nuclear Test Ban Treaty |
| CWSA | Community Water and Sanitation Agency |
| CWSG | Community Water and Sanitation Guidelines |
| DFID | Department for International Development |
| DFR | Department of Feeder Roads |
| DUR | Department of Urban Roads |
| EA | Environmental Assessment |
| EHSD | Environmental Health and Sanitation Directorate |
| EIA | Environmental Impact Assessments |
| EIS | Environmental Impact Statement |
| EMP | Environmental Monitoring Plan |
| EP | Environmental Permit |
| EPA | Environmental Protection Authority |
| ESIA | Environmental and Social Impact Assessment |
| ESICApps | Expanded Sanitation Inspection Compliance Application |
| ESICOME | Expanded Sanitation Inspection Compliance Enforcement |
| ESMF | Environmental and Social Management Framework |
| ESO | Environmental safeguards Officer |
| ESP | Environmental Sanitation Policy |
| ESS | Environmental safeguards Specialist |
| FDS | Fiscal Decentralization Secretariat |
| GAMA SWP | Greater Accra Metropolitan Area Sanitation and Water Project |
| GAMA | Greater Accra Metropolitan Area |
| GEMA | Ga East Municipal Assembly |
| GES | Ghana Education Service |
| GKMA | Greater Kumasi Metropolitan Area |
| GNMA | Ga North Municipal Assembly |
| GoG | Government of Ghana |
| GPRS | Ghana Poverty Reduction Strategy |
| GRC | Grievance Redress Committee |
| GRM | Grievance Redress Mechanism |

| | |
|---|---|
| GSGDA | Ghana Shared Growth Development Agenda |
| GSMA | Ga South Municipal Assembly |
| GSS | Ghana Statistical Service |
| GUWL | Ghana Urban Water Limited |
| GWCL | Ghana Water Company Limited |
| GWMA | Ga West Municipal Assembly |
| HH | Household |
| HIV/AIDS | Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome |
| ICT | Information and Communication Technology |
| IGF | Internally Generated Fund |
| ILO | International Labour Organization |
| KATH | Komfo Anokye Teaching Hospital |
| KMA | Kumasi Metropolitan Assembly |
| KNUST | Kwame Nkrumah University of Science and Technology |
| KRWMA | Krowor Municipal Assembly |
| KVIP | Kumasi Ventilated Improved Pit latrine |
| LaDMA | La Dade Kotopon Municipal Assembly |
| LaNMMA | La Nkwantanag Madina Municipal Assembly |
| LeDMA | Ledzokuku Municipal Assembly |
| LI | Legislative Instrument |
| LICs | Low Income Communities |
| LIU | Local Implementation Unit |
| MCDs | Metropolitan and Municipal Coordinating Directors |
| MCEs | Metropolitan Chief Executives |
| MDA | Municipal and District Assemblies |
| MDGs | Millennium Development Goals |
| MDPO | Municipal Development Planning Officer |
| M&E | Monitoring and Evaluation |
| MEHO | Metropolitan Environmental Health Officer |
| MEHO | Municipal Environmental Health Officer |
| MEST | Ministry of Environment, Science and Technology |
| MHM | Menstrual Hygiene Management |
| MLGRD | Ministry of Local Government and Rural Development |
| MMAs | Metropolitan and Municipal Assemblies |
| MMDAs | Metropolitan, Municipal and District Assemblies |
| MoF | Ministry of Finance |
| MPO | Metropolitan Procurement Officer |
| MPO | Municipal Planning Officer |
| MSWO | Municipal Social Welfare Officer |
| MSWR | Ministry of Sanitation and Water Resources |
| MWE | Metropolitan Municipal Works Engineer |
| MWRWH | Ministry of Works and Housing |
| NEAP | National Environmental Action Plan |
| NESSAP | National Environmental and Sanitation Action Plan |
| NGOs | Non-Governmental Organizations |
| NUP | National Urban Policy |

| | |
|---|---|
| NWP | National Water Policy |
| OFMA | Oforikrom Municipal Assembly |
| ONMA | Okaikoi North Municipal Assembly |
| OP | Operational Policies |
| OPEX | Operating Expenses |
| P.M | Presiding Member |
| PAPs | Project Affected Persons |
| PCU | Project Coordinating Unit |
| PFM | Project Financial Management |
| PHC | Population and Housing Census |
| PIP | Performance Improvement Programme |
| PKMA | Kpone Katamanso Municipal Assembly |
| PPEs | Personal Protective Equipment |
| PPME | Project Planning Monitoring and Evaluation |
| RAP | Resettlement Action Plan |
| RPF | Resettlement Policy Framework |
| SDR | Special Drawing Rights |
| SEA | Sexual Exploitation and Abuse |
| SHEP | School Health and Environmental Program |
| SSS | Social Safeguards Specialist |
| STDs | Sexually Transmitted Diseases |
| SW & CD | Social Welfare and Community Development |
| SWP | Sanitation and Water Project |
| TA | Technical Assistance |
| TMA | Tema Municipal Assembly |
| ToR | Terms of Reference |
| TRC | Technical Review Committee |
| TWMA | Tema West Municipal Assembly |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNICEF | United Nations Children`s Fund |
| USD | United States Dollars |
| VAC | Violence Against Children |
| WB | World Bank |
| WCs | Water Closets |
| WGMA | Weija-Gbawe Municipal Assembly |
| WHO | World Health Organization |
| WSDBs | Water and Sanitation Development Boards |

## EXECUTIVE SUMMARY

The Government of Ghana through the Ministry of Sanitation and Water Resources (MSWR) is implementing the Greater Accra Metropolitan Area (GAMA) Sanitation and Water Project (GAMA S&WP) with financing from the World Bank. The Project supports originally eleven (11) Metropolitan and Municipal Assemblies in the GAMA but now covers twenty- five (25) Metropolitan and Municipal Assemblies spread across the Greater Accra Region. The objective of the GAMA S&WP is to increase access to improved sanitation and water supply in the GAMA, with emphasis on low income communities and to strengthen management of environmental sanitation in the GAMA. Over the last five years, the Ministry has chalked significant successes in the implementation of the GAMA Sanitation and Water Project which is improving sanitation and water supply in some low income communities in the Greater Accra Metropolitan Area through investments which include construction of gender inclusive school sanitation facilities, on-site sanitation facilities in households, extension of water distribution facilities to low income facilities, and flood protection and mitigation facilities. This is in support to the Environmental Sanitation Policy (ESP) where environmental sanitation is considered to be a powerful driver of human development as it affects quality of life, improving health and rising wealth; and contributes to the goals set in the NWP (2007).
The government has requested for Additional Financing from the IDA for four years to deepen the gains of the project within GAMA as well as complete ongoing sanitation and water services construction and rehabilitation activities. The additional finance will also extend and replicate the original GAMA SWP project activities to Greater Kumasi Metropolitan Area in the Ashanti Region of Ghana and support the preparation for new scale-up national programmatic intervention. This is in the pursuance of GOG's agenda to make Accra "the cleanest city" and extending GAMA SWP approaches to other cities.

### Project objectives

The objective of the project which is aligned with the original GAMA Sanitation and Water Project is to increase access to improved sanitation and improved water supply in the Greater Accra Metropolitan Area (GAMA) and the Greater Kumasi Metropolitan Area (GKMA), with emphasis on low income communities and to strengthen the management of environmental sanitation in the GAMA and GKMA.
The GAMA AF will be implemented in 25 MMAs across GAMA area and 8 MMAs in GKMA targeting low income communities where environmental sanitation management is poor due to lack of access to sanitation facilities by majority of the residents.

### Project components:

The GAMA AF project has four components. The components and the major activities are as follows:
**Component 1** – Provision of Environmental Sanitation Services to Priority Low Income Areas in GAMA and GKMA. Major activities will involve construction of about 42,000 onsite household toilet facilities in selected low- income beneficiaries in GAMA (12,000) and GKMA (30,000); and construction of about 120 units of gender sensitive and disability toilet facilities in needy schools across GAMA and GKMA
**Component 2**: Improvement in Operational Efficiency and Expansion of Water Distribution Networks GAMA and GKMA. Key activities are laying of main distribution network (pipelines) of about 120 km of pipe line and 10,000 new connections will be provided to low income communities across GAMA and GKMA.
**Component 3**: Planning, Improvement and Expansion of Environmental Sanitation Services. Main activities are construction of simplified decentralized condominal sewerage systems in

selected locations in GKMA; processing of the digested sludge into useful products and continuation of drainage works to improve drainage in the upstream and downstream of the drainage infrastructure at the Mallam junction to ensure un-interrupted and streamlines flow.
**Component 4:** Project Implementation and Institutional Strengthening. The component is designed to provide institutional strengthening and Technical Assistance (TA) to municipal, metropolitan and national institutions, as well as promoting of private sector initiatives including the operation and management of sludge processing.

The parent project safeguards impact was rated Category A as a result of the scope of project activities and anticipated social and environmental impacts. Based on this rating, the World Bank Safeguards policies on Environmental Assessment (OP 4.01), Involuntary Resettlement (BP/OP 4.12) and Natural habitats (OP 4.04) were triggered and Environment and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) were prepared for the parent project. Even though majority of the activities for the GAMA AF are expected to be Category B projects, the safeguards rating for the parent project is maintained for the AF project.

Rational for the ESMF

At this stage, the detailed activities to be financed under the additional financing are yet to be fully identified and the specific sites for each subproject activity pertaining to the project are also not fully known. Furthermore, the environmental and social impacts of the subprojects are not fully known. This Environment and Social Management Framework (ESMF) is prepared to update the ESMF of the parent GAMA project in accordance with the World Bank Policy (O.P.) 4.01 to provide the framework which includes principles as well as regulatory and institutional arrangements within which to assess and mitigate negative environmental and social impacts when the specific AF project subproject impacts and sites are fully known.

When locations and impacts are identified during implementation, the relevant Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plans (ESMPs) as well as Resettlement Action Plans (RAPs) and any other relevant safeguards instruments will be prepared and disclosed in accordance with the requirements of the ESMF.

A separate Resettlement Policy Framework (RPF) for the AF project which meets the World Bank OP 4.12 procedures to be used together with the ESMF has also been prepared. The RPF provides a structure to address possible involuntary physical and economic displacement at all stages of planning, design and execution of the sub-projects.

In the event that there is the likelihood that land may have to be taken for any identified sub-project, a resettlement action plan (RAP) will be prepared, consulted upon, disclosed and executed prior to commencement of any civil work.

Approach and Methodology for the Preparation of the ESMF

This ESMF has been prepared in accordance with applicable World Bank safeguard policies and Ghana environmental assessment guidelines. The preparation involved review of documents, field visits for consultation meetings with key representative stakeholders at national, regional, municipal and local levels, data and information analysis. The ESMF consultations benefited from the ESMF and safeguards instruments prepared and implemented under the parent project.

Potential Environmental and Social Impacts of the AF Project and Mitigation

While the overall impact of the project is expected to be positive, however, the construction activities may have potential environmental and social impacts in the areas where the project will be implemented. The impacts are expected to arise during pre-construction, construction and operational phases but mitigation measures exist for addressing them through standard construction practices and implementation of appropriate environmental and social mitigation measures, some of which have been included in the ESMF. The adverse impacts include loss of vegetation, soil and land degradation, air quality, vehicular traffic implication, noise levels and ground vibration, constructional wastes generation, water quality deterioration, and accidents.

**Environmental and Social Impacts Mitigation Measures**

General mitigation measures for the potential adverse impacts are presented in the ESMF. These include noise and pollution abatement measures, soil and vegetation rehabilitation, provision of protective equipment for construction worker, treatment of effluent before discharge into the environment, traffic management measures, payment of compensation and livelihood support for project affected persons, and measures to ensure for sexual harassment of women and child labour.

Institutional Framework, Laws, Regulations and Procedures relevant to the GAMA AF Project

The Environmental Policy and Environmental Assessment (EA) legislation and procedures of Ghana LI 1652 ,1999 and the World Bank, Policies OP 4.01. OP 4.04 and OP 4.12 which are relevant to guide the proposed GAMA AF Project, are discussed in the ESMF. In principle, the two sets of policies and procedures namely that of the national and WB on environmental and social assessment are similar in many respects.

At the institutional level, the Ministry of Sanitation and Water Resources (MSWR) has the responsibility for overall policy formulation planning, coordination. harmonization, monitoring and evaluation of programmes for water and sanitation in the country and consequently is the Ministry with the overall oversight of the implementation of the GAMA AF which it will implement through its agencies such as the GAMA Project Coordination Unit (PCU), the Ghana Water Company Limited (GWCL), and the beneficiary Municipal and Metropolitan Assemblies.

Implementing the ESMF

This ESMF document incorporates a number of elements for the overall environmental and social management processes for the project. These processes involve distinct steps and associated activities that are linked to deliver a robust and veritable management framework in line with the stated objectives of the ESMF and applicable policies, laws and regulations.

Project Screening, Scoping and Categorization

All potential sub-project intervention sites will be screened for Environmental and Social (E&S) impacts using the national environmental assessment procedures and legislation prior to approval of the project by the Project Coordinating Unit (PCU). The steps and activities that go into the screening process and responsibilities are outlined in the ESMF. A designated officer and/or consultant of the PCU and Metropolitan and Municipal staff may carry out the

screening. The report of the screening exercise will be sent to the World Bank for review and approval after project proposal preparation has been completed and initial environmental examination (IEE/preliminary assessment has been conducted according to the Ghana EPA law Act 490, 1994 and Environmental Assessment Regulations LI 1652, 1999).

Environmental and Social Impact Assessment/Environmental and Social Management Plan (ESMP**)**

Depending on the nature and scope of the sub-project, an ESIA/ESMP will be required for any sub-project that requires civil works. The ESIA/ESMP will specify standards proposed for the sub-project to ensure environmental sustainability and social acceptability. Also, standards and plans proposed to address social issues, including involuntary resettlement, will have to fully be implemented.

The Project Coordinating Unit (PCU), and any institution participating in the implementation, will not issue a Request for Proposal (RFP) of any activity that may be subject to further safeguards assessment such as ESIA and /or RAP without the construction phase's Environmental and Social Management Plan (ESMP) inserted in the proposal, and will not authorize the works to commence before the contractor's ESMP (C-ESMP) has been approved and integrated into the overall planning of the works.

Arrangements for the ESMP Implementation

Successful implementation of the ESMF depends on the commitment of the key stakeholders and effective coordination of the project actors. In this regard, an appropriate institutional arrangement for the ESMP implementation is contained in this ESMF. The MSWR and its PCU, the beneficiary MMAs and the GWCL are the main implementers of the GAMA-GKMA Project. The other agencies whose functions relate to the project in terms of technical support and project E&S approvals include the EPA and Lands Commission.

Project Oversight**.**

A decentralized oversight committee and secretariat of the MSWR will establish a Project Steering Committee to oversee the implementation of the project which has its Secretariat at the PCU. The Project Steering Committee which will be chaired by the Minister of Sanitation and Water Resources or his/her designate will among other responsibilities, provide guidance on strategic, policy and implementation issues.

Project Implementation Entities for the GAMA AF

The parent GAMA PCU and GWCL will continue to be the implementers of the AF project though the beneficiary Metropolitan and Municipal Assemblies who will directly be responsible for day to day implementation of the project in the GAMA and GKMA The PCU will be responsible for Components 1,3 and 4 while the GWCL will be in charge of component 2.

Project Environmental Safeguards Specialists

The parent GAMA Environmental Safeguards Specialist (ESS) and Assistants at the PCU and GWCL will continue to be responsible for following up on safeguards issues during the AF project implementation, having led the project safeguards matters successfully under the parent project. They will work in collaboration will MMA designated Safeguards Officers. Other key project staff at the PCU will collaborate the efforts of the ESS in the implementation of the project's ESMF, notably the Project Coordinator (PC), Social Safeguards Specialist

(SSS), Social Accountability Specialist (SAS), Procurement Specialist (PS), Technical Specialists (TS), Financial Management Specialist (FMS), and Monitoring and Evaluation Specialist (M&ES).
The responsibilities of these key staff and their roles are presented in the ESMF.

Capacity Building and Training

In order to achieve the goal of the ESMF, there is an urgent need for capacity building and strengthening of relevant staff at the levels of the MMAs, including contractors and community actors such as Assembly members, CSOs, local community committees, etc. As such, the capacity building needs a capacity building plan for the ESMF implementation which is included in the ESMF. The capacity needs include Ghana environmental assessment regulations and procedures; project screening, scoping and use of screening forms and checklist; registration of projects with EPA, disclosure of safeguards instruments, occupational health and safety; resettlement, land acquisition and sustainability.

Grievance Redress Mechanism

In pursuance of the Bank's commitment to enhancing the opportunities for resolution of grievances on this project, the ESMF establishes a grievance redress mechanisms (GRM) that will allow the general public in the project area including communities and individuals and project affected persons (PAPs) to file complaints and to receive responses in a timely manner. The system will also record and consolidate complaints and their follow-up.
The process and general steps for grievance redress has been outlined in the ESMF. These include registration/receipt of complaints and screening for eligibility of complaints.

Public Dissemination and Disclosure of the ESMF/ESIAs/ESMPs

The World Bank policies require that environmental reports for projects are made available to project affected groups, local NGOs, and the public at large. Public disclosure of ESIA documents or environmental reports is also a requirement of the Ghana ESIA procedures. In this regard, the ESMF and RPF will be publicly disclosed. Furthermore, the ESMPs/ESIAs/RAPs for specific subprojects will also be disclosed by the PCU, GWCL and MMAs, and EPA. Following the disclosure of the ESMF and RPF in-country, the World Bank will also disclose the ESMF and RPF at their website for global attention.

Monitoring

The ESMF (and other safeguards instruments) implementation as well as the mitigation measures for addressing potential environmental and social measures during the subprojects implementation will be monitored. This will reveal if the predicted impacts as well as the proposed mitigation measures are being adhered to and whether additional measures will be required to ensure protection of the environment and the people. The ESMF contains indicators for the monitoring.

Estimated Budget for the ESMF Implementation

Effective implementation of the ESMF depends on sufficient budget for the various implementation activities, arrangements and responsibilities in the ESMF. This includes but is not limited to capacity building, training workshops, logistics, grievance redress, monitoring, disclosures, etc. It is estimated that an amount of One Hundred and Twenty-Seven Thousand US Dollars (USD 127,000) will be required, and this is reflected in the ESMF. This excludes the cost of hiring consultants for preparation of safeguards instruments for sub-projects as this will be determined when the quantity of sub-projects to be prepared become clearer as project implementation develops.

# 1. INTRODUCTION

## 1.1 Background

The Government of Ghana through the Ministry of Sanitation and Water Resources (MSWR) is implementing the Greater Accra Metropolitan Area (GAMA) Sanitation and Water Project (GAMA S&WP) with financing from the World Bank. The objective of the GAMA S&WP is to increase access to improved sanitation and improved water supply in the GAMA, with emphasis on low income communities and to strengthen management of environmental sanitation in the GAMA. The Project supports originally eleven (11) Metropolitan and Municipal Assemblies in the GAMA but now covers twenty- five (25) Metropolitan and Municipal Assemblies spread across the Greater Accra Region.

This is in support to the Environmental Sanitation Policy (ESP) where environmental sanitation is considered to be a powerful driver of human development as it affects quality of life, improving health and rising wealth; and contributes to the goals set in the National Water Policy (NWP) of 2007.

The government has requested for Additional Financing from the IDA for four years to deepen the gains of the project within GAMA as well as complete ongoing sanitation and water services construction and rehabilitation activities. The additional finance will also extend and replicate the original GAMA SWP project activities to Greater Kumasi Metropolitan Area in the Ashanti Region of Ghana and support the preparation for new scale-up national programmatic intervention.

The parent project safeguards impact was rated Category A as a result of the scope of project activities and anticipated social and environmental impacts. Based on this rating, the World Bank Safeguards policies on Environmental Assessment (OP 4.01), Involuntary Resettlement (BP/OP 4.12) and Natural habitats (OP 4.04) were triggered and Environment and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) were prepared for the parent project. The safeguards rating for the parent project is maintained for the AF as a result of the project activities.

This Environment and Social Management Framework (ESMF) is prepared to update the ESMF of the parent project in accordance with the World Bank Policy (O.P.) 4.01 to avoid completely or minimize any adverse potential environmental and social impact on the environment and people a result of the AF project activities.

The document will be disclosed in-country and on the World Bank external website. When specific locations of sub-projects and potential impact are identified during implementation, the relevant Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plans (ESMPs) as well as resettlement action plans (RAPs) and any supplementary safeguards instruments will be prepared and disclosed in accordance with the requirements of the ESMF.

## 1.2 Rationale for the Additional Financing

Since 2015, the GAMA Sanitation and Water Project has made significant achievements. The achievements include:

a. ***Inclusive and affordable household toilets***: Construction of over 27,000 toilets as of Dec. 2019 in low income areas within GAMA. The project has already exceeded its target of 19,100 HH toilets thus benefiting 218,000 people.
b. ***Water Supply provision to low-income communities:*** The project constructed about 281 km of pipelines, with 8,830 new connections and 114 standpipes

providing access to water supply to 367,000 low income urban communities exceeding the targeted 250,000 people.

c. ***Inclusive and gender conscious school sanitation facilities*:** The project has implemented disability friendly and MHM considerate school toilets with separate blocks for boys and girls; Out of the 406 units planned to be constructed or rehabilitated under the project, 339 facilities have been completed and handed over while the remaining ones are over 97 percent completed.
d. ***Flood protection and mitigation facilities:*** The project completed construction of drainage structures at critical junctions that substantially reduced the destructive impact of recurring flood in the city. The North Odorkor/Kaneshie 1st Light Culvert Drain improved; Mallam Junction Culvert Drain completed; Gbawe Culvert and Drains completed and extended; and Agbogba Culvert and Drains – completed. Similarly, the project accomplished desilting and dredging of 19 existing drains across the city.
e. ***Forward looking actions*:** The project supported the development of a bio-digester construction manual in partnership with several other stakeholders, to serve as a national guideline for the use of bio-digesters.
f. ***Simplified monitoring tools:*** The ESICOME mobile application (ESICApps) for data collection for Environmental Health activities has been developed and rolled out in selected MMAs in GAMA. The App was tested beginning June 2018. Expanded Sanitation Inspection and Compliance [ESICOME] is an Environmental Health and Sanitation Directorate initiative, to equip sanitation inspectors with ICT tools to aid in evidence-based inspection reporting.
g. ***Sustainability:*** All the project activities have been implemented with participation of the project beneficiaries, using local capacity and above all with a subsidy mechanism that enabled the low income utility consumers (LIUCs) to participate and benefit from the project. The project introduced mobile aided system to enable the beneficiary community save money for contribution to the capital expenditure (CAPEX) and operational expenditure (OPEX.)

The AF will be for four years to deepen the gains of the project and to increase access to sanitation and water supply services in low income areas within GAMA as well as complete ongoing sanitation and water services construction and rehabilitation activities. The additional finance will also extend and replicate the original GAMA SWP project activities to Greater Kumasi Metropolitan Area in the Ashanti Region of Ghana and support the preparation for new scale-up national programmatic intervention.

Similar to safeguards risks rating of the GAMA SWP, the PDO for the Additional Financing has been largely maintained from the parent project with minimum modification. The PDO of the AF is to increase access to improved sanitation and improved water supply in the Greater Accra Metropolitan Area (GAMA) and Greater Kumasi Metropolitan Area (GKMA) with emphasis on low income communities and to strengthen management of environmental sanitation in the areas.

The AF will be implemented in 25 MMAs across GAMA area and 8 MMAs in GKMA targeting low income communities where environmental sanitation management is poor due to the lack of access to sanitation facilities by majority of the residents and there is dire need for interventions to reverse the situation. As a result, some activities will be implemented immediately in GAMA after AF approval whiles others will be implemented in subsequent years over the AF life as and when designs and specific sites are determined.

The safeguards instruments (ESMF and RPF) of the parent project have been updated to reflect the environmental and social conditions in GKMA in accordance with the World Bank's Safeguards policies. These instruments together with the relevant Ghanaian laws and regulations will provide the frameworks for assessing and managing the social and environmental impacts of the AF project.

As designs and specific locations for subprojects have not been determined, the Ministry of Sanitation and Water Resources through the GAMA Project Coordinating Unit (PCU) will use the updated safeguards instruments namely ESMF and RPF to screen future subprojects for impacts and mitigation planning. This ESMF (and RPF) sets out the framework under which the project will assess, plan and mitigate potential environmental and social impacts of sub-project activities.

### 1.3 Principles and Objectives of the ESMF for the GAMA AF Project

The purpose of this ESMF is to guide the preparation of appropriate environmental and social impact assessment and environmental and social management plan to mitigate potential environmental and social impacts of the AF sub- project activities on the environment and people when specific sites of impacts are known. In addition, the Environmental Assessment Regulation, 1999 LI 1652 of Ghana requires that projects that present foreseeable negative impacts to the natural and human environment must be preceded by adequate assessment and analysis of the impacts and consultation with stakeholders.

The specific objectives of the ESMF are to:

- Establish the legal framework, procedures, and methods for the environmental and social planning, review, approval and implementation investments to be financed using the funds;
- Assess the potential environmental and social impacts of the sub-projects, whether positive or negative, and propose measures and plans to reduce or mitigate adverse environmental impacts and enhance the positive impacts of the project;
- Develop an environmental assessment screening/initial system to be used for subprojects;
- Establish clear procedures and methodologies for stakeholder engagement and the preparation of ESIAs and ESMPs as may be needed for specific sub-projects;
- Outline the necessary reporting procedures, for managing and monitoring environmental and social concerns of the program and sub-projects;
- Identify institutional roles and responsibilities, including reporting procedures and monitoring and evaluation;
- Identify capacity and/or training needs for different stakeholders to ensure better implementation of the provisions in the ESMF; and
- Identify funding requirements and resources to ensure effective implementation of the framework.

The Environmental Assessment (EA) Regulations of Ghana will also be followed to provide the general framework and procedures for EA and environmental management (EM) of development actions. This is to ensure that sub-projects meet the national environmental and social requirements and are consistent with OP 4.01, OP 4.04 and OP 4.12, etc. of the World Bank.

The ESMF will, in addition to the RPF, be principally used by PCU, MMAs, GWCL and other collaborators to ensure that adequate mitigation measures and other environmental and social safeguards have been incorporated into projects activities. The process for conformance to these procedures is defined in this framework.

### 1.4 Approach and Methodology to the ESMF

This ESMF draws from the experience and lessons learnt from the implementation of environmental and social safeguards instruments under the parent project. Prior to preparing the framework, the Ministry consulted with a cross-section of institutional and community stakeholders. The key stakeholders engaged include the relevant government ministries, department and agencies, Metropolitan and Municipal Assemblies and affected communities.

#### 1.4.1 Desk Review of Baseline Information

The team reviewed existing reports on environmental and social safeguards under the parent project and the feasibility studies conducted for the additional finance project. Experience and lessons learnt under the implementation of ESIA and ESMPs under the parent project were collated and analysed, as well as World Bank studies on emerging international industry best practices on implementation of safeguards.

#### 1.4.2 Stakeholder Consultation

Key project stakeholders identified under the AF were consulted in GAMA and GKMA. They include relevant Ministries, Metropolitan and Municipal Assemblies, private sector agencies in liquid and solid waste management and service provision, civil society groups, Non-Governmental Organizations, local communities and individuals with interest in the proposed project interventions. Field visits were conducted to project beneficiary communities in GAMA and GKMA to discuss the proposed AF interventions and assess the potential risks and adverse impacts on people and communities. Information obtained through consultations and field visits have been incorporated in this updated ESMF. The results of the stakeholder engagement are found in section 9 of this framework.

Notwithstanding the formal and informal stakeholder consultations and engagement conducted, consultation process in the proposed project communities will be ongoing and during the preparation and disclosure of ESIAs and ESMPs when sites are identified. The continuous awareness creation efforts of the project will ensure constant information flow especially to vulnerable groups including poor women, elderly and persons with disabilities.

## 2. PROJECT DESCRIPTION

### 2.1 Introduction

The project development objectives of the AF Project are aligned to the original GAMA SWP. The objective of the project is to "increase access to improved sanitation and improved water supply in the Greater Accra Metropolitan Area (GAMA) and the Greater Kumasi Metropolitan Area (GKMA), with emphasis on low income communities and to strengthen the management of environmental sanitation in the GAMA and GKMA".

### 2.2. The AF Project Components

The project has four components. They are:

**Component 1 – Provision of Environmental Sanitation Services to priority low income areas in GAMA and GKMA*:*** The objective of this component is to increase access to environmental sanitation services in low-income areas of the GAMA and GKMA, with strong focus on liquid sanitation (excreta disposal). About 42,000 toilets will be constructed in selected low-income communities of GAMA (12,000) and GKMA (30,000) to estimated 300,000 beneficiary people. The project will benefit low income communities following the successful implementation of the component under the original project. Enhanced community sensitization and mobilization activities in Metropolitan and Municipal Assemblies (MMAs); eligible low-income households will be provided 70% support up to a maximum of US$600 to make the capital cost of their toilets affordable as successfully done under the parent project.

A total of about 120 units of sanitation facilities will be provided to selected schools who either lack sanitation facilities or have facilities that were in dire shape across the MMAs in the GAMA and GKMA. The school sanitation facilities will follow the standard established and implemented under the original project which is Menstrual Hygiene Management (MHM) considerate and disability friendly and with separate blocks for boys and girls.

**Component 2: Improvement in Operational Efficiency and expansion of water distribution networks GAMA and GKMA:** The objective of this component is to improve and expand the water distribution network in selected GAMA and GKMA communities to provide piped water to an estimated 300,000 people living in low income communities. About 120 km of pipe line will be laid and 10,000 new connections will be provided to low income communities.

This component also supports operational efficiency improvement in GWCL and undertake Non-Revenue Water (NRW) reduction activities in selected operational area in GAMA. GWCL has identified Accra East Region (i.e. one of the 3 GWCL Operational Regions in charge of water supply to GAMA) for the NRW intervention. In addition to the support provided to GWCL in implementation of the performance improvement program, the operational efficiency improvement work will include: network zoning and configuration, expanding the metering and integrating them with the existing SCADA system, as well as provision of domestic meters. Capacity building support will also be provided to the regional, and district staffs in the form of training, technical assistance, and equipping them with basic operating tools. This component will also support implementation of the performance improvement program GWCL is implementing with support from the World Bank under the utility of the future (UOF) initiative. This seeks to support selected utilities in building a vision of the future of WSS and to support clients in turning this vision into reality. It also supports the field level leadership (FLL) which aims at complementing the GWCL performance improvement program (PIP) implementation to be inclusive and participatory. A baseline for Non-Revenue Water (NRW) will be established at the beginning of the project. For the first

two years, the target for NRW reduction will be 1% each year and for the last two years, NRW reduction of 1.5% each year. A cumulative reduction in NRW of 5% for the four-year duration of the project is therefore expected to be achieved.

**Component 3: Planning, improvement and expansion of environmental sanitation services.** The component supports planning, improvement and expansion of environmental sanitation services, including through wastewater and septic sludge management investments, and development of planning for integrated sanitation and drainage in GKMA*:* The objective of this component is to develop integrated GKMA-wide plans for environmental sanitation and to finance critical elements to improve wastewater and septic sludge management. Simplified decentralized condominal sewerage systems will be provided for GKMA and processing of the sludge from household bio-digesters to convert them to useful products (circular economy) principles. The original project financed drainage infrastructure at the Mallam junction to alleviate some of the heavy floods that occur in heavy rains. The AF will finance works to improve drainage in the upstream and downstream of the drainage infrastructure at the Mallam junction to ensure an uninterrupted and streamline flow.

**Component 4: Project Implementation and institutional strengthening.** The component is designed to provide institutional strengthening and technical assistance (TA) to municipal, metropolitan and national institutions, as well as promoting of private sector initiatives including the operation and management of sludge processing. A flagship study under the parent project to (i) assess the water supply sanitation and Hygiene (WASH) aiming at analysing the legal, institutional, and financial framework of WASH; (ii) identify inefficiencies in the pursuit of GoG's goals and policies, and (iii) propose options for policy, institutional, and regulatory adjustments, is being conducted. Implementation of the recommendations from the study and the ongoing effort in the MSWR to establish a sanitation authority will be supported under this component. Support will also be provided for project management and monitoring.

**2.3 Subprojects activity implementation**

a) **The PCU** will be responsible for the sanitation components of the project through the MMAs covering:

- Component 1:
  - construction of household toilets
  - construction of school toilets
- Component 3:
  - Construction of simplified decentralized condominal sewerage systems
  - Construction of digester waste processing facilities
  - Construction of drains
- Component 4
  - Communication and behavioral change education supporting the Environmental Health and Sanitation Division (EHSD) of the MSWR

b) **The GWCL** will be responsible for Component 2 -the water supply distribution line construction through the Planning and Development Department and the its Low - Income Consumer support Unit (LICSU).

## 2.4. Geographical coverage of the AF Project

The AF will be implemented in 25 MMAs in GAMA area and targeting low income communities where environmental sanitation management is poor due to the lack of access to sanitation facilities by majority of the residents and there is dire need for interventions to reverse the situation. The GAMA MMAs are presented in the table below:

| # | **MMAs** | # | **MMAs** |
|---|---|---|---|
| 1 | Ga South Municipal Assembly | 14 | Able Kuma North Municipal Assembly |
| 2 | Ga Central Municipal Assembly | 15 | Able Kuma West Municipal Assembly |
| 3 | Ga West Municipal Assembly | 16 | Able Kuma Central Municipal Assembly |
| 4 | Ga East Municipal Assembly | 17 | Ayawaso North Municipal Assembly |
| 5 | Ga North Municipal Assembly | 18 | Ayawaso West Municipal Assembly |
| 6 | La Nkwantanang Medina Municipal Assembly | 19 | Ayawaso East Municipal Assembly |
| 7 | La Dade Kotopon Municipal Assembly | 20 | Ayawaso South Municipal Assembly |
| 8 | Aden tan Municipal Assembly | 21 | Accra Metropolitan Area |
| 9 | Tema Metropolitan Assembly | 22 | Weija-Gbawe Municipal Assembly |
| 10 | Tema West Municipal Assembly | 23 | Krowor Municipal Assembly |
| 11 | Ashaiman Municipal Assembly | 24 | Ledzokuku Municipal Assembly |
| 12 | Kpone Katamanso Municipal Assembly | 25 | Osu Klorttey Municipal Assembly |
| 13 | Okaikoi North Municipal Assembly | | |

In addition, interventions under the AF will be extended to eight (8) Metropolitan and Municipal Assemblies in GKMA. They are presented in the table below:

| # | **MMAs** | # | **MMAs** |
|---|---|---|---|
| 1 | Kumasi Metropolitan Assembly | 5 | Suame Municipal Assembly |
| 2 | Asokore Mampong Municipal Assembly | 6 | Kwadaso Municipal Assembly |
| 3 | Ejisu Municipal Assembly | 7 | Oforikrom Municipal Assembly |
| 4 | Asokwa Municipal Assembly | 8 | Tafo Municipal Assembly |

## 3. LEGAL AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT

### 3.0 Introduction

The environmental policy and EA legislation and procedures of Ghana and those of the World Bank, which are relevant to guide the proposed GAMA AF Project, are discussed in this chapter. In principle the two sets of policies and procedures on environmental and social assessment are similar in many respects.

### 3. 1: National Policy Frameworks

#### 3.1.1: Ghana's Environmental Policy

The environmental policy of Ghana formulated in the National Environmental Action Plan (NEAP) of 1993 hinges strongly on 'prevention' as the most effective tool for environmental protection. The policy aims at a sound management of resources and environment, and the reconciliation between economic planning and environmental resources utilization for sustainable national development. It also seeks among others, to institute an environmental quality control and sustainable development programs by requiring prior EA of all developments, and to take appropriate measures to protect critical eco-systems, including the flora and fauna they contain against harmful effects, nuisance or destructive practices. The adoption of the NEAP led to the enactment of the EPA Act 1994 (Act 490); and subsequently the passing of the Ghana EIA Procedures into the EA Regulations, 1999 (LI 1652).

#### 3.1.2 National Water Policy

The overall goal of this policy is consistent with the Ghana Poverty Reduction Strategy (GPRS). The overall goal of the National Water 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. It ensures sustainable exploitation, utilization and management of water resources while maintaining biodiversity and the quality of the environment for future generations. This will be achieved by addressing relevant issues under water resources management, urban water supply and community water and sanitation. For each broad area, a number of focus areas for policy considerations have been identified. Within each, the main principles and challenges are listed followed by policy objectives and the corresponding measures.

***Policy Measures and/or Actions***

Government will take the following measures and actions:

- Facilitate availability of water resources for industrial uses through sustainable resources management;
- Require industries, including mining operations, to develop and implement environmental management systems which take into account the impact of industries on the country's water resources;
- Fully implement the enacted requirements related to licensing of water uses (permits) and issuance of wastewater (effluent) discharge permits;
- Encourage development of codes of practice for efficient water use and cleaner production technologies in industrial activities; and
- Formulate hydropower development plans to meet current and future demands in conjunction with other uses, through sustainable water resources management.

**Principles and Challenges**

The underlying principle in financing water resources management is meeting the social needs for water as a priority, while recognizing the economic value of water and the goods and services it provides.

**The main challenges of the policy are:**

- Ensuring sustainability in water resources management through appropriate pricing mechanisms while ensuring equity;
- Ensuring water resources management is adequately funded and appropriate levies instituted for raw water abstraction to promote efficiency, sustainability and equity; and
- Sustaining appropriate levels of funding to the sector to meet MDGs.

**3.1.3 Environmental Sanitation Policy (2010)**

The Environmental Sanitation Policy (Revised, 2010) responds to the various reviews carried out to assess how effectively the previous policy published in 1999 has been implemented. The revised policy objectives and measures are presented in a way that enhances strategic planning and subsequent implementation. The **broad principles** underlying Ghana` s Environmental Sanitation Policy (Revised, 2010) are:

- The principle of environmental sanitation services as a public good;
- The principle of environmental sanitation services as an economic good;
- The polluter-pays-principle;
- The principle of cost recovery to ensure value-for-money ensuring economy, effectiveness and efficiency;
- The principle of subsidiarity in order to ensure participatory decision-making at the lowest appropriate level in society;
- The principle of improving equity and gender sensitivity;
- The principle of recognizing indigenous knowledge, diversity of religious and cultural practices;
- The precautionary principle that seeks to minimize activities that have the potential to negatively affect the integrity of all environmental resources;
- The principle of community participation and social intermediation

The ESP defines the **principal components of environmental sanitation** to include;

a) Collection and sanitary disposal of wastes, including solid wastes, liquid wastes, excreta, industrial wastes, healthcare and other hazardous wastes;
b) Recycling of waste for agricultural and other uses shall be practiced wherever it provides a net cost of reduction of positive environmental impact
c) Waste disposal methods shall as far as practicable, utilize waste for achievement of environmental improvement and use of compost for soil improvement
d)
e) Storm-water drainage;
f) Cleansing of thoroughfares, markets and other public spaces;
g) Control of pests and vectors of disease;
h) Food hygiene;
i) Environmental sanitation education;

j) Inspection and enforcement of sanitary regulations;
k) Disposal of the dead;
l) Control of rearing and straying of animals;
m) Monitoring the observance of environmental standards.

**Policy Focus Areas**

In order to provide a clear basis for achieving the overall goal of the sector, the policy provides strategic elements under seven (7) policy focus areas, as follows:

- Capacity Development;
- Information, Education and Communication;
- Legislation and Regulation;
- Levels of Service;
- Sustainable Financing and Cost Recovery;
- Research and Development;
- Monitoring and Evaluation.

In terms of solid waste management, the Policy confers primary responsibility for solid waste management on the Assemblies. However, the private sector will be invited to provide the actual services under contract or franchise, as appropriate.
The Policy lists the following as acceptable technologies for solid waste disposal:

- Sanitary landfill;
- Controlled dumping with cover;
- Incineration;
- Composting; and
- Recycling.

### 3.1.4 National Health Policy (2007)

The National Health Policy document which aims at creating wealth through health, among other things places emphasis on improvements in personal hygiene, immunization of mothers and children. The National Health Policy also argues that a healthy population could only be achieved if there were improvements in environmental hygiene and sanitation, proper housing and town planning, provision of safe water, safe food and nutrition and encouragement of regular physical exercise.

### 3.1.5 Riparian Buffer Zone Policy, 2011

The riparian buffer zone policy identifies encroachment of watercourses and wetlands as a major cause of flooding in Ghana. To remedy the situation, the policy sets out "to preserve or establish green spaces as riparian buffers along waterways in areas that are practically difficult for regeneration and reforestation of riparian vegetation as more efficient ways of preventing drinking water contamination and flooding". Measures outlined in the policy to support flood abatement are provision of minimum standards for delineating reservations for various types of water bodies, enforcement of a no development zones around water bodies and removal of unauthorized structures in reservations around water bodies.

The policy seeks to harmonize policies and laws from other sectors in respect to buffer zones but some of its proposals actually conflict with existing planning standards and legislations. For example, the 60-metre buffer along major rivers stipulated in the Riparian Buffer Zone Policy conflicts with the 30-metre standard set in the National Building Regulations (L.I. 1630, 1996).

### 3. 1.6 National Urban Policy Framework and Action Plan, 2012

The goal of the National Urban Policy (NUP) is "to promote a sustainable, spatially integrated and orderly development of urban settlements with adequate housing, infrastructure and services, efficient institutions, and a sound living and working environment for all people to support the rapid socioeconomic development of Ghana. The policy identifies choked drains and frequent flooding as part of the key sources of environmental deterioration. The initiatives to achieve Objective 4: "Improving environmental quality of urban life", includes to "develop and implement a systematic programme of flood control measures in urban communities (Initiative 4.6)". The key activities proposed in the Action Plan for Initiative 4.6 are as follows:

- Review existing flood control and management situation and develop, as necessary, drainage/flood control management plans for cities and towns evaluate and revise plans on a regular basis;
- Prepare a technical manual on urban drainage schemes to guide MMDAs;
- Institute regular inspection and maintenance of drains; and enforce strict land use controls to prevent building encroachments on drainage channels and nature reserves;
- Strengthen the technical capacities of MMDAs for drainage planning, development and management; and flood disaster prevention, preparedness and management.

### 3.1.7 The Poverty Reduction Strategy of Ghana
### GPRS I and II

The GPRS I was a comprehensive framework of policies and development strategies, programs and projects to facilitate macro-economic stability, sustainable growth and poverty reduction (2003-2005). The central goal of GPRS II (2006-2009), which built on GPRS I was to accelerate the growth of the economy to attain a middle- income status. The GPRS II emphasizes the implementation of growth-inducing policies and programs with the potential to support wealth creation and sustainable poverty reduction. The document refers to the need to apply environmental impact assessment and environmental audit to ensure that the growth arising from the GPRS is environmentally sustainable

## 3.2 Legal and Regulatory Frameworks

### 3.2.1 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 utilization 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. The Act states under Section 24 that any person who pollutes or fouls a water resource beyond the level that the EPA may pre-scribe, commits an offence and is liable on conviction to a fine or a term of imprisonment or both.

### 3.2.2 The Environmental Protection Agency Act 1994 (Act 490)

The Environmental Protection Agency (EPA) Act, 1994 (Act 490) grants the Agency enforcement and standards setting powers, and the power to ensure compliance with the Ghana EA requirements/procedures. Additionally, the Agency is required to create environmental awareness and build environmental capacity as relates all sectors, among others. The Agency (including its Regional and District Offices) is also vested with the power to determine what constitutes an 'adverse effect on the environment' or an activity posing 'a serious threat to the environment or public health', to require EAs, EMPs, Annual Environmental Reports (AERs), etc. of an 'undertaking', to regulate and serve an enforcement notice for any offending or non-complying undertaking.

The Agency is required to conduct monitoring to verify compliance with given approval/permit conditions, required environmental standard and mitigation commitments. Furthermore, a requirement by EPA for an EA precludes any authorizing MDA from licensing, permitting, approving or consenting such undertaking, unless notified otherwise.

### 3.2.3 Environmental Assessment Regulations, 1999 (LI 1652) and Procedures

The EA Regulations combine both assessment and environmental management systems. The regulations prohibit commencing an undertaking/activity without prior registration and environmental permit (EP). Undertakings are grouped into schedules for ease of screening and registration and for EP. The schedules include undertakings requiring registration and EP (Schedule 1), EIA mandatory undertakings (Schedule 2), as well as Schedule 5- relevant undertakings (located in Environmentally Sensitive Areas).

The Regulations also define the relevant stages and actions, including: registration, screening, preliminary environmental assessment (PEA), scoping and terms of reference (ToR), environmental impact assessment (EIA), review of EA reports, public notices and hearings, environmental permitting and certification, fees payment, EMP, Annual Environmental Report (AER), suspension/revocation of permit, complaints/appeals, etc.

### 3.2.4 EA (Amendment) Regulations, 2002

The EA (Amendment) Regulations were made to amend sections of the EA fees regime of LI 1652 (the 'principal enactment') on fee payment for EP and certificate issued by the Agency.

### 3.2.5 Local Government Act, 1993 (Act 462)

The Local Government Act (Act 462) seeks to give a fresh legal expression to government's commitment to the concept of decentralization. It is a practical demonstration of a bold attempt to bring the process of governance to the doorstep of the populace at the Regional and more importantly, the District level.

The Metropolitan, Municipal and District Assemblies (MMDAs) created under the law, constitute the highest political authority in each district, municipality and metropolis.

Among the functions of the MMDAs are the following:

- Formulate and execute plans, programmes and strategies for the effective mobilization of the resources necessary for the overall development of the MMDAs;
- Initiate programmes for the development of basic Sanitation and Water services and provide municipal works and services in the MMDAs; and

- Be responsible for the development, improvement and management of human settlements and the environment.

**Bye-Laws**

One of the most important provisions of the law is the power of the MMDAs to make bye-laws for the purpose of the functions conferred under Act 462 or any other enactment. Most MMDAs have adopted by-laws on sanitation and waste. However, most MMDAs are still without sanitary engineered waste disposal facilities in place.

### 3.2.6 Labour Act 651, 2003

The purpose of the Labour Act, 2003 (Act 651) is to amend and consolidate existing laws relating to labour, employers, trade unions and industrial relations. The Act provides for the rights and duties of employers and workers; legal or illegal strike; guarantees trade unions and freedom of 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 that every worker works under satisfactory, safe and healthy conditions.

### 3.2.7 Workmen's Compensation Law, 1987, PNDCL 187

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

## 3.3 Institutional Framework

### 3.3.1 Ministry of Sanitation and Water Resources

The Ministry of Sanitation and Water Resources (MSWR) has the responsibility for overall policy formulation, planning, coordination and harmonization, monitoring and evaluation of programmes for water and sanitation.

The Ministry has a vision of having people living in Ghana to have easy access to affordable, safe and sustained drinking water and sanitation services, and clean /hygienic environment by year 2025.

The MSRW has a mandate to provide safe drinking water, and sanitation services; ensure proper and timely collection and management of solid and liquid wastes; to set service standards and implement mechanisms for ensuring compliance and quality assurance; coordinate and harmonise strategies, technologies and approaches to ensure cost-effective delivery of WASH services; and leverage market mechanisms to create jobs to all segments of people living in Ghana through WASH service delivery.

The Ministry of Sanitation and Water Resources is committed to advancing the President's objectives for water and sanitation by creating and exercising an organization that is unprecedented and exemplary in its culture of innovation, its reliance on integrated strategies, its collaboration with external stakeholders, and its creation of a viable economy through building new markets and partners.

To promote the decentralization policy, the responsibility for sanitation and hygiene at local level thus involve the Ministry of Local Government and Rural Development.

### 3.3.2 Ministry of Works and Housing (MWH)

The Ministry of Works and Housing (MWH) has the overall responsibility for the initiation, the formulation, implementation and co-ordination of policies and programmes for the systematic development of the country's infrastructure requirements in respect of Works, Housing and Flood Control Systems to ensure efficiency of the sector. The Works Directorate and the Hydrological Services Department of the Ministry have direct responsibility for drainage and flood control measures.

The main objective of the Works Directorate is to facilitate the formulation of policies for the construction industry (building and drainage), and the protection of Ghana's coastline through the following:

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

The Hydrological Services Department is an agency of the Ministry and has the responsibility of programming and the co-ordination of coastal protection works, the construction and maintenance of storm drains countrywide and the monitoring and evaluation of surface water bodies in respect of floods environment by year 2025.

The responsibility for primary drains lies with the Hydrological Services Department (HSD) under the Minority of Works and Housing. The responsibility for the construction of secondary and tertiary drains lies with the Department of Urban Roads (DUR), a unit under the Ministry of Roads and Highways. While the DUR procures, funds and supervise the execution of woks, these responsibilities are gradually devolved to the MMDAs.

### 3.3.3 Ministry of Environment, Science, Technology and Innovation

The Ministry of Environment, Science, Technology and Innovation (MESTI) was established in 1994. Its creation was in response to a national development need to integrate environmental, scientific and technological considerations into the country's sectoral, structural and socio-economic planning processes at all levels.

The declared mission of MESTI is to establish a strong national scientific and technological base for accelerated sustainable development of the country to enhance the quality of life for all. Among other things, this will be done through the development and promotion of cost-effective use of appropriate technologies.

Among the main areas of policy thrust for MESTI, are Sanitation and Waste Management (Technical Options) and Science and Technology promotion, education and acculturation.

***Functions***

The functions of MESTI are:

- Protection of the environment through policy formulation and economic, scientific and technological interventions needed to mitigate any harmful impacts caused by development activities;
- Standard setting and regulatory activities with regard to the application of science and technology in managing the environment for sustainable development;
- Promotion of activities needed to underpin the standards and policies required for planning and implementation of development projects; and
- Co-ordination, supervision, monitoring and evaluation of activities that support goals and targets of the Ministry and national sustainable development. It is noted that MESTI is the political focal point for United Nations Convention on Climate Change (UNFCCC) in Ghana and therefore plays a key role in activities that arise out of the implementation of the Convention.

### 3.3.4 Ministry of Local Government and Rural Development

The Ministry of Local Government and Rural Development (MLGRD) exists to promote the establishment and development of a vibrant and well-resourced decentralized system of local government for the people of Ghana to ensure good governance and balanced rural based development. This will be done by:

- Formulating, implementing, monitoring, evaluating and coordinating reform policies and programmes to democratize governance and decentralize the machinery of government;
- Reforming and energizing local governments to serve effectively as institutions for mobilizing and harnessing local resources for local national administration and development;
- Facilitating the development of all human settlements through community and popular participation;
- Facilitating the promotion of a clean and healthy environment;
- Facilitating horticultural development;
- Improving the demographic database for development planning and management; and
- Promoting orderly human settlement development.

### 3.3.5 Ministry of Finance

The Ministry of Finance is the agency that manages the central government's budget. The ongoing management of the fiscal framework for the Ministry of Sanitation and Water Resources is a core competence of the Ministry of Finance (MoF). The Ministry has recently expressed a strong commitment to develop dedicated capacity through the decision to establish a Fiscal Decentralization Unit within the Budget Office of the Ministry. This project

component will provide support directly to the Unit to assist in its establishment and the performance of its functions. Staff costs and basic administrative overheads have already been budgeted for by the Ministry from the 2011 financial year. Simultaneously, MSWR has established the Fiscal Decentralization Secretariat (FDS). The Fiscal Decentralization Unit will work in close collaboration with the FDS as part of rolling out its activities in particular in relation to preparation of PFM reform strategies for the five core reform areas.

### 3.3.6 Ministry of Roads and Highways

The Ministry of Roads and Highways is a government establishment responsible for policy formulation, monitoring and evaluation with regard to the transport sector which consists of the following:

a) Road Infrastructure sub-sector;
b) Road Transport Services and Safety sub-sector;
c) Road Transport Training;
d) Road Maintenance Financing.

The Departments and Agencies relevant to the GAMA that operate under the direct ambit of the Ministry are the following with respect to Road Infrastructure:

- Department of Feeder Roads (DFR);
- Department of Urban Roads (DUR).

### 3.3.7 Ghana Water Company Limited (GWCL)

Ghana Water Company Limited (GWCL) is a utility company, fully owned by the Government of Ghana and is responsible for potable water supply to all urban communities in the country. The GWCL which is an Agency under the Ministry of Sanitation and Water Resources (MSWR), was established on 1st July, 1999 following the conversion of Ghana Water and Sewerage Corporation into a state-owned limited liability company under the Statutory Corporations (Conversion to Companies) Act 461 of 1993 as amended by LI 1648. The parent Ministry (MSWR) is responsible for formulating water supply policy and oversees the operations of the GWCL including sourcing for funding from external support agencies for the operations of the Company. Under the general direction of the Ministry, GWCL is governed by a Board of Directors which has overall responsibility for the setting of sector policies and control of corporate programmes.

Currently the Company operates eighty-eight (88) urban water supply systems throughout the country and average production is about eight hundred and seventy-one thousand, four hundred and ninety-six cubic meters (871,496m3) per day (192 million gallons per day) across the country

Among the core functions of the Company are abstraction, treatment and supply of potable water to urban communities; planning and development of water supply systems in urban communities; conduct of research and engineering surveys relative to water and related subjects; design, construction, rehabilitation and expansion of existing as well as new water supply infrastructure; and provision of quality service delivery to consumers in respect of

quantity and quality of water supplied; periodic submission of proposals to the Public Utility Regulatory Commission for tariff review; management of applications for new service connections; issuance of water bills to customers; and revenue collection from customers.

### 3.3.8 The World Bank Safeguard Policies

The Bank's ten (10) safeguard policies are designed to help ensure that programs proposed for financing are environmentally and socially sustainable, and thus improve decision-making. The Bank's Operational Policies (OP) is meant to ensure that operations of the Bank do not lead to adverse impacts or cause any harm. They include guidance on EA requirements.

The Safeguard Policies triggered by the GAMA AF project are:

- Environmental Assessment (OP 4.01);
- Natural Habitat (OP 4.04);
- Involuntary Resettlement (OP 4.12).

#### 3.3.7.1 Environmental Assessment (OP 4.01)

The OP 4.01 requires among others that screening for potential impacts is carried out early, in order to determine the level of EA to assess and mitigate potential adverse impacts. The Bank's project screening criteria group projects into three categories:

- Category A. A proposed project is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works.
- Category B. The proposed project's potential adverse environmental impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects.
- Category C. A proposed project is likely to have minimal or no adverse environmental impacts.

The EA ensures that appropriate levels of environmental and social assessment are carried out as part of project design, including public consultation process, especially for Category A and B projects. The OP 4.01 is applicable to all components of the Bank's financed projects, even for co-financed components.

#### 3.3.7.2 Involuntary Resettlement (OP 4.12)

The Policy on Involuntary Resettlement is intended to assist displaced people to improve their livelihoods and standards of living or at least to restore them to pre-displacement levels.

#### 3.3.7.3 Natural Habitats (OP 4.04)

This policy is triggered as a precautionary approach to natural resources management. The policy recognizes that the conservation of natural habitats is essential for long-term sustainable development. The Bank, therefore, supports the protection, maintenance, and rehabilitation of natural habitats in its project financing. The Bank supports, and expects the borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development.

## 4. ENVIRONMENTAL AND SOCIO-ECONOMIC CONDITIONS OF THE PROJECT AREA

### 4.1 Description of Project Location and Environmental and Socio-Economic Conditions

***The Greater Accra Metropolitan Area (GAMA)***

Until the creation of the new Municipal Assemblies in the Greater Accra Region in 2018 by the President of Ghana, the GAMA S&W Project was designed to focus on low income communities in eleven (11) Metropolitan and Municipal Assemblies (MMAs) in the Greater Accra Region. The beneficiary MMAs were the Accra Metropolitan Assembly (AMA), Tema metropolitan assembly (TMA), La Dade- Kotopon Municipal Assembly (LaDMA), Aden tan Municipal Assembly (Adman), Ga South Municipal Assembly (GSMA), Ga Central Municipal Assembly (GCMA), Ga West Municipal Assembly (GWMA), Ga East Municipal Assembly (GEMA), La Nkwantanang Municipal Assembly (LaNMA), Ledzokuku Krowor Municipal Assembly (LEKMA), and Ashaiman Municipal Assembly (ASHMA).

The AF project coverage in the Greater Accra Metropolitan Area (GAMA) is currently made up of 25 metropolitan and municipal assemblies with their respective population as presented in Table 4.1 below:

**Table 4.1 Project Participating MMAs in GAMA**

| # | MMAs | Total Population | Male | Female |
|---|---|---|---|---|
| 1 | Ga South Municipal Assembly | 376,846 | 184,655 | 192,191 |
| 2 | Ga Central Municipal Assembly | 152,584 | 74,766 | 77,817 |
| 3 | Ga West Municipal Assembly | 219,788 | 107,696 | 112,091 |
| 4 | Ga East Municipal Assembly | 198,220 | 97,128 | 101,092 |
| 5 | La Dade Kotopon Municipal Assembly | 86,808.74 | 96,719 | 86,808 |
| 6 | La Nkwantanang Medina Municipal Assembly | 111,926 | 54,284 | 57,642 |
| 7 | Ledzokuku Municipal Assembly | 227,932 | 111,687 | 116,245 |
| 8 | Aden tan Municipal Assembly | 115,994 | 58,379 | 57,649 |
| 9 | Tema Metropolitan Assembly | 353,086 | 169,481 | 183,604 |
| 10 | Accra Metropolitan Area | 346,519 | 164,041 | 182,478 |
| 11 | Ashaiman Municipal Assembly | 190,972 | 93,727 | 97,245 |
| 12 | Kpone Katamanso Municipal Assembly | 109,864 | 53,376 | 56,488 |
| 13 | Okaikoi Municipal Assembly | 228,271 | 110,681 | 117,590 |
| 14 | Able Kuma North Municipal Assembly | 251,846 | 121,142 | 130,704 |
| 15 | Able Kuma West Municipal Assembly | 79,973 | 39,187 | 40786 |
| 16 | Able Kuma Central Municipal Assembly | 224,795 | 110,150 | 114,645 |
| 17 | Ayawaso South Municipal Assembly | | | |
| 18 | Ayawaso East Municipal Assembly | 118,688 | 58,157 | 60,530 |
| 19 | Ayawaso North Municipal Assembly | 152,584 | 74,766 | 77,817 |
| 20 | Ayawaso West Municipal Assembly | | | |
| 21 | Krowor Municipal Assembly | | | |

| | | | | |
|---|---|---|---|---|
| 22 | Ga North Municipal Assembly | 101,552 | 49,760 | 51,791 |
| 23 | Tema West Municipal Assembly | 150,007 | 73,503 | 76,503.57 |
| 24 | Weija-Gbawe Municipal Assembly | 180,916 | 88,649 | 92,267.16 |
| 25 | Osu Klorttey Kolley Municipal Assembly | 121,723. | 57,574.98 | 64,148.02 |

Source: MoF Composite Budget of Assemblies 2020 (population data for 3 newly created MAs are not available)

The population of Greater Accra Region has increased from 1,491,817 in 1960 to 2,905,726 in 2000 to 4,010,054 in 2010 and 4,943,075 in 2019. The region has the second largest population, after Ashanti Region, and its share of the total population of the country has steadily increased. The region has remained the most densely populated region with the highest growth rate in the country since 1960. The region's population density has doubled between 1984 and 2010 and this is, in part, a reflection of migratory movements to the region. The 4.4 per cent annual growth rate for the period 1984-2000 is far in excess of the national average figure of 2.7 per cent and implies a doubling of the regional population in 16 years, compared with 26 years for the country.

***The Age Structure***

The age structure of the MMAs in GAMA is characteristic of populations experiencing rapid growth. The age-sex structure is shaped by its past history of fertility, mortality and migration. The region's age structure is still a youthful one characterized by downward trends in fertility growth. The proportion of the population aged less than 15 years was 39.4 per cent in 1960. It increased to 42 per cent in 1970, and then decreased sharply to 33 per cent in 2000. The fertility decline in the past two decades has given rise to a corresponding rise in the proportion of the aged (65 years and older) from 2.6 per cent in 1984 to 3.9 per cent in 2000 (GSS 2010).

***Gender***

Greater Accra had a sex ratio of 93.6 which means there are about 94 males to every 100 females in the region. This situation is consistent with the national sex ratio of 95.2 and could be attributed to male emigration and higher life expectancy at birth for females. With the exception of Aden tan, all the districts in Greater Accra have more females than males. Adentan's high sex ratio could indicate that the municipality may be fast establishing itself as a migrant-receiving area of male adults (GSS 2010).

***Land use Pattern***

A rapid increase in urban population in GAMA over the last two decades has triggered transformation in the land use pattern in the area. GAMA has the highest urban population growth rate in Ghana and has experienced an increase in land use changes influenced by a combination of several factors. The area has expanded extensively with a number of formal and informal settlements as a result of inadequate housing facilities. The vegetation cover continues to reduce by the creation of new housing estates. Land that was used for agricultural purposes has been lost to housing development. This situation not only has implication for the environment, but also the livelihoods of farmers in GAMA.

***Economic Activity***

Among the economically active population, 82.6 per cent are employed, and 13.4 per cent are unemployed. The region's unemployment rate of (13.4%) is higher than the national average of 10.4 percent. The occupational structure of the region shows that 42.0 per cent of the economically active population was engaged in sales and service occupations, while

professional, technical and related workers comprise 10.8 percent. The three largest occupational groups among males are production, transport operators and related workers (29.6%), sales workers (19.4%), and clerical and related workers (14.4%). On the other hand, 42.0 percent of females are into trading, 19.5 per cent in production, transport and equipment, and 13.9 per cent in services sector.

More than half of the economically active population in the region is self-employed with employees, while a third (32.6%) are employees. A much larger proportion of females (62.6%) than males (41.6%) are self-employed without employees, implying that males are 1.5 times more likely than females to be employees. The private informal sector, which employs 6 out of every 10 economically active persons, plays a leading role in the economy of the region. Females (69.1%) dominate the private informal sector and a higher proportion (40.7%) of males than females (28.5%), are employed in the public and private formal sectors.

***Income***

Income levels of residents of the GAMA vary widely and this constitute the basis of a classification of areas within GAMA into 4 income zones. The stratification is based upon housing characteristics and environmental conditions of the residential suburbs of the city. This has been adopted by the Accra Metropolitan Assembly (AMA) and gazetted in the Local Government Bulletin of the Assembly (January, 2002). High inequalities exist in the distribution of income in Accra. At the prices of August 2002, average annual household income was estimated to be ¢12,462,499.65 in the old Ghana cedis in the first-class income zones. Household incomes vary even among income zones.

***Ethnicity***

In GAMA, Ga and Tema, the Akan, Ga-Dangme and Ewe are the three predominant ethnic groups. The largest ethnic group in the Municipalities is the Akan, comprising 39.8 percent, followed by Ga-Dangme (29.7%) and Ewe (18%). In terms of individual ethnic sub groups, detailed results indicate that the Gas form the single largest sub- group, accounting for 18.9 per cent of the population. Among the Akan group, the Fantes constitute 10.6 percent, Asantes, 8.3 per cent and Akuapem 4.9 percent. There are other smaller ethnic groups from the three northern regions of Ghana. Nationalities from Africa and other parts of the world can also be found in the Municipalities.

***Religious Groups***

The percentage distribution of religious groups shows the predominance of Christians (82.9%) in the region, compared with the second major religion, Islam (10.2%). Among the Christian group, adherents of Pentecostal and Charismatic churches constitute the largest religious denomination (38.0%) followed by Protestants (26.0%) and Catholics (9.7%) in that order. The distribution is almost similar for both sexes except for the predominance of females in the Pentecostal and Charismatic churches. There are however more male than female Muslims which conforms to the national pattern.

**Social Cohesion**

With regard to activities which bring people together, two activities, marriages and festivals stand out as the most distinct within the municipalities. Other activities of tribal and business associations, pressure groups, religious groups and national games, are among some activities which bind individuals and groups within the municipalities.

***Marriages***

Intermarriage is very high among the various ethnic groups within the municipalities. The pattern of marital status of the population aged 15 years and older shows that AMA (43.3%) and Tema (43.5%) have the smallest proportion of married persons and the largest proportions of persons who have never married (41.6% and 42.7%). On the other hand, the Ga District has the smallest proportion (4.2%) of persons living in consensual union. Statistics indicate that about 50.0 per cent of persons 15 years and older are in formal marriages or informal cohabiting unions, while an additional 9.6 per cent have once been married. In spite of the minimum legal age of 18 years prescribed for marriage, there is an indication that marriage takes place among persons aged 12- 17 years.

***Festivals***

Perhaps the most important common religious institution that has survived as an expression of the unity of the various ethnic groups relates to their annual festivals celebrated by the various groups. The Gas celebrate the Homowo on their land while the other ethnic groups have various social gatherings in Accra but travel to celebrate their festivals in their home towns. These festivals and gatherings provide an occasion for meeting, at the same time to welcome new members of the family while remembering the dead. Festivals are also occasions for the settling of family feuds and raising funds for development projects.

***Conflict Resolution***

Conflicts are often resolved through the traditional authorities, religious leaders and through the legal system. Every community in GAMA has a chief who settles minor disputes between citizens. The Chiefs act as arbitrators and reconcilers between aggrieved parties to restore peace and harmony between individuals and families. Some aggrieved parties prefer to seek the services of religious leaders to resolve conflicts whilst others seek judicial redress from the law court.

***Water and Sanitation Conditions Within GAMA***

Sanitation and water problems confronting the Greater Accra Metropolitan Area (GAMA) have been highlighted in various publications and fora culminating in a recent conference held in Accra resulting in the preparation of the current Sanitation and Water Project for the GAMA. The frequently cited sanitation and water problems faced by residents of the GAMA are:

- Bad drainage systems (e.g. no gutters);
- Lack of toilets;
- Lack of good drinking water;
- Bad refuse dumping practices.

***Water Supply***

The source of water to the Municipalities is the Kpone and Weija Water works. There is however marked variations with respect to income classes in the access to water. Most of the first-class residential areas are connected to the water supply network and in most cases receive water most days of the week and pay official rates charged by the Ghana Water Company. In recent times it is common to have tanks in such areas to supplement shortage that may occur.

However large sections of the middle and low income earners in the Municipalities have

irregular supply of water and most areas are not connected to the network. In such areas residents who can afford tanks are compelled to purchase them as a matter of necessity to supplement their water supplies. Those who cannot afford the tanks purchase water from vendors at high prices. In most of the newly created Municipalities where housing development is expanding at an alarming rate, majority of the households are relying on boreholes because they do not have access to potable water.

In Tema, over 80% of the settlements in the municipality have access to potable water by means of pipe-borne water system. A few of the suburbs, however, still depend on unreliable sources of water.

***Sanitation and Waste Management***

Waste management remains a major challenge confronting the Municipalities. Sanitation facilities are adequate in the Tema city, high income residential areas and some parts of the middle income areas within the Municipalities. These are as a result of the privatisation of refuse collection in some parts of the municipalities which have brought vast improvement in sanitation standards.

However, despite these efforts lower income residential areas are characterized by choked drains, indiscriminate waste disposal and uncollected refuse in central waste containers. The current system pertaining to these areas is not sustainable due to the non-payment for communal waste container services provided by the municipalities.

Municipalities have initiated measures to replace very old public toilets with new ones in the low income areas. Challenges however exist relating to supply of water to these new toilets due to the generally poor water supply network in the Municipalities. Another major challenge is the lack of household toilets in these areas. It is therefore common to observe open defecation and illegally constructed makeshift urinals across community drains.

**Figure 4.1: Faecal Sludge Dump Site**

**Figure 4. 2: Insanitary Conditions**

***Greater Kumasi Metropolitan Area (GKMA)***

Greater Kumasi Metropolitan Area fall under the Ashanti Region. The area lies in the Tropical Rain Forest Zone, approximately 250km inland from the coast and located between longitude 1°15'W and 2°00'W, and latitude 6°15"N and 7°10'N. The area covers about 254 square kilometres of the Ashanti region and strategically located in south-central Ghana and serves as the intersection point of the major roads connecting Ouagadougou, the capital city of Burkina Faso with the coastal cities such as Accra and Takoradi. The city is also the intersection of routes which connect the north and south of the country and all cities in Ghana can be reached from Kumasi within a day by road including the major regional capital cities. As a result, the city has been attracting people as the centre of commerce with one of the largest open markets in Western Africa.

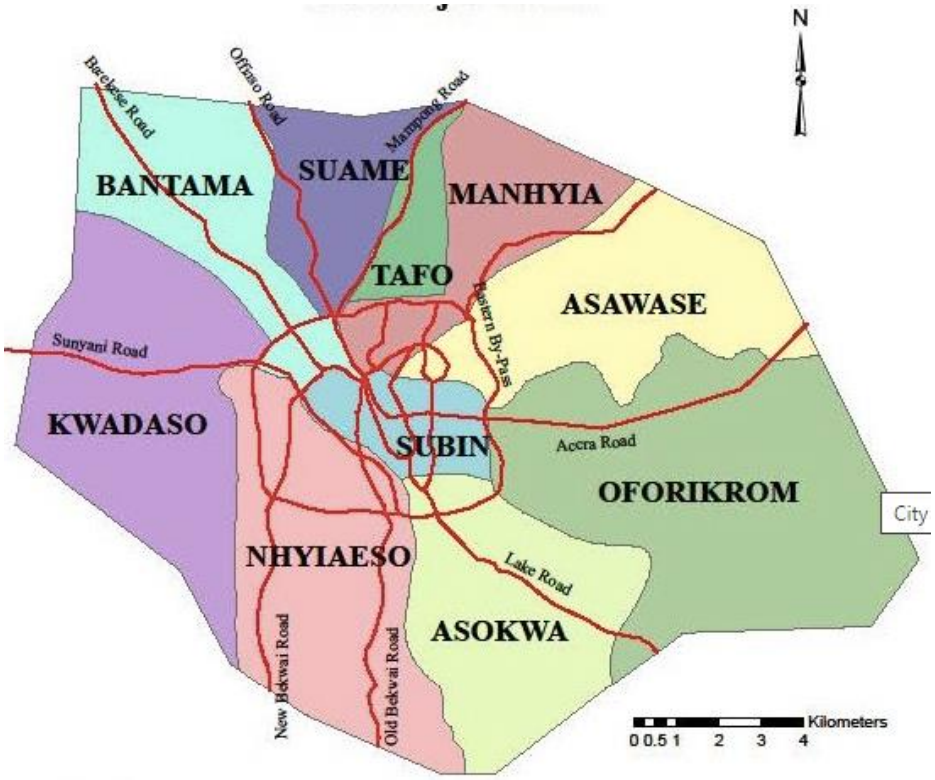


Figure 4.3: Map of Greater Kumasi Metropolitan Area

The project interventions will focus on additional eight (8) Metropolitan and Municipal Assemblies in the Greater Kumasi Metropolitan area. The additional areas are Kumasi Metropolitan Assembly, Asokwa Municipal Assembly, Suame Municipal Assembly, Kwadaso Municipal Assembly, Oforikrom Municipal Assembly, Tafo Municipal Assembly, Asokore Mampong Municipal Assembly, and Ejisu Municipal Assembly.

**Table 4.2. Project Participating MMAs**

| # | MMAs | Total Population | Male | Female |
|---|---|---|---|---|
| 1 | Kumasi Metropolitan Assembly | 1,730,24 | 826,479 | 903,779 |
| 2 | Asokore Mampong Municipal Assembly | 304,815 | 145,779 | 159,036 |
| 3 | Ejisu Municipal Assembly | 143,762 | 68,648 | 75,114 |
| 4 | Asokwa Municipal Assembly | 182,950 | 89,646 | 93,304.50 |
| 5 | Suame Municipal Assembly | 231,276 | 110,472 | 120,804 |
| 6 | Kwadaso Municipal Assembly | 251,215 | 139,304 | 111,911 |
| 7 | Oforikrom Municipal Assembly | 303,016 | 149,827 | 153,189 |
| 8 | Tafo Municipal Assembly | 204,494 | 97,028 | 107,466 |

Source: Medium Term Development Plans (2018 – 2021)

***Traditional set-up Kumasi***

Traditional set-up Kumasi is the capital of the Asante Kingdom. The kingdom covers Ashanti Region, part of Brong Ahafo and Volta Regions. The Asante Kingdom emerged as a State in 1701 after the defeat of the Denkyira State, the then Overlord. The Kingdom is now a Traditional Council, the Asanteman Traditional Council which is headed by the Asantehene (Asante King) who also doubles as Kumasihene or the Paramount Chief of Kumasi. He is the embodiment of the culture of the people and presides over 45 "Amanhene" (paramount chiefs) in the kingdom. These Amanhene wield authority over a certain number of communities within the kingdom. Under the Omanhene (Paramount Chief) are Odikro (Chiefs) who rule communities. The ascension to chieftaincy (except "nkosohene" which is by virtue of one's contribution to society) is through a matrilineal descent system. This hierarchical structure has created a generally peaceful and united atmosphere in the Metropolis. It may also serve as a critical instrument for socioeconomic development of the Metropolis since the rulings of the Asantehene tend to be respected and abided by the populace.

The largest ethnic group in the Kumasi Metropolis is the Asante (80.7%), a sub-group of the larger Akan ethnic group. This is followed distantly by the Mole Dagbon (8.7%) and Ewe (3.6%). Almost all the other ethnic groups in Ghana are resided in the Metropolis. Although, ethnic and cultural diversity abounds tremendously in the Metropolis, the population is closely–knit together in a harmonious relationship due to the presence of a strong traditional administrative set-up that endeavours to foster cohesion among the diverse ethnic groups.

The Asantes hold in high esteem their traditional values, attitudes and practices. This is exhibited in their celebration of Akwasidae and the organization of funerals. The Akwasidae is held regularly at 40 days interval on Sundays and nine times in a year. Every fourth Akwasidae is celebrated as Adaekese which is celebrated twice in a year. This ceremony affords the Asante's the opportunity to remember and honour their past leaders and heroes. It attracts people from all walks of life, especially those from the Diaspora. Thus, it serves as an avenue tourism and revenue generation. The celebrations of dead relatives through luxurious funeral rites have come to stay in the Metropolis. They attract relatives and sympathizers from all walks of life. Key features of these ceremonies are donations by relatives and sympathizers.

Thus, it has become a source of revenue generation. Some residents use the occasion to show off their level of their wellbeing in society. Politicians also take advantage of it to rally political support towards or during election. The inability of some residents to bear all the cost has led to the formation of social groups called "Fun Clubs". These clubs assist members by spreading the cost of funeral ceremony among the members. Financial institutions have also evolved to grant loans to bereaved relatives who do not have their own funds to perform the funeral ceremonies.

***Population***

Kumasi has previously been known as the second largest city in Ghana, attracting many immigrants not only from Ghana but from other countries as well. As in many African countries, urbanization has been taking place in Ghana causing an extreme population increase in Kumasi Metropolitan Assembly (KMA) in the past quarter-century. During the same period, the population increase of the capital city of Ghana (Accra Metropolitan Assembly) has been steady but not as high as KMA thus turning KMA the well-known second largest city into the largest city in the nation in 2010 with the population of 2,035,064. KMA (254 $km^2$) now accounts for 8% of the national population while Accra Metropolitan Assembly (AMA, 166 km2) decreased its share to 7%.

The now most populous city, KMA has also attracted people to the surrounding districts forming Greater Kumasi Metropolitan Area (GKMA) bringing an increase of approximately one million inhabitants during the last decade from 2000 to 2010. During the same period, Greater Accra Metropolitan Area (GAMA) has also increased by approximately one million inhabitants. However out of the one million, less than 15% actually moved into the districts surrounding KMA while over 80% of the population increase in GAMA moved into the districts surrounding AMA. As a result, GAMA (1,482$km^2$) reached 3.7 million populations in 2010, while GKMA (2,870 $km^2$) accommodated 2.8 million population.

**Table 4.3: Population of Kumasi and Accra**

| **Area** | **Population data** | | | **Population Increase** | | **Projected Population Increase*** |
|---|---|---|---|---|---|---|
| | **1984** | **2000** | **2010** | **1984-2000** | **2010** | **2020** |
| Greater Kumasi | 790,374 | 1,758,741 | 2,764,091 | 968,367 | 1,005,350 | 1,358,463.33 |
| Ashanti Region | 2,090,100 | 3,612,950 | 4,780,380 | 1,522,850 | 1,167,430 | 1,468,609 |
| Greater Accra Metropolitan Area | 1,289,180 | 2,715,805 | 3,756,423 | 1,426,625 | 1,040,618 | 1,849,395 |
| Greater Accra Region | 1,431,099 | 2,905,726 | 4,010,054 | 1,474,627 | 1,104,328 | 1,963,264 |
| Ghana | 12,296,081 | 18,912,079 | 24,658,823 | 6,615,998 | 5,746,744 | 31,072,940 |

Source: Population and Housing Census; * https://worldpopulationreview.com/countries/ghana-population/cities/

***Population Growth***

Population of Greater Kumasi Metropolitan Area has been increasing rapidly with annual population growth of 5.13% between 1984 and 2000, and 4.62% between 2000 and 2010 which is much larger than the growth rate of Ashanti Region as well as of Ghana. On the other hand, the population growth rate outside KMA has dropped greatly from 4.24% to 2.16% while that of KMA increased slightly from 5.63% to 5.69% which is a high rate to continue for over quarter-century.

***Age Structure***

The age structure of the population Kumasi Metropolis shows that persons between the ages of 15-64 years (conventionally referred to as the potential labour force or productive age group) forms 63.3 percent of the population of the Metropolis. The population 65 years and older forms 3.6 percent of the population. Persons 0-14 years in the Metropolis constitute 33.2 percent. This demonstrates that the productive age group are moving to KMA and other cities for economic activities. In some districts such as Ejisu-Juaben, Atwima and Bosomtwe-Kwanwoma, the population of age group 0-4 is less than the age group 5-9. This can mean that the birth rate in these districts is starting to decline which may have contributed to the low annual population growth rate between 2000 and 2010.

***Social infrastructure***

The Kumasi Metropolis has a wide array of infrastructure that provides social services to its residents. Facilities for healthcare delivery, teaching and learning, water supply, electricity transmission, information and communications technology, transport services and security services are available to residents. These are discussed below:

*Health*

Kumasi Metropolis has 136 health facilities providing healthcare services to its residents. The biggest such facility is the Komfo Anokye Teaching Hospital (KATH) which is a modern teaching hospital widely used by residents and others from Ghana and overseas. The majority of the 136 health facilities (115) are privately owned.

*Education*

There are 919 pre-schools, 967 primary schools, 597 junior high schools, 52 senior high schools and 10 tertiary institutions in Kumasi. The Kwame Nkrumah University of Science and Technology, the nation's premier Science and Technology University, is located in Kumasi. It offers higher education for people from Ghana, Africa and the world as a whole.

*Sanitation Infrastructure*

The types of toilet facilities in households and institutions (educational institutions, healthcare facilities, prisons etc.) are Pit Latrine, KVIP, Aqua Privy and Water Closet (WC). The dominant toilet type is water closet. Four percent (4%) of the population uses sewers and 93% uses a form of onsite sanitation. Those relying on sewers are served by six separate decentralised sewerage systems, three (3) of which cover residential areas namely Asafo, Ahinsan and Chirapatre while the other 3 are for institutions only- the 4$^{th}$ Battalion (4BN) Army Barracks, Kwame Nkrumah University of Science and Technology (KNUST) and the Komfo Anokye Teaching Hospital (KATH). These systems have their treatment plants which most of them require rehabilitation. All septage from onsite toilet facilities in the GKMA are received

and treated at the Dompoase Septage Treatment Plant. The residents utilize the services of vacuum tankers for collection of their septage to treatment

*Utility services*

The main sources of safe drinking water supply to residents in Kumasi are Barekese and Owabi water treatment plants. Out of the 1000km of pipelines for water transmission and distribution in the region, Kumasi alone has 704 km of these networks supplying safe drinking water to its residents. Notwithstanding this fact, some households have installed mechanized boreholes with overhead poly tanks to augment the supply of safe drinking water by Ghana Urban Water Limited (GUWL). The Kumasi Metropolis is connected to the national electricity grid line hence residents have access to electricity to support their domestic and economic activities. This may partly explain the presents of wide range of industrial activities in the Metropolis. The urban nature of the GKMA comes with a number of telecommunication service providers which include MTN and Vodafone in the metropolis. Consequently, majority of the areas are laid with underground service supply lines of the companies.

**Economy**

There are 1,156,647 persons aged 15 years and older, who constitute the working age group, in Kumasi. About two-thirds (769,381) of these persons are economically active and about nine in every ten of these economically active persons are employed. These persons are employed in a wide range of economic activities such as the wholesale and retail industry and repair of motor vehicles and motorcycles. This industry employs majority (38.4%) of the working population in Kumasi. Notable areas in the Metropolis where these people conduct their economic activities include Kumasi Central Market, Adum Shopping Center, Asafo, Afua Kobi and Bantama Markets. The other markets are Oforikrom, Krofrom, Tafo, Kwadaso and Atonsu. The rest are Suame, Tafo and Asafo magazines and Sokoban Wood Village. All these centers attract clients not only from Kumasi but the whole country and West African sub-region.

***Current Situation of Industries in Kumasi Metropolis***

According to the 2010 Population and Housing Census, the share of agriculture including fishing in the active labor force was 8.0%, the industry sector accounted for 27.7%, and the services 64.2%. Sub-sectors with large shares are (1) wholesale and related trade (35.9%), (2) manufacturing (19.2%), (3) agriculture/hunting/forestry (7.1%), and (4) transport, storage and communication (6.7%).

***Agriculture***

Although Kumasi is said to have about 120 $km^2$ of irrigable lands consisting of swampy and marshy areas, which account for 47% of the total area, rural area accounts for only 6% as compared to urban 48% and peri-urban 46%. Moreover, only 5% of the active work force is engaged in agriculture.

Kumasi's agriculture is limited to small scale staple crop production including maize, plantain, cocoyam, cassava and traditional (tomatoes, peppers, etc.) and non-traditional (carrots, cabbage, etc.) vegetables. Also, a total of 165 fishponds are said to be functioning. Considering the strong urbanization pressure on the metropolis, expansion of agriculture in Kumasi is neither recommendable nor realistic.

The only way to sustaining agriculture is its integration with urban recreation taking advantage of the precious open space with semi-natural setting. Protecting open spaces is an important issue because they have various functions such as conservation of sound living environment and protecting areas from various disasters.

**Accommodation and food service activities**

This sector of the economy consists of the hotels, guest houses, restaurants and traditional catering services (chop bars). Kumasi has state-of-the-art hotels that can host international conference. One of such hotels is Kumasi Golden Tulip. Collectively these activities employ 56,169 and are the third largest employer in the Metropolis.

**Migration**

On the basis of the answer to the "place of birth" question in the 2010 PHC, migrants are defined as persons who were enumerated in a place different from where they were born, while non-migrants are persons who were enumerated in the place they were born. The data shows that there are 929,203 migrants, representing 53.7 percent of the population in Kumasi Metropolis. This means that the current population of Kumasi Metropolis comprises less than half of persons born within the Metropolis. Among the 929,203 migrants, 576,373 or 62.0 percent were born elsewhere in Ashanti Region. The remaining 335,458 migrants (36.1%) are persons born in other regions particularly the regions which share borders with Ashanti Region, such as Brong Ahafo 69455 or 7.5 percent, Central 50,568 or 5.4 percent, Eastern Region 36,619 of 3.9 percent and Western Region 33,134 or 3.6 percent. The three northern regions together contribute 91,693 or about 10 percent (9.9%) of the migrants to the Metropolis. Greater Accra and Volta account for 63989 or about 6 percent (5.8%). About two percent (1.9%) of the migrants (17,372) are from outside Ghana. In relation to the duration of residence of all migrants, almost one-half (47.9%) have lived in the Metropolis for up to 4 years, 20.6 percent for 5-9 years, 19.1 percent for 10-19 years and 12.4 percent for more than 20 years. For those born elsewhere in the region 46.9 percent have lived in the Metropolis for up to 4 years, 21.4 percent for 5-9 years, 20.1 percent 10-19 years and 11.6 percent for more than 20 years.

**Poverty in GKMA**

Although the poverty rate of KMA was less than 10% in 2000, according to the Development Plan for Kumasi Metropolitan Area (2010-2013), urban poverty has emerged in the peri-urban and slum communities. It is said that they are characterized with either inadequate or non-existent facilities / opportunities, poor housing, road network and educational facilities, inadequate access to quality health care, poor environmental sanitation, high illiteracy rates, relatively low incomes and high unemployment levels among other. These poverty areas coincide with high population density, where very high numbers of people live in a house with limited facilities.

**Urban Facilities**

In terms of number of facilities, the concentration of health and educational facilities is much higher in Kumasi Metropolis than in the surrounding districts. This is partly because many health and educational facilities and services are actively run and are provided by the private sectors in Kumasi Metropolis. Their involvement is overwhelmingly large compared with the surrounding districts.

## 5. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROPOSED AF PROJECT

### 5.1 Introduction

The proposed subproject activities for the AF project are similar to those undertaken under the parent project. Based on experiences of the parent GAMA project, the ESIA and ESMP implementation reports of the project, as well as the consultations and field inspections conducted in the GKMA MMAs slated for the additional finance project underscore the potential for beneficial and adverse environmental and social issues of the GAMA AF project.

As recognised under the parent project, there is the need to put in place necessary mitigation measures during the AF project to eliminate or minimise to the barest minimum, the potential adverse environmental and social impacts and promote actions that expand the frontiers of the beneficial ones as per this ESMF.

The subprojects that are likely to lead to adverse environmental and social impacts and subject to mitigation in the AF activities are in Table 5.1.

**Table 5.1 Project Components and Proposed Sub-project Activities**

| Project Component | List of potential sub-project activities |
|---|---|
| Component 1: Provision of sanitation service in priority low income areas in GAMA and GKMA: | 1. Construction of about 42,000 onsite household toilet facilities in selected low- income beneficiaries in GAMA (12,000) and GKMA (30,000)<br>2. Construction of about 120 units of gender sensitive and disability toilet facilities in needy schools across GAMA and GKMA<br>3. Water supply connection to school toilet facilities |
| Component 2: Improvement in Operational Efficiency and expansion of water distribution networks in GAMA and GKMA | 1. Laying of main distribution network (pipelines)- about 120 km of pipe-line and 10,000 new connections will be provided to low income communities across GAMA and GKMA<br>2. About10,000 new water supply connections to beneficiary low-income homes |
| Component 3: Planning, improvement and expansion of environmental sanitation services in GKMA and GAMA. | 1. Construction of Simplified decentralized condominal sewerage systems in selected locations in GKMA<br>2. Processing the digested sludge from digesters to convert them to useful products<br>3. Continuation of drainage works to improve drainage in the upstream and downstream of the drainage infrastructure at the Mallam junction to ensure un-interrupted and streamlines flow. |
| Component 4:<br>Project Implementation and institutional strengthening | Project staff capacity building and behavioural change communication (BCC) activities |

### 5.2 Positive Environmental and Social Impacts of the GAMA AF Project

The overall environmental impact of the project is expected to be positive. Some of the expected key positive outcomes of the GAMA AF project are as below:

- **Reduction in open defecation and improvement in hygienic conditions and public health**

Improved access to household toilet facilities and school toilet facilities and accompanying provision of water supply to the facilities will reduce open defecation and resultant clean improved environment and aesthetics in communities.

- **Reduced girl child absenteeism to school during menstruation**

Provision of school toilet with changing rooms will reduce the number of girl child who have to absent themselves from school during menstrual periods. Furthermore, this will bring improvement in girl child enrollment and increased girl child education in the low-income communities.

- **Reduction in maternal mortality:**

A reduction in maternal mortality depends strongly on the water supply and sanitation situation. A contributory factor to poor maternal health is contaminated water and poor hygiene, leading to infection and slow postnatal recovery. At the same time a better general health condition due to reduced health risks linked to insufficient water and sanitation will also have a positive impact on maternal mortality. However, reducing the health risk by improving water supply and sanitation needs to be linked to improving hygiene practices in order to bring about the desired impacts.

- **Reduction in sanitation related diseases:**

Insufficient water supply and sanitation as well as inappropriate hygiene practices are associated with number of different diseases. Eliminating stagnant, standing water around the households and water points can contribute to reducing the incidence of malaria, in particular in dry areas with few natural mosquito breeding places. At the same time, reducing the incidence of water-borne, water-washed and water-based diseases through improved services and hygiene behaviors will have a positive impact on reducing the susceptibility to other illnesses. For people living with HIV/AIDS, water, sanitation and hygiene is extremely important in reducing the incidence of opportunistic infections.

Construction and rehabilitation of water and sanitation facilities will have significant positive impacts on the health of the communities and populations in all the targeted districts. Safe water fully available to the populations will improve local small-scale enterprises i.e. in processing food and agricultural products in low income communities to improve standards of living.

- **Environmental sustainability:**

Adequate collection, treatment and disposal of excreta i.e. by schools, households, and communities etc. will contribute to reducing pollution of freshwater resources. Improved sanitation reduces flows of raw human excreta into waterways and reducing the respective health and environmental risks. In addition, water, sanitation and hygiene are important for improving the lives of slum dwellers, by reducing the risks of contracting water-related illnesses, relieving the burden on women and opening opportunities for small- scale enterprises.

- **Reduction in flood risks in local communities**

Lack of drainage infrastructure in low income communities have made the communities prone to floods risks i.e. destruction of property, loss of livelihoods and even death during heavy

downpour. Construction of drains by the project will reduce flood risks in downstream communities and alleviate the flood risks. The parent GAMA project interventions have helped to alleviate flood risks in parts of the city of Accra including low-income areas which benefitted from the interventions under the parent project, however, other sensitive areas remain to be tackled.

- **Enhanced environmental and social safeguards in MMA Projects**

The AF project offers opportunity for MMAs to acquire skills and knowledge in application of environmental and social safeguards requirements and compliance to their projects and will ensure sustainability in their future projects. This will not only help the MMAs to meet the requirements of donor funded projects, but also the Ghana environmental assessment regulations LI 1652 of 1999 to adequately address environmental and social management for sustainable MMAs development and investments.

### 5.3. Potentially Adverse Environmental and Social Impacts of the Project

The negative impacts can be classified into pre-construction, construction phase and operational phase impacts. The section below discusses the potential environmental and social impact issues.

#### 5.3.1 Potential Environmental and Social Impacts of the Project during Pre-Construction Phase

There will be field visits and surveys in communities, road corridors, drainage courses and bushy areas to identify and define specific subproject locations. The potential risks this may pose include injuries, accidents, and many others in the line of duty.

Lack of community consultation on the objective could result in negative perception and could affect effective realisation of the desired project result. Misunderstanding of potential resettlement issues at the early stages could create unnecessary panic if not properly addressed because some temporary displacements may occur and affect temporary structures like kiosks that may fall on the right of way (ROW) i.e. laying of water pipelines and drainage construction courses. Furthermore, substandard design of infrastructure will result in poor provision by the project and eventual waste of the investments.

Some key impacts are listed below:

- Occupational health and safety (OHS);
- Negative perception about the project;
- Economic and physical displacement;
- Improper siting of subprojects;
- Substandard design of infrastructure.

#### 5.3.2 Construction Phase Potential Environmental and Social impacts

The construction phase activities will include site clearing, excavation of trenches, channels and foundations of buildings, backfilling, cutting of roads, laying of water pipelines, movement of construction vehicles and haulage of construction materials and equipment, and disposal of construction wastes amongst others. Some of the key potential environmental and social impacts and their sources in this phase are listed in the table below and discussed briefly thereafter:

Table 5.2: Potential Adverse Environmental and Social Impacts

| Potential negative environmental impacts | Potential negative social impacts |
|---|---|
| • Loss of vegetation | • Disruption of public utility services |
| • Soil and land degradation | • Resettlement/compensation issues |
| • Noise and vibration | • Occupational health and safety |
| • Poor air quality | • Public health and safety |
| • Water resources contamination | • Labor influx resulting in:<br>- Risk of social conflicts;<br>- Increased risk of illicit behavior and crime;<br>- Increased risk of communicable diseases;<br>- Child labor and school dropout |
| • Solid waste generation and disposal | • Public health and safety<br>• Aesthetic/visual discomfort |
| • Localized flooding in the construction community resulting from the ongoing construction activities | • Destruction of property |

### *5.3.2. Potential Environmental Impacts*

**Loss of Vegetation**

Some activities including moving heavy machinery especially during excavation of pipeline routes and drainage courses amongst others may result in some loss of vegetation. However, field visits to project MMAs revealed absence of vegetation in most areas due to urbanisation.

**Soil and Land Degradation**

Soil erosion or mudslides could result from activities like vegetation clearance for site preparation, excavation as well as construction equipment movements. This could be an issue especially during prolonged rainy periods.

**Noise and Vibration**

During construction, noise may be generated from moving vehicles, excavators and generators and concrete mixing machines. This noise could cause hearing impairments and nuisance to both labor force and locals. This will however be temporary during the day as noise making activities will largely be confined to construction sites and outside night hours or when students are in class.

**Poor Air Quality**

Air pollutants may arise due to dust emissions from construction vehicles and equipment. Dust may be generated from excavation and construction vehicles. Exhaust emissions may occur due to poor maintenance of equipment and moving construction vehicles and over revving of engines. Since most construction activities will be carried out in populated areas, air quality impairment is likely and need to be rigorously mitigated.

**Water Resources Contamination**

Construction works can have both short term and long-term negative effects on aquatic organisms due to earthworks that release suspended particles into water courses. Spillages of fuel and lubricant from construction equipment may contaminate water resources. Improper disposal of construction waste (excavated debris, demolished concrete, human excreta and road cuttings) could release pollutants into water bodies during runoff after rainfall. It will be necessary to use well serviced construction equipment and promptly dispose liquid and solid waste to approved sites during construction.

**Solid Waste Generation and Disposal**

The proposed subprojects will generate solid waste including excavated debris, demolished concrete, road cuttings, spoilt wood, iron rods, cement paper, housekeeping wastes and chippings amongst others which result in littering of construction sites and workers' camps if not properly managed.

**Localized Flooding in the Construction Community resulting from the Ongoing Construction Activities**:

Flooding may arise when construction workers block inlet drains that open into the drainage channel under construction. Furthermore, when construction materials and wastes are stored on the runoff pathway within construction sites may impede water flow and cause floods. Such obstruction of storm water flow could cause construction induced flooding at drain corridors and other flood sensitive areas in the community which should not be overlooked.

### *5.3.3 Potential Social Impacts*

**Disruption of Public Utility Services to Consumers**

Most parts of the MMAs are urbanised with active presence of utility service providers and their underground service cables. The potential for encountering these remains and should not be overlooked.

**Lack of Construction of Subproject Facilities to the Standard Design**

Frustration may arise in beneficiary communities if the project infrastructure becomes a white elephant simply because it could not be constructed to the design standard. However, use of appropriate procurement procedure will eliminate recruitment of inexperienced design personnel.

**Resettlement/Compensation Issues**

As is common with pipeline laying and drainage construction subprojects, the GAMA AF project could displace petty traders who usually erect temporary structures (kiosks) on road corridors and drainage courses in low income areas. The PCU will prepare RAP/ARAP and eligible PAPs will be compensated and facilitated to relocate prior to the commencement of any such specific works. The PCU has experience from the parent project in conducting RAPs/ARAP and handling resettlement/compensation and facilitation issues successfully.

**Accidents, Health and Safety**

Handling of construction vehicles and equipment by construction workers could cause accidents, traffic and temporary diversions hence workers and public should be protected.

Construction operations pose danger to people living or working near these sites in the sense that drainage construction sites are normally slippery and may result in fall and injury. Locals including those employed on site may not be aware of construction hazards. Children may also be unscrupulously recruited to work on construction sites. These need not to be overlooked.

### 5.3.4 Bio-digester Systems and Digested Sludge Processing

The AF project will continue the construction of bio-digester household toilet facilities in selected low-income beneficiaries in GAMA and GKMA. Also, proposed to be constructed is a treatment facility that can process the digested sludge from the bio-digester toilets into safe and environmentally friendly resources like compost.

*Bio-digester Household Toilets*

The bio-digester household toilets are on-site toilets designed to rapidly separate human excreta from blackwater for degradation under aerobic conditions through an interaction of micro-organisms. Bio-digester toilets use minimal water for excreta flushing (0.5 -1.5 liters per flush).The wastewater from the hand wash basin, after being used by a user, is channeled directly from the sink to the toilet seat to form the water seal and subsequently for flushing the human excreta. This system ensures no contact between the user and the excreta and thereby avoid potential infectious contamination.

The blackwater (raw excreta + flush water) undergoes rapid solid-liquid separation through a porous filter in the bio-digester. Solid materials are retained on the porous filter where it is broken down aerobically by micro-organisms. The bio-digester mimics the decomposition found under forest floors and other natural environments. The organisms are introduced into the bio-digester by adding a bit of humus during installation. The micro-organisms ensure degradation which involves digestion of the organic matter. The effluent after solid-liquid separation is biologically pre-treated and discharged directly into the subsurface soil via drainpipes or soak-away.

Bio-digester latrines could lead to poor sanitation with serious environmental and health problems if the biodigester chamber malfunctions. A malfunctioned bio-digester chamber usually causes an overflow of blackwater which could potentially contaminate surface and ground water. The overflows could also produce unpleasant odor and attract disease-borne vectors into the community. The proliferation of disease borne vectors could cause public health problems such as cholera, malaria, typhoid, etc. Another issue of environmental concern is associated with poor management and misuse of the facility. For example, consistent use of excessive water for flushing may lead to poor digestion which could lead to offensive odor around the facility.

The PCU through the experience and lessons learnt from the parent project in GAMA has perfected designs and construction techniques which could help to avoid some of the environmental and social problems associated with structural defects. For example, a key defect observed under the parent project was weak strength of the digester concrete slaps which resulted in cracks and leakages for some of the latrines. To address this, hands-on trainings were organised for the contractors on proper digester slap construction. Replacement of the defective slabs were undertaken. Also, regular monitoring and visitation to the slap production sites of the contractors were undertaken to ensure proper construction activities and resolution

of defects. The PCU will replicate these interventions under the AF to ensure that all toilet facilities are properly built and will continuously monitor and take feedback from beneficiaries to ensure a prompt resolution of defects during project implementation. Also, all beneficiaries, as done for the parent project in GAMA, will be trained and provided with user manuals to help them properly use and manage the facility.

*Digested Sludge Treatment.*

Treatment facility will be constructed to receive and process the digested sludge/solids and bio-solids. The digested sludge will be transported by experienced and accredited service providers in the MMAs who have the requisites equipment, tools, and vehicles to carry the sludge from households to the treatment facility. The digested sludge facilities will be constructed in the Ashaiman Municipal Assembly in GAMA and Kumasi Metropolitan Area in GKMA on lands to be acquired for that purpose and in a location zoned for such purposes.

Improper handling, transportation and inadequate treatment of digested sludge could pose a risk of pollution to ground water and surface water sources. If not adequately treated to acceptable standards, a user-product can contaminate drinking water, food and soil in the communities. The possibility of infection to handlers and users of the products could also arise and result in outbreak of public health diseases such as cholera, typhoid, dysentery, etc. in the MMAs. Odour and fly nuisance could also be experienced in the catchments of the processing facility if it (treatment facility) is ill- maintained. This can consequently lead to reduction in value of properties belonging to residents in the catchment of the treatment facility and attract complaints from residents which could adversely affect social cohesion and community relationships.

However, the potential impacts can be mitigated. Properly constructed and well operated through regular inspection and maintenance regimes will eliminate the water pollution and odour concerns and instead contribute to improved environmental sanitation. Adequate treatment of digested sludge into safe and environmentally friendly resources (i.e. compost) will eliminate negative public health impacts and instead be of useful products for human benefits. An operation and management plan for the digested sludge treatment plant to include among others emergency operations procedures, provision of PPEs, training, immunization, monitoring & slurry testing will ensure occupational health and safety during the operational phase of the treatment facility. The Project will establish and implement a grievance redress mechanism which creates avenues for uptake and redress of affected person's concerns to help eliminate disputes and bitterness in the neighbourhoods of the facility.

*Construction and Operation of the Digested Sludge Treatment Facility*

The digested sludge treatment facility will be constructed through a Design, Build and Operate (DBO) arrangement and owned by the Ministry of Sanitation and Water Resources through the Municipal Assemblies. The Facility will be operated by a private sector on a facility management arrangement and will be regulated by the Ministry and the MMAs.

The project will put in place measures to ensure that whoever operates the facility establishes and operates the facility in an environmentally and socially sound manner. Among the measures will be the following: (i) development of an Environmental, Social, Health and Safety (ESHS) Plan which addresses protection of workers health and safety by providing PPE and

regular medical examination and medical care, protection of public health, protection of the environment; (ii) development of a facility operations and maintenance plans which addresses regular inspection, repairs and maintenance of the facility; (iii) Measures prohibiting illicit behaviour among workers and company staff including GBV, sexual exploitation of women workers, use of child labour and child abuse; (iv) training of workers that will equip them with skills that are appropriate for the demands of the work and monitoring and reporting regime.

### 5.4. Potential Operational Phase Adverse Environmental and Social Impacts

Below is a table of key potential adverse environmental and social impacts with a brief discussion of their issues presented below the table.

Table 5.3: Table of Potential Environmental and Social Impacts of Operational Phase

| **Potential environmental impacts** | **Potential social impacts** |
|---|---|
| • Pollution of ground water, surface water bodies and local drains resulting from school and household toilets, digested sludge treatment/processing facilities; and decentralised sewerage systems facilities.<br>• Water scarcity<br>• Diminishing of aquatic lives in affected surface water bodies | • Increased flow of storm waters in the newly constructed drains resulting in flooding of downstream settlements |
| • Odour from school/institutional toilets and bio-digester household toilets due to lack of desludging, maintenance and poor housekeeping in the facilities.<br>• Odour from digested sludge treatment facility; and decentralized sewerage treatment facilities due to lack of proper maintenance, improper treatment and poor housekeeping. | • Flooding of pipeline communities resulting from leakages and lack of maintenance<br>• Public health<br>• Grievances and loss of community cohesion<br>• Occupational health and hazards |

### 5.5. Key Operational Phase Potential Adverse Environmental and Social Impacts

***Potential Adverse Environmental Impacts***

Pollution of ground water and surface water bodies

Improper and irregular disposal and overflow of effluent which collects in on- site toilet soakaways and septic tanks of school/institutional and household toilets and lack of inspection and maintenance of the facilities could result in spills into water bodies. Effluent discharge in surface water bodies will cause aquatic lives to diminish and also impact other water needs of the local communities. Improperly constructed and maintained septic tanks and soakaways may leak its content into underground sources and contaminate ground water aquifers.
Similarly, inadequate maintenance of wastewater and digested sludge treatment facilities i.e. decentralized sewerage treatment facilities and digested sludge treatment facilities could result

in release of untreated wastewater into downstream water bodies and drains to pollute surface and ground water resources.

Improper handling and transportation of digested sludge to Digester Sludge Treatment facility and improper treatment of the digested sludge could pose the risk of pollution of ground water and surface water sources.

Odour

Improperly constructed and ill-maintained toilets facilities i.e. school/institutional toilets and household toilets, digested sludge treatment facility and simplified decentralized wastewater treatment facilities can lead to breakdown of these facilities and create odour and fly nuisance in the neighbourhoods.

Properly designed, constructed, operated and maintained sanitary facilities and establishment regular inspection and maintenance regimes will eliminate the water pollution, odour and fly nuisance concerns hence contribute to improved environmental sanitation.

ESIAs and ESMPs of the parent project and similar projects have identified mitigation measures which will guide planning of the similar subprojects under the GAMA AF project.

***Potential Adverse Social Impacts***

Flooding of communities resulting from leakages in the water pipelines

During its operations, newly laid pipelines with defects or loose ends could leak water which if not identified early and repaired may contribute to flooding in affected localities and cause revenue and water loss.

Occupational health and public health and safety

Routine maintenance works on the constructed subproject facility may result in injury and accident i.e. desilting of drains requiring that the labour force be properly protected by use of PPEs. However, observation of speed limits, signage, trained and, experienced personnel, use of well-maintained vehicles, appropriate PPEs, and public education have solved these challenges in similar activities.

Public Health: Contamination of Drinking Water, Food and Soils

Lack of adequate handling and treatment of school/institutional toilets, and treatment facilities for wastewater and digested sludge can lead to contamination of water, food and soils and this can result in outbreak of public health diseases such as cholera, issues in the MMAs.

## 5.6 Capacity for Managing the GAMA AF Potential Environmental and Social Impacts.

The potential environmental and social impacts for the AF subprojects will be similar to those of the parent GAMA project for which mitigation measures and approaches for addressing the impacts exist and are similar to those encountered under the parent GAMA project which were managed successfully by the safeguards management systems currently in place at the PCU and GWCL (who are going to manage this AF project) through implementation of:

i) adherence to safeguards policies and procedures;

ii) standard construction practices;

ii) appropriate environmental and social mitigation measures and monitoring;

Consequently, this experience will be brought on board the AF implementation.

**5.7 Environmental and Social (E&S) Implementation Performance**

At the initial stage of the parent project, some level of weak MMAs awareness on some safeguards were experienced. This contributed to some initial delays in the civil works. In response, the project successfully applied several innovative approaches, including intensive safeguards training for the policy makers and relevant staff of the MMAs, GWCL, PCU, consultants and contractors who would be jointly engaged in the project's safeguards implementation at the local level and on the ground; continued engagement with the WB Safeguards Specialists through their reviews and elaboration on subproject safeguards instruments, undertaking joint field monitoring activities and following up on the Bank's recommendations, safeguards information exchange and participation in additional trainings organized by the World Bank.

The experience gained together with the guidance and support from the World Bank led to improvement in safeguards compliance. Accordingly, the project recorded continuous improvement in the preparation and implementation of safeguard instruments in accordance with the Bank's Safeguards Policies. Also, the project tremendously improved on safeguards monitoring of civil works and grievance redress uptake and resolution. For the parent project, the PCU has successfully prepared on time 43 quality safeguards instruments for sub-projects comprising 13 RAPs/ARAPs and 30 ESMPs which have been cleared by the Bank and satisfactorily executed before commencement of civil works. The last ISM held in February 2020 noted that the GRM of the parent project was functional across the various components of the project and uptake of grievances as well as resolution had increased. The current safeguards performance rating for the parent project assigned by the Bank is Moderately Satisfactory (February 2020). Also, the ISM assessed the safeguard capacity of the PCU and rated it satisfactory. The safeguards experience and efficiency accrued is available at the PCU and among other key stakeholders engaged in the parent project at the MMA levels and will be brought on board the AF project. The PCU safeguards specialists who are supervising the parent project will continue to supervise the safeguards activities of the AF. The AF will also allow the PCU and the Bank to continue to build and strengthen safeguards knowledge and experience among the new additional MMAs in GKMA to enhance the Government's policy on integrating environmental and social issues consideration during development projects in the country.

**5.8. Templates of Environmental and Social Impacts**

The tables below summarise the potential adverse environmental and social impact issues for the implementation of the AF sub-project activities at pre-construction phase, construction phase, and operational phase. The table indicates the subproject activities, the potential adverse impacts and the sources of the impacts. This will aid easy interpretation of the above discussion.

Below is Template of Potential Environmental and Social Impacts during pre-construction, construction and operation phases:

| Table 5.4 Template of Potential Environmental and Social Impacts during Pre-construction, Construction and Operation Phases | | |
|---|---|---|
| **Subproject activity** | **Impact source** | **Potential impacts** |
| **Pre-construction phase** | | |
| Surveys prior to subproject works | • Field visits and surveys to identify potential subprojects sites/locations. (school/institutional toilets, bio-digester household toilets, water distribution pipeline course, simplified sewerage/condominal sewerage site, digested sludge/treatment processing sites) | Occupational Health and safety<br>• Accidents;<br>• Injury. |
| Surveys prior to subproject works | • Lack of community consultation on the project<br>• Community distancing and apathy if not pre-informed of visits | • Wrong perception about the project within beneficiary MMAs and communities;<br>• Lack of cooperation and political support from key project stakeholder during project planning and execution. |
| | • | • |
| Surveys prior to subproject works | Land acquisition for subprojects | • Economic and physical displacement concern<br>• Physical cultural resources such as cemeteries, sacred sites, etc. |
| Prior to subproject works | Procurement of inexperienced personnel for designing the subproject facilities i.e. school toilets, household toilets, water distribution pipelines, simplified decentralized /condominal sewerage systems and, digested sludge processing facilities; drainage works. | • Substandard design of subproject infrastructure/facilities<br>• Local/community disenchantment<br>• Disregard to use of local /community procurement processes |
| **Construction phase –** *Environmental Impacts* | | |
| **All subproject works**: i.e. school/institutional toilets, bio- | • Site preparation and removal of topsoil;<br>• Excavation of trenches and construction foundations. | **Loss of vegetation** |

| | | |
|---|---|---|
| digester household toilets, water distribution pipeline, simplified decentralized /condominal sewerage treatment, digested sludge treatment/processing facilities and drainage works | | Destruction of trees and species with potential for conservation |
| All subproject works | • Site preparation and removal of topsoil;<br>• excavation of trenches/channels and construction foundations;<br>• Use of earth moving equipment such as bulldozers, backhoe. | **Soil and land degradation**<br>• Loosening of soil structure exposing the soil to rain and wind erosion<br>• Loss of flora and fauna with potential for conservation. |
| All subproject works | • Movement and over speeding of construction trucks during haulage/transportation of construction wastes to disposal;<br>• Excavation and demolition;<br>• Concrete works;<br>• Cutting of roads. | **Noise and vibration**<br>• Hearing impairment of workers, school children, vendor and nearby community people |
| All subproject works | • Site preparation i.e. sweeping and clearing;<br>• Transportation of construction materials;<br>• Excavation of pipelines, drainage channels;<br>• Exhaust emissions from construction equipment etc. | **Poor air quality**<br>• Dust inhalation and respiratory discomfort;<br>• Skin diseases;<br>• Dust related diseases. |
| All subproject works | • Spillage of oil and lubricants through cleaning, washing, and fueling of construction trucks and equipment at embankments of streams and drains;<br>• Siting of construction lubricant storage near water bodies and drains at construction sites;<br>• Absence of toilets facilities for construction workers;<br>• Land clearing and soil erosion;<br>• disposal of construction wastes; | **Water resources contamination**<br>• Negative ecological impact on aquatic life;<br>• Scarcity of fresh water for domestic and economic use and other water needs. |

| | | |
|---|---|---|
| | • Lack of appropriate/designated waste disposal sites in MMAs. | |
| All subproject works | • Overextended site preparation at pipelines laying, drainage construction and other construction sites;<br>• Unnecessary waste generation;<br>• Indiscriminate disposal and improper handling of construction waste;<br>• Unavailability of MMAs waste disposal site. | **Construction waste generation and disposal**<br>• Release of leachate into water bodies;<br>• Blocking of open community spaces and walkways affecting PWDs, the elderly and children;<br>• Accidents and injury;<br>• Floods. |
| All subproject works | • Dumping of construction waste into drains and streams in the construction community;<br>• Storage of construction materials and constructions wastes at storm flow directions at construction sites;<br>• Lack of desilting of downstream drainage channels. | Localized flooding in the construction communities and downstream resulting from the ongoing construction activities**.** |
| *Social Impacts* | | |
| All subproject works | • Preparation of construction sites;<br>• Absence of signage on underground service supply lines;<br>Excavation of construction sites, roads for pipeline trenches, drainage channels effecting service utility lines. | **Public utility services**<br>• Damage to GWCL, ECG, TELCOS cables and pipes;<br>• Disruption of utility service supply to consumers;<br>• Loss of income to utility companies and people relying on the utilities. |
| All subproject works | • Recruitment of inexperienced design engineer;<br>• Lack of subproject standard construction designs to the contractor during construction activities; | **Risk of substandard construction of subproject facilities**<br>• Poorly designed school/institutional toilets, household toilets, digested |

| | | |
|---|---|---|
| | • Lack of/inadequate supervision and monitoring of contractors and use of use of inferior fittings by contractors i.e. toilet seats, water taps, inferior quality roofing sheets, etc.; use of inferior HDP pipes, valves, etc. in pipe laying projects and simplified decentralized /condominal sewerage facilities. | sludge treatment facility and sewage buildings, drainage channels and water supply pipelines;<br>• Stakeholder apathy towards use of the subproject facilities;<br>• Additional investment requirements for repair of defects but which may not be available; Financial loss to the project |
| All subproject works | • Omission of PAPs during RAP studies and valuation;<br>• Delay in release of compensation monies;<br>• PAPs not having identification cards. | **Resettlement issue**<br>• Inconvenience due to delays in payment of compensation and relocation of facilitation |
| All subproject works | • Influx of non-local labor;<br>• Inadequate awareness creation programmes on illicit behavior prevention on construction works. | **Labour Influx:** Labour influx related impacts such as<br>• Risk of social conflict;<br>• Increased risk of illicit behavior and crime (including prostitution, early pregnancies, theft and drug abuse);<br>• Increased risk of communicable diseases (including STDs and HIV/AIDs);<br>• Gender-based violence (including sexual harassment, sexual exploitation, child abuse and exploitation);<br>• Child labor and school dropout. |
| All subproject works | • Exposure to noise, dust and emissions during construction; | **Occupational health and safety**<br>• Injury;<br>• Accidents. |

| | | |
|---|---|---|
| | • Inadequate awareness programme on health and safety for workers by contractors;<br>• Lack of signage/warning signs;<br>• Unavailability and/or poor use of personal protective equipment (PPEs) by workers & poor enforcement of use of PPEs. | |
| All subproject works | • exposure to trenches and pits in walkways and roads/streets at construction sites;<br>• Absence of alternative routes for road users;<br>• absence of signage and to warn the public of danger ahead at the construction sites;<br>• Lack of hoarding at active construction sites to restrict unauthorized access. | **Public health and safety**<br>• Accidents;<br>• Injury to community members and the public. |
| **Operational phase** | | |
| Completed toilets, Digested Sludge Treatment facility and simplified decentralised/condominal treatment plants (SDCTPs) infrastructure facilities | • Lack of and/or delay in desludging and maintenance of school and household toilets resulting in overflow;<br>• Lack of rehabilitation and maintenance of SDCTPs and Digested Sludge Treatment facility and discharge of untreated effluent into downstream streams/drains, and on land.<br>• Improper handling and transportation of digested sludge to treatment and improper treatment of the digested sludge | **Ecological impacts**<br>• Effluent discharge into the environment and water bodies;<br>• Water quality deterioration;<br>• Reduction in aquatic life in local water bodies;<br>• Water scarcity for domestic, economic, and recreational use;<br>• Outbreak of water-borne diseases. |
| Completed toilets; Digested Sludge Treatment facility and simplified decentralised/condominal treatment plants (SDCTPs) infrastructure facilities | • Poor housekeeping inside toilets;<br>• Improper maintenance and breakdown of Digested Sludge Treatment facility and SDCTPs;<br>• Lack of financial resources allocation to sustain management of sanitation facilities. | **Odour**<br>• Stench, odor and flies from school toilets, household toilets; Digested Sludge Treatment facilities and SDCTPs spreading onto school premises, classrooms, and nearby houses. |

| | | |
|---|---|---|
| | | • Risk of reduction in value of properties in the vicinity of the treatment facilities<br>• Complaints within the neighborhoods and breakdown of social cohesion of the communities and relationships |
| Digested Sludge Treatment facility | • Inadequate treatment of digested sludge into a quality reusable end user-products | **Public Health:**<br>• Contamination of drinking water, food and soils through handling and use of improperly treated digester sludge, and infection of people<br>• Outbreak of public health diseases such as cholera, etc. among users of the digested sludge treated products |
| Completed drainage sites | • Flooding of downstream communities of the newly constructed drains due to increased storm flow through the drains and lack of maintenance. | • Injury;<br>• Loss of property;<br>• Loss of livelihood. |
| Completed Water supply distribution pipelines | • Flooding of the newly constructed pipelines in the communities due to leakages and lack of maintenance | • Injury;<br>• Loss of property;<br>• Loss of livelihood. |
| All constructed subproject sites | • Exposure to abandoned excavated pits and left uncovered at construction sites (school toilets, household toilets, Digested Sludge facilities; simplifies sewerage, water distribution pipelines and drainage) left behind by contractor; | **Public health and safety**:<br>• Accidents and injury;<br>• Breeding of mosquitoes;<br>• Increased incidence of malaria diseases. |

| | | |
|---|---|---|
| | • Stagnation of water in uncovered open pits left behind by contractors. | |
| All constructed subproject sites | • Exposure of maintenance personnel/contractors to odor, infections and fall and slip;<br>• Inadequate awareness programme on health and safety for personnel and contractors;<br>• Lack of signage/warning signs;<br>• Poor enforcement of use of PPEs and poor supervision process by contractors | **Occupational health and hazards:**<br>• Accidents;<br>• Injury;<br>• Drowning;<br>• Sickness. |

# 6. ENVIRONMENTAL AND SOCIAL AND IMPACTS MITIGATION OF THE GAMA AF PROJECT

## 6.1 Introduction

Tis section provides general potential impacts and their mitigation plans at subproject level. General potential environmental and social impacts mitigation plans are presented in tables for each of the phases as below:

- Pre-construction phase;
- Construction phase;
- Operational phase.

These templates will assist the PCU, the GWCL and MMAs in screening of proposed subproject. Additionally, it will assist in completion of EPA registration forms and preparation of environmental and social management plans for approval. Overall, the tables will support timely preparation of subproject safeguards instruments.

**Table 6.1 Template: Potential Adverse Environmental and Social Impacts Mitigation Management Plan**

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| **Pre-construction phase** | | | | |
| • Field visits and survey to identify potential subprojects sites | Occupational health and safety<br>• Accidents;<br>• Injury. | • Provide health and safety training for field staff;<br>• Provide Personal Protective Equipment (PPE) for field staff;<br>• Provide first aid kits for field staff. | MMA Development Planning Officer (MMA-DPO), PCU Environmental Safeguards Specialist (PCU-ESS), MMA Environmental Safeguards Officer (MMA-ESO), MMA Engineer (MMA-E), GWCL Project Engineer (GWCL- PE), GWCL-ESS, GWCL-SSS. | 6,000 |
| • Lack of initial community consultation on the project | Awareness raising/ sensitization | • Consult MMAs staff, community opinion leaders. | MMA-DPO, | 5,500 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | • Wrong perception about the project within MMAs;<br>• Lack of cooperation and political support from key project stakeholder. | • all public engagement and consultation activities will be guided by the national protocols on social distancing due to the COVID-19 pandemic and the World Bank Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings issued on 20 March 2020 if the social distancing protocols are still in force. | PCU-ESS, MMA-ESO, MMA-E, GWCL- PE, GWCL -ESS, GWCL-SSS | |
| • Land acquisition for subprojects | • Temporary lack of access to land during construction works;<br>• Economic and physical displacement concerns | • Prepare RAPs/ARAPs for subproject<br>• Adequate, fair and prompt compensation and relocation facilitation to PAPs to ensure they are not left worse off as a result of the AF project;<br>• Ensure no potential PAP is omitted in compensation evaluation. | MMA-DPO, PCU-ESS, PCU-SSS MMA-ESO, MMA-E. GWCL-ESS, GWCL-SSS. | To be determined when the specific sites/locations of subprojects are known. |
| Procurement of inexperienced personnel for designing all subproject works | • Substandard design of subproject infrastructure/facilities<br>• Incorrect alignment of water distribution | • Use experienced design engineers and personnel<br>• Work closely with water utility agencies | MMA-E, MMA Procurement Officer (MMA-PO), GWCL-PE, | 5,000 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | pipelines and drainage channels. | | GWCL-ESS, PCU-ESS, | |
| **Construction phase** | | | | |
| • Site preparation and removal of topsoil;<br>• excavation of trenches and construction foundations. | • **Loss of vegetation** | • No siting of subproject infrastructure at sensitive habitats;<br>• Avoid extended land clearing at construction sites;<br>• Enforce forests and cultural heritage sites protection;<br>• Replant degraded areas with local species to complement natural vegetation regeneration | PCU-ESS, MMA-ESO, Contractor, Supervising consultant, MM-E | 5,000 |
| • Site preparation and removal of topsoil;<br>• excavation of trenches and construction foundations using earth moving equipment. | **Soil and Land Degradation** | • Mark out areas for clearance and use manual method where necessary;<br>• Replant degraded areas with local species to complement natural vegetation regeneration;<br>• Backfill excavated trenches and pits;<br>• Avoiding construction activities during stormy weather conditions. | PCU-ESS, MMA-ESO, supervising consultant, Contractor, MMA-E | 6,000 |
| • Movement and over speeding of construction trucks; | **Noise and Vibration** | • Maintain equipment noise (less than 75 dBs); | PCU-ESS, MMA-ESO, | 5,500 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| • Excavation and demolition;<br>• Concrete works;<br>• Cutting of roads for pipe laying and drainage construction;<br>• Site preparation i.e. sweeping and clearing of site. | | • Do not undertake demolition activities during evenings and resident's rest hours;<br>• Restricting excavation works and use of noisy equipment to daytime hours (between 8:30am to 5.00 pm);<br>• Restrict haulage speed limit to 20km/hr.;<br>• Provide workers with ear plugs. | supervising consultant, contractor, MMA-E | |
| • Site preparation i.e. sweeping and clearing of site;<br>• Transportation of construction materials and wastes;<br>• Exhaust emissions from construction trucks and equipment. | **Poor Air Quality**<br>• Dust inhalation and Cough;<br>• Skin diseases;<br>• Dust related diseases. | • Water should be sprayed on dusty haulage streets and excavated areas around construction sites;<br>• Minimize extended vegetation/land clearance;<br>• Cover construction materials and waste materials with tarpaulin during haulage;<br>• Ensure to switch off idling construction equipment and vehicles and prohibit over revving of vehicles;<br>• Regular maintenance of construction equipment,<br>• Ensure that the air quality levels are constantly monitored which can be obtained from relevant local | PCU-ESS, MMA-ESO, supervising consultant, contractor, MMA-E | 6,000 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | | air pollution control agencies i.e. EPA;<br>• Set and enforce low speed limit for haulage trucks;<br>• Provide construction workers with nose masks. | | |
| • Spillage of oil and lubricants at construction sites, drainage;<br>• Siting of construction lubricant storage near drains/water bodies at construction sites;<br>• Absence of toilets facilities for construction works and dumping of workers' excreta into nearby/drains;<br>• Lack of appropriate waste disposal sites by MMAs. | **Water resources contamination** | • Prepare water resources management plan<br>• Do not store solid waste or liquid waste near streams/drains in the project communities;<br>• No construction waste i.e. debris or liquid e.g. fuel and lubricant should be allowed to flow into water bodies;<br>• Prohibit servicing, cleaning and fueling of construction equipment/trucks in stream/drain courses;<br>• Immediately, clean up oil and lubricant spillages;<br>• Provide impervious surfaces with sumps at vehicle maintenance garages to collect spill oil;<br>• Adhere to recommended buffer distances as contained in the riparian policy. | PCU-ESS, MMA-ESO, supervising consultant, contractor, MMA-E. | 6,000 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| • Overextended site preparation;<br>• Unnecessary waste generation;<br>• Indiscriminate disposal and improper handling of construction waste. | **Construction waste generation and disposal**<br>• Indiscriminate disposal of solid and liquid wastes at the construction sites and communities;<br>• release of leachate from construction wastes. | • Prepare Waste Management Plan<br>• Minimize land clearance for construction activities;<br>• Re-use suitable excavated soil/debris in backfilling;<br>• Ensure daily collection and disposal of the construction wastes to designated MMA dump site;<br>• Provision of dust bins for workers. | PCU-ESS, MMA-ESO, supervising consultant, contractor, MMA-E | 7,500 |
| • Dumping of construction waste into drains and streams in the construction community;<br>• storage of construction materials and constructions wastes at storm flow directions at construction sites. | **Localized flooding at construction/sites community resulting from the ongoing construction activities:**<br>• loss of property;<br>• Injury;<br>• Loss of income sources. | • Do not dump construction materials and wastes into open drains in the construction communities;<br>• Daily collection and disposal of construction wastes from the construction sites to approved MMA waste dumps should be done;<br>• Avoid construction activities during stormy weather conditions;<br>• Ensure backfilling of trenches and open pits created by the construction works. | PCU-ESS, MMA-ESO, supervising consultant, contractor, MMA-E | 6,000 |
| • Utility service supply lines buried underground and not visible; | **Public utility service infrastructure** | • Involvement of the Utility Service companies in identification of underground | PCU-ESS, MMA-ESO, supervising | 6,000 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| • Preparation of construction sites;<br>• Absence of signage indicating positions of underground lines;<br>• Excavation of roads, pipeline trenches. Drainage, and foundations. | • Damage utility service lines GWCL lines, ECG TELCOS cables;<br>• disruption of utility service supply to consumers;<br>• loss of income to utility companies and livelihoods of communities relying on the utilities | utility service supply lines within the proposed project catchment;<br>• Relocation/reinstatement all affected utility lines. | consultant, contractor, MMA-E | |
| • Exposure of workers to noise, dust, traffic, exhaust emissions during construction;<br>• Inadequate awareness programme on health and safety for workers by contractors;<br>• Lack of signage/warning signs;<br>• Unavailability and/or poor use of personal protective equipment (PPEs) by workers. | **Occupational health and safety**<br>• Injury;<br>• Accidents. | • Prepare occupational health and safety plan<br>• Provision of PPEs (including safety boots, gloves, nose masks, ear plugs to the workers;<br>• Construction workers should always wear PPEs and carry first aid kits stocked with essential drugs;<br>• Spray water regularly at dusty excavated areas;<br>• Regular safety and induction trainings for the construction workers will ensure occupational health and safety among the workers; | PCU-ESS, MMA-ESO, supervising consultant, contractor, MMA-E | 6,000 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | | • Regular maintenance of construction equipment and machinery. | | |
| • Inadequate awareness creation programmes on health and safety by contractor;<br>• Exposure to trenches and pits on walkways and roads/streets/drains construction sites;<br>• Absence of alternative routes for road users who are displaced;<br>• Over speeding of construction trucks and equipment;<br>• Absence of signage and to warn the public of danger Lack of hoarding at active construction. | **Public health and safety**<br>• Accidents;<br>• injury to community members and the public. | • Prepare traffic management plan<br>• Provide signage at construction;<br>• Condone off active construction areas including pits and trenches;<br>• Provide temporary alternative routes/access for pedestrians and motorists displaced from their routes/paths in the community;<br>• Contractor should prepare and implement public health and safety plan for the subproject construction activities. | PCU-ESS, MMA-ESO, supervising consultant, contractor, MMA-E | 6,000 |
| • Influx of non-local labor into subproject communities<br>• Inadequate awareness about risk of social conflict from labor influx | **Risk of social conflict** | • Maximizing the use of local labor<br>• Consultation with and involvement of local communities in the project planning and implementation<br>• Contractor to provide code of conduct which includes | MMA-E, PCU-ESS, PCU-SSS, MMA-ESO, Contractor, supervising consultant, Municipal Environmental | 6,000 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | | sanctions for workers involved in criminal acts<br>• Provide training for the workers on the code of conduct<br>• Contactors sensitization for workers regarding local community cultural values and norms<br>• Enforcement of the code of conduct and the applicable sanctions<br>• Integrating the code of conduct into contractor's contract for all workers | Health Officer (MEHO), Municipal Social Welfare Officer (MSWO) | |
| • Influx of non-local labor into subproject communities<br>• Inadequate awareness about risk of illicit behavior and crime from labor influx | **Increased risk of illicit behaviour and crime** (including prostitution, theft and drug abuse) | • Maximizing the use of local labor<br>• Provide sensitization and awareness education for both workers and local communities<br>• Contractor to provide code of conduct which includes sanctions for workers involved criminal acts<br>• Provide training for the workers on the code of conduct | MMA-E, PCU-ESS, MMA-ESO, Contractor, PCU-SSS, Supervising consultant, MEHO, MSWO. | 6,000 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | | • Enforcement of the code of conduct and local laws on illicit behavior and crime<br>• Cooperation with local law enforcement in prevention of crime on the project<br>• Integrating the code of conduct into contractor's contract for all workers<br>• Paying adequate salaried for workers to reduce incentive for theft | | |
| • Influx of non-local labor into subproject communities<br>• Inadequate awareness about public health impacts from labor influx among workers and local communities | **Increased risk of communicable diseases** (including STDs, and HIV/AIDs) | • Develop and implement STD and HIV/AIDs education program<br>• Provide information campaigns on STDs and HIV/AIDs among workers and local community about transmission of diseases<br>• Provide condoms for workers | MMA-E, PCU-ESS, MMA-ESO, Contractor, PCU-SSS, Supervising consultant, MEHO, MSWO. | 6,000 |
| • Influx of non-local labor into subproject communities<br>• Inadequate awareness about Gender-based violence from labor influx among workers and local communities | **Gender-based violence (including sexual harassment, child abuse and exploitation)** | • GBV information and awareness raising campaigns for community members, especially women and girls<br>• Contractor's Code of conduct on GBV which includes sanctions for sexual exploitation, sexual | MMA-E, PCU-ESS, PCU-SSS MMA-ESO, Contractor, Supervising consultant, MEHO, MSWO. | 6,000 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| **Gender-based violence (including sexual harassment, child abuse and exploitation)**<br><br>• Influx of non-local labor into subproject communities | | harassment of workers especially women employees and enforcement of the code.<br>• Regular training for workers on code of conduct and required lawful conduct in host communities and legal consequences for failure to comply with laws<br>• Provision of information to host community about the contractor's code of conduct (where applicable)<br>• Integrating the code of conduct into contractor's contract for all workers<br>• Implement GAMA COVID-19 Guidelines for construction works if social distancing is still in force | | |
| • Influx of non-local labor into subproject communities<br>• Inadequate awareness about child labor and school dropout from labor influx in local communities | **Child labour and school dropout** | • Ensure that children under 18 years are not directly or indirectly employed on any subproject<br>• Contractor to hire workers through recruitment offices and avoid hiring at the gate to eliminate hiring of child labor<br>• Contractor's Code of conduct on child labor which includes | MMA-E, PCU-ESS, PCU-SSS MMA-ESO, Contractor, supervising consultant, MEHO, MSWO. | 6,000 |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | | sanctions for using children under 18 years<br>• Communication on hiring criteria minimum age, the code of conduct and applicable laws<br>• Enforcement of the code of conduct and laws on child labor<br>• Integrating the code of conduct into contractor's contract for all workers | | |
| **Operational phase** | | | | |
| • Lack of and/or delay in desludging and maintenance of school/institutional/household toilets resulting in overflow of septic tanks and soakaways; sitting of school/institutional toilets in flood prone areas;<br>• Leakages into underground water sources from school/institutional/household toilets septic tanks and soakaways<br>• Improper handling and transportation of digested | **Ecological impacts**<br>• Effluent discharge into the environment and water bodies;<br>• Water quality deterioration;<br>• Reduction in aquatic life in local water bodies;<br>• Water scarcity for domestic, economic, and recreational use;<br>• Outbreak of water-borne diseases. | • De-sludge school/institutional/household toilets regularly;<br>• Regular inspection, maintenance and repair of sanitation facilities;<br>• Regular screening of local residents of water-- borne diseases and facilitate medical treatment;<br>• Develop and implement facility management plan for the school/institutional toilets, Digester Sludge Treatment facility and SDCTPs; | MMA, MMA-SHEP Coordinator, MEHO, MMA-E | **MMAs Annual maintenance budget** |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| sludge to treatment Digested Sludge Treatment Facility<br>• Lack of rehabilitation and maintenance of Simplified Decentralized/Condominal Treatment Plants (SDCTPs), and Digested Sludge Treatment/processing facility. | | • Use only experienced and accredited service providers for handling and transportation of digested sludge to the Treatment facilities<br>• Allocation financial resources for operationalization of the facility management plan in MMAs Annual Budgets. | | |
| • Poor housekeeping inside school/institutional/household toilets;<br>• Ill maintained SDCTPs; Digested Sludge Treatment/processing facilities and their breakdown<br>• Flooding of bio-digester household toilets<br>• Lack of financial resources allocation to sustain management of sanitation facilities. | **Odour**<br>• Stench and flies from school/institutional toilets and bio-digester household toilets, Digested Sludge Treatment facility and SDCTPs spreading onto school premises, classrooms, and nearby houses | • Ensure regular and proper housekeeping in sanitation facilities;<br>• Ensure regular inspection and maintenance of the treatment facilities<br>• Ensure the locations of all toilets and treatment facilities are properly determined and the facilities are built away from wind direction of classrooms, homes and residences.<br>• Locate all toilet facilities and treatment facilities away from flood prone areas<br>• Ensure regular and adequate allocation of financial resources in MMAs Annual Budgets for facility | MEHO, MMA-SHEP Coordinator | **MMAs Annual maintenance budget** |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | | management plans implementation | | |
| • Inadequate processing of digested sludge into standard quality reusable end user products<br>. | **Public Health:**<br>• Contamination of drinking water, food and soils through handling and use of improperly treated digester sludge, and infection of people<br>• Outbreak of public health diseases such as cholera, etc. among users of the processed digested sludge products | • Treat all digested sludge properly and to acceptable quality standard before they are released into the public domain for use<br>• Ensure regular screening of local users of the digested sludge recycled products of water-borne diseases and facilitate their medical treatment.<br>• Regularly fumigate sanitation facilities in schools, households and treatment facilities. | MEHO, MMA-SHEP Coordinator | **MMAs Annual maintenance budget** |
| | | | | |
| • Increased flow of storm water in newly constructed drains resulting in flooding of downstream communities;<br>• Lack of repairs maintenance and leakage in the water main distribution pipelines. | **Downstream Communities and Safety**<br>• Flooding<br>• Injury<br>• Accidents<br>• Loss of property<br>• Loss of livelihoods | • Regular desilting of drains<br>• Preparation and implementation of drainage management plan<br>• Ensure regular inspection of pipeline routes for detection of leakages on pipelines;<br>• Undertake regular maintenance on pipeline works;<br>• Promptly repair any leakages; | MMAs, contractors | **MMAs Annual maintenance budget &**<br><br>**GWCL Annual maintenance budget** |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | | • Prepare and implement pipelines management plan. | | |
| • Sitting of school/institutional, bio-digester household toilets, digested sludge treatment facility, and SDCTPs at flood prone areas and areas of high-water table | **Flooding of subproject infrastructure (school and household toilets, digester sludge treatment facility and SDCTPS)** | • Avoid sitting subproject infrastructure at flood prone or areas of high water table | MMA, MMA-SHEP Coordinator, MEHO, MMA-E | **MMAs Annual maintenance budget** |
| • Excavated pits left uncovered at all construction sites (school toilets, household toilets, simplified sewerage and digested sludge treatment facilities and water distribution lines);<br>• Stagnation of water in uncovered open pits left behind by contractors breeding mosquitoes. | **Public Health and safety**:<br>• Accidents and injury;<br>• Breeding of mosquitoes;<br>• Increased incidence of malaria diseases. | • Backfill all excavated pits promptly;<br>• Remove stagnant water and spray affected areas with mosquito insecticides and cover the open pits;<br>• Prepare health and safety plan for maintenance personnel. | MEHO, MMA-E, SHEP Coordinators | **MMAs Annual maintenance budget** |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| • Exposure of maintenance /contractors to odor, infections and fall and slip during desludging of toilets, repair and maintenance of SDCTPs, and water distribution pipelines;<br>• Inadequate awareness programme on health and safety for personnel and contractors;<br>• Lack of signage/warning signs;<br>• Unavailability and/or poor use of personal protective equipment (PPEs) by workers;<br>• Poor enforcement of use of PPEs and poor supervision process by contractors. | **Occupational health and hazards:**<br>• Accidents;<br>• Injury;<br>• Drowning;<br>• Sickness. | • Provision of PPEs to maintenance workers and enforcement;<br>• Regular safety and induction trainings on occupational health and safety risk for maintenance workers;<br>• Provide the workers with first aid box stocked with adequate essential drugs;<br>• Prepare and enforce code of conduct providing workers adherence to health and safety measures and prohibiting illicit and immoral behavior by workers.<br>• Implement GAMA COVID-19 Guidelines for Construction works if national social distancing protocols is still in force<br>• Implement national and WB technical Note on Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings issued on 20 March 2020 if | MMAs, MMA-E, Consultant, MEHO | **MMAs Annual maintenance budget** |

| Impact source | Potential impacts | Mitigation measures | Responsibility | Estimated/indicative Cost (USD) |
|---|---|---|---|---|
| | | the social distancing protocols are still in force. | | |

### 6.2 Labour Influx

The project may face an influx of non-local labour and working conditions issues as skilled labourers might not be available in some of the project sites. The project will take concrete measures to mitigate potential labour influx related risks such as workers' sexual relations with minors and resulting pregnancies, presence of sex workers in the community, the spread of HIV/AIDS, sexual harassment of female employees, child labour and abuse, increased drop-out rates from school, inadequate resettlement practices and fear of retaliation, failure to ensure community participation, poor labour practice and lack of road safety. These risks require careful consideration to improve social and environmental sustainability, resilience social cohesion. Therefore, the project will include prevention, mitigation and response measures such as:

(a) Assessing living conditions of workers' camp and ensuring appropriate living conditions.
(b) Establishing and enforcing a mandatory code of conduct for the subproject contractors, managers and workers and an Action Plan for implementation. The Code of Conduct should cover the commitment of the company, and the responsibilities of managers and individuals with regard to GBV, and ideally other key issues identified in the ESIA/ESMP/C-ESMP such as ESHS and OHS. Any Code of Conduct must be accompanied by an accountability and response framework which outlines how complaints will be handled, in what timeframe, and the range of possible consequences for perpetrators of GBV.
(c) Mapping of services for survivors of GBV in the intervened project areas
(d) Collaborate with NGOS, CBOs and other organizations as possible to define the prevention, mitigation and response strategy for GBV.
(e) Ensuring appropriate location for these camps.
(f) Taking countermeasures – indicated in the Social Management Plan – to reduce the impact of the labour influx on the Public services.
(g) Conduct awareness raising the communities and capacity building in the PCU
(h) Devising and implementing a strategy for maximizing employment opportunity for local population including women.

The following guidelines lay out the principles that are key to properly assessing and managing the risks of adverse impacts area communities that may result from temporary GAMA-AF induced labour influx:

- The PCU will have to hire to the maximum extent, skilled and unskilled workers from affected communities in the project area. The PCU will adopt or implement all possible measures to avoid if not minimize labour influx into the project area.
- The PCU will assess and manage labour influx risk, based on appropriate instruments such as those based on risks identified in the ESIA, the Bank's Guidelines and sector specific experience in the country.
- Depending on the risk factors and their level, appropriate mitigation instruments need to be developed including the ESMP, site specific Labour Influx Management Plan and/or a Workers' Camp Management Plan.

- Risk factors to the PCU that should be considered include those that are project related and country level violence:
  - Weak institutional capacity of the implementing agency
  - Predominant presence of contractors without strong worker management and health and safety policies.
  - Anticipated high volumes of labour influx.
  - Pre-existing social conflicts or tensions.
  - Weak local law enforcement.
  - Prevalence of different forms of gender-based violence and social norms towards it in the community (acceptance of gender based violence).
  - Poverty levels
  - Difficulties to monitor SEA risks across the full span of the work
  - Prevalence of transactional sex.
  - Local prevalence of child and forced labour.
  - Existing conflict situation between communities.
  - Absorption capacity of workers to the community.

- The PCU will be required to incorporate social and environmental mitigation measures into the civil works contracts and responsibilities for managing these adverse. This will be a binding contractual obligation on the PCU with appropriate mechanism for addressing non-compliance.

The Supervision Consultant shall be responsible for monitoring the contactor performance and adherence to the labour influx guideline and that of its Sexual Exploitation and Abuse (SEA) obligations with a protocol in place for immediate, timely, mandatory and confidential reporting in case of incidents to sub project community.

This allows the PCU to enforce the implementation of such mitigation measures which are required to ensure the consultant's own compliance with Bank policy requirements. While the Bank reviews and clears project – level safeguard instruments such as the ESIA/ESMP. It is the PCU's responsibility to:

(i) Ensure the safeguard instruments are reflected in the contractor's ESMP (CESMP).

(ii) Ensure the project is implemented in accordance with the CESMP, safeguard instruments and other relevant contractual provisions.

**6.3 Gender Based Violence**

Ghana has ratified or acceded to the core international human rights treaties and is party to the major regional human rights instrument which obliged States to respect, protect and fulfil human rights of all persons within the territory and subject to the jurisdiction of the State, without discrimination. Rape may violate several human rights obligations enshrined in the instruments ratified by Ghana and is also a form of gender-based violence and a brutal manifestation of violence against women. As a State party to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (the ''Maputo

Protocol'', Ghana has made legally binding commitments to exercise due diligence to combat gender - based violence and discrimination.

Accordingly, Ghana has an obligation to take all appropriate measures to prevent rape, ensure that there are adequate sanctions for rape in law and in practice and ensure access to reparation for the victims. Furthermore, several human rights instruments require Ghana to take special measures to protect the rights of individuals who are vulnerable to sexual violence, namely, women, children and persons with disabilities.

The United Nations Special Rapporteur on violence against women has provided guidance on States' due diligence obligations in combating sexual violence noting that it must be implemented at both individual and systemic levels. Individual due diligence focuses on the needs of individual survivors and places an obligation on the State to assist victims in rebuilding their lives and moving forward'', for instance through the provision of psychosocial services. Individual due diligence ''requires States to punish not just the perpetrators, but also those who fail in their duty to respond to the violation''. As for systemic due diligence, it includes ensuring '' a holistic and sustained model of prevention, protection, punishment and reparations for acts of violence against women.

**International Treaties.**

- The International Covenant on Civil and Political Rights (ICCPR), 2004.
- The International Covenant on Economic, Social and Cultural Rights (ICESCR), 2004.
- The Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment (CAT), 1993.
- The Convention on the Elimination of all forms of Discrimination against Women (CEDAW), 1984.
- The Convention on the Rights of the Child (CRC), 1990 and the Convention on the Rights of Persons with Disabilities (CRPD), 2012.
- International Convention on the Elimination of All Forms of Racial Discrimination, (1976).

**Regional Treaties.**

- The African Charter on Human and Peoples' Rights (ACHPR), 1982.
- The African Charter on the Rights and Welfare of the Child (ACRWC).
- The Protocol to the ACHPR on the Rights of Women in Africa (the ''Maputo Protocol'') (2007), National Policies.

According to the Demographic and Health Survey (DHS) conducted in Ghana in 2008, 38.7 per cent of ever-married women between the ages of 15 and 49 years reported having experienced physical, psychological or sexual violence by a husband or partner at some point in their lives. Over a quarter (27.6 per cent) of Ghanaian males reported having experienced physical or psychological violence by their wife or partner (GSS et al., 2009). Considerable effort has been made in Ghana over the last three decades to reduce the incidence of domestic violence

In 2007 the Ghanaian government created the Domestic Violence Act in an attempt to reduce violence against women. The act encountered significant resistance from cultural conservatives and local religious leaders who believed that such a law would undermine traditional African values, and that Western values were being implemented into law.

In 2014 the Ghanaian government set up a domestic violence board to combat the issue.

### 6.4 GBV Risk Management Mechanisms

During the parent project implementation, no sexual exploitation and abuse issues arose. GBV mitigation measures especially sexual exploitation and abuse were given due attention. They involved having signed codes of conduct for the contractors and consultants, the project Grievance Redress Mechanism, capacity building for the PCU, GWCL and workers and monitoring of project interventions. A GBV workshop was conducted to sensitize the PCU staff on the key principle and specific requirements to address GBV/SEA. Such requirements were subsequently included in the bidding documents ('pre-qualification' and 'employers' requirements') for consultants and contractors. Due to the importance of the GBV issues and the need to curb its occurrence, the AF project will continue to implement the measures that have been successful under the parent project and will continuously seek for avenues to improve on the measures to address the risks of sexual exploitation and abuse.

As such specific measures to reduce and mitigate the risk of GBV/SEA in the AF project will to include:

i) mandatory contractors' code of conduct on sexual harassment;
ii) collaboration with NGOs to monitor GBV/SEA in project areas;
iii) community and workers' sensitization on GBV/SEA;
iv) provision of referral units for survivors of GBV/SEA;
v) provisions in contracts for dedicated payments to contractors for GBV/SEA prevention activities against evidence of completion;
vi) contractor and PCU requirement to ensure a minimum target of female employment with incremental rewards for attainment of target.

The following **actions** are recommended for implementation:

- Include in the focal NGO's ToR services for managing social risks associated with GBV/SEA in the project;
- Build and improve the PCU, local communities and other relevant stakeholders' capacities to address risks of GBV/SEA by developing and providing guidance, training, awareness, and dissemination of relevant GBV/SEA materials to communities;
- Develop a clear GAMA-AF specific internal "Reporting and Response Protocol" to guide relevant stakeholders in case of GBV/SEA incidents;
- Develop Codes of Conduct for civil works contractors with prohibitions against GBV/SEA;
- Strengthen consultations and operationalize GBV/SEA specific grievance redress mechanisms;
- Provide support for GBV/SEA training and awareness creation for various stakeholders;

Overall, GBV risks in the project target areas might include sexual exploitation and abuse, Intimate Partner Violence (IPV), harassment including sexual abuse and harassment, verbal insults, physical abuse, women and child trafficking. Development and implementation of specific GBV risk prevention and mitigation strategies, tailored to local contexts, will be critical. Guidelines for situation analysis of GBV and safe reporting guidelines in line with the GBV Good Practice Note and international best practices will be implemented. Further, all risks related to labour influx will have to be mitigated by participation of project beneficiaries/communities, and involvement of project contractors and contractors' workers and consultant employees, in identifying mitigation and implementing measures, including developing mitigation instruments such as "Labour Influx Management Plan" and "Workers Camp Site Management Plan".

# 7. ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

## 7.1 Introduction

During the implementation of the GAMA AF project, the environmental and social impacts will be managed, minimized or preferably avoided particularly to meet the requirements of the World Bank safeguards policies and environmental laws and policies of Ghana. This ESMF provides guidance to the GAMA AF project, and the PCU, the GWCL and the MMAs on procedures to be followed when subprojects are identified for implementation. Roles and responsibilities of the implementing agencies and other collaborating agencies are clearly defined to be followed to ensure adherence to the required provisions. Finally, budgetary estimates have been proposed to support the implementation of the environmental and social management plan. The ESMF will be included in the project's Manual of Operations and will be monitored for compliance by the World Bank and EPA.

The ESMF outlines the following mechanisms for implementation:

- Screening of proposed subproject interventions, identifying potential environmental and social impacts and management of safeguard policies implications;
- Implementation arrangements by the MSWR, GWCL, the MMAs and other relevant institutions for implementation and their capacity building, arrangement for resolution for disputes that may arise;
- Community and stakeholder consultation;
- Implementation measures monitoring;
- Estimated costs related to the ESMF;
- ESMP template.

## 7.2 Environmental and Social Screening Process

Environmental and social screening marks the beginning of ESIA or ESMP process for any proposed subproject. The screening should be initiated as early as possible alongside a sub-project planning process once its specific locations are identified. The extent of environmental assessment that might be required for a proposed subproject will depend on the outcome of the screening process.

Each MMA will designate an officer (MMA Environmental Safeguards Officer (MMA-ESO)) for screening and performance of other related safeguards activities under the supervision and guidance of the PCU-ESS using a checklist (Annex 2) and liaise with the World Bank and EPA for determination of their significance, assignment of appropriate environmental category, and recommendation of appropriate safeguards instrument that should be prepared.

The purpose of the screening process is to:

i) rapidly determine whether sub-projects are likely to have potential negative environmental and social impacts;
ii) determine the appropriate level of environmental and social assessment and management of the proposed sub-project;
iii) identify the appropriate mitigation measures for activities with adverse impacts;
iv) incorporate mitigation measures into the sub-projects design;
v) review and approve sub-projects proposals; and
vi) monitor environmental parameters during implementation. The extent of environmental and social work that might be required for the projects prior to implementation will depend on the outcome of the screening process.

The early screening process will also consider the provisions of the RPF for possible land acquisition and livelihood impacts. Additionally, each project will be screened to identify

relevant stakeholders, the nature and extent of engagement for each stakeholder category. A screening report will be produced to be sent to the Bank and EPA for review and approval. Following the review of the screening report, the terms of reference (TOR) for the preparation of the appropriate safeguards instrument will have to be cleared by the Bank prior to the ESMP/ESIA preparation.

If significant impacts are anticipated, the EPA Environmental Assessment (EA) procedures will be duly followed. Since the EPA Environmental Assessment Procedures are almost similar to that of the World Bank ESIA Assessment Procedures, the EPA EA Procedures have been applied to all World Bank projects and other donor funded activities.

Where there are minimal or no impacts (as determined using the checklist), the MMA may internally consult with the PCU-ESS and have a confirmation from the World Bank. Once an agreement is reached, the MMA-ESO may proceed with the minimum regular reporting requirements agreed with the World Bank.

No subproject requiring preparation of ESIA shall commence until the said instrument is prepared and approved by the World Bank and EPA and disclosed publicly in Ghana and at the World Bank external website, prior.

### 7.3 Environmental and Social Assessment Procedures to be followed by GAMA AF Project

Similar to the parent GAMA project, the formal environmental approval and permitting processes under the AF project will be followed consistently with the World Bank safeguard policy OP4.01; the Ghana ESIA procedures (EPA, Act 490, 1994) and EPA Environmental Assessment Regulation LI 1652, 1999 which provides procedures for the screening of project and programmes which may potentially have environmental impacts. The LI 1652, 1999, follows in broad terms, the procedures for the preparation of an environmental assessment report; provides a graduated system for determining what will be demanded from a proponent on the basis of the size and likely impacts of a particular project.

The key steps to be taken by the EPA during screening and registration of proposed projects are as follows:

i) Visiting the proposed project site upon receipt of an application to carry out an initial assessment taking into consideration factors such as:
   - Location, size, and likely output of the undertaking;
   - Environmental sensitivity of the proposed area;
   - Technology intended to be used;
   - Concerns of the general public, if any, and particular concerns of immediate residents if any;
   - Land use, and other factors of relevance to the particular undertaking to which the application relates;
   - Where the EPA is satisfied with an initial screening, it registers the activity which is the subject of the application, and the procedures for the elaboration of the appropriate and detailed environmental assessment commences which ends with the issuance of an environmental permit.

**7.4 An Outline of EPA Environmental Assessment Regulations LI 1652, 1999 Procedures**
This section outlines the Environmental Assessment Regulation procedures that will guide the AF project.

**Environmental Registration of the Proposed Projects**
All AF subprojects with potential for adverse effects on the environment and/or public health must be registered with the EPA, and an environmental permit obtained. No such project shall commence unless the project is registered and permitted by the EPA.

**Initial Screening/ Assessment**
This activity, in accordance with the EAR LI1652, 1999 is the responsibility of the EPA.
The screening will help the EPA in determination of appropriate environmental category of the proposed project. The EPA, upon receipt of an application form (Form EA1 or Form EA2 Annex 3a and Annex 3b respectively) from the PCU, including information that may be required; will carry out an initial assessment taking into consideration factors such as:

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

Where the Agency is satisfied with an initial screening, it registers the activity which is the subject of the application and issues an environmental permit.
The extent of environmental and social work that might be required of the Client for the
subproject prior to implementation will depend on the outcome of the screening process.
The EPA environmental permitting procedure is shown in Annex 4. The EPA, within 25 days of receiving the Registration/Application Form will take a decision by placing the project at the appropriate level of Environmental Assessment. The results will be communicated to the implementing agency (Client) with reasons, which could be any of the following:

- approved or
- is objected to; or
- requires submission of a preliminary Environmental report; or requires the submission of an environmental and Social Impact statement.

<u>Reporting under LI 1652, 1999.</u>

The Regulations provide for some reports by the proponent of an undertaking. These are:

- Screening report;
- Preliminary Environmental report;
- Scoping report;
- Environmental Impact Statement; and
- Annual Environmental report.

*Screening Report*

The screening report is prepared at the earliest stages of the ESIA process and allows a determination to be made by the EPA about the level of environmental assessment of a particular undertaking. Proposed project activities will be assessed and screened for potential cumulative impact and mitigation measures will be implemented.

*Preliminary Environmental Report*

In some instances, the Agency may come to the conclusion that an activity requires a preliminary environmental report (PER). Where such a decision is arrived at, the applicant would be required to submit a PER which will contain details extending beyond what is provided in the initial application by the Client. The new application must state specifically the detailed effects of the proposed undertaking on the environment. Where a PER is approved, it is registered, and an environmental permit is issued.

In the event that on receipt of a PER the EPA is satisfied that there will be a significant and adverse impact on the environment, the applicant will be expected to submit an environmental impact statement (EIS) on the undertaking for assessment of the environmental impact of the proposed undertaking.

*Scoping Report*

The Regulations require that the EIS shall be outlined in a scoping report. The scoping report sets out the scope or extent of the ESIA to be carried out by the applicant and include draft terms of reference (TOR) which must indicate the essential issues to be addressed in the EIS.

On the acceptance of a scoping report by the Agency, the applicant is informed to submit an EIS based on the scoping report.

*Environmental Impact Statement (EIS)*

The EIS must address potential direct and indirect impact of the undertaking on the environment at the pre- construction, construction, operation, decommissioning and post-decommissioning phases. Additionally, changes in social, cultural and economic patterns must be dealt with in the EIS.

*Annual Environmental Report*

A person granted an environmental permit under the Regulations is required to submit an annual environmental report in respect to his undertaking after 18 months from the date of commencement of his operations and thereafter on a 12-monthly basis to the EPA. The EPA is required to define the form and content of the Annual Environmental Report.

*Public Consultation*

Public participation is provided for in the Regulations. These provisions are secured through advertisement of the scoping notice for comments and public hearings.

There is a Technical Review Committee that reviews Environment Impact Statements (EISs) prior to permitting of all undertakings for which ESIAs are required. The membership of this committee is constituted on the discretion of the EPA through the use of administrative procedures.

*Review and approval of EIA*

The proponent submits the final draft ESIA to EPA. The report is reviewed by the Client and by the EPA.

Copies of the ESIA are placed at vantage points including the EPA Library, relevant MMA, and EPA Regional Offices. EPA serves a 21-day public notice in the national and local newspapers about the ESIA publication and its availability for public comments.

*Public Hearing and Environmental Permitting Decision (EPD)*

*Public Hearing*

Regulation 17 of the LI 1652 specifies three conditions that must trigger the holding of a public hearing on a project by the Agency. These are:

- Where a notice issued under regulation 17 results in great public reaction to the commencement of the proposed undertaking;
- Where the undertaking will involve the dislocation, relocation or resettlement of communities;and
- Where the Agency considers that, the undertaking could have extensive and far - reaching effects on the environment.

Where a public hearing is held, the processing of an application may extend beyond the prescribed timelines required for EPA's actions and decision-making.

**Environmental Permitting Decision (EPD)**
Where the draft ESIA is found acceptable, the proponent is notified to finalize the report and submit eight hard copies and an electronic copy. Following submission to EPA, the proponent shall be issued an Environmental Permit within 15 working days and issue gazette notices.

Where the undertaking is approved, the proponent shall pay processing and permitting fees prior to collection of the permit. The fees are determined based on the Environmental Assessment Fees Regulations, 2002, LI 1703.

### 7.5 Procedures to be followed by the GAMA AF safeguards implementation units (PCU, GWCL and MMAs)

Consistent with the parent project, the AF Project will follow the following steps to ensure compliance with the LI 1652,1999 and World Bank safeguard policy OP4.01 Environmental Assessment procedures.

***Step 1: Environmental Registration of the Project***
The designated MMA-ESO in collaboration with the PCU-ESS will be responsible for carrying out screening of all subprojects by completing the Environmental and Social screening form and the relevant EPA Environmental Assessment Registration forms (EA forms) and submitting to the EPA in accordance with the Environmental Assessment Regulation LI 1652, 1999.

A sample copy of the screening form is provided in Annex 2 and the EA1 Form (Annex 3a). The general mitigation measures suggested in this ESMF as well as the checklist used in the screening exercise will assist the MMA-ESO to complete this Form. Projects for which ESIA are mandatory, EPA Form EA1 otherwise Form EA2 will be used.

***Step 2: Screening***

Upon submission of project registration and information to the EPA, the MMA-ESO/PCU-ESS/GWCL-ESS) will lead the EPA on a field visit to the proposed project site to conduct an initial environmental assessment and determine the potential environmental and social impacts. Back at the office, the PCU/GWCL-ESS will follow up with the EPA for their decision on the appropriate level of environmental assessment which has to be carried out which could include the following:

- Objection to the project;
- No objection to the project (equivalent to World Bank Category C Project);
- Preliminary Environmental Assessment (PEA) will be required (equivalent to World Bank Category B Project);
- Environmental and Social Impact Assessment (ESIA) required (equivalent to World Bank Category B or A Project).

For projects receiving the 'no objection' from the EPA (WB Category C project) and therefore have only minor environmental and social risks, the PCU/GWCL may move to implementation in accordance with pre-approved standards or codes of practices or the pre-approved guidelines for environmental and social management as outlined in the general ESMF, however, with prior consent of the World Bank. The PCU-ESS/GWCL-ESS should liaise with the World Bank with screening reports and EPA decisions in a timely manner for comments if there are any.

***Environmental Categorization and conducting environmental and social assessment studies***

The parent project safeguards impact was rated Category A as a result of the scope of project activities and anticipated social and environmental impacts. Based on the scope and activities of the AF project of which some of the proposed activities are similar, the safeguards rating for the parent project is maintained for the GAMA AF project. This is based on the environmental categorization consistent with the World Bank Safeguards policies on Environmental Assessment (OP 4.01).

**Category A** projects are those whose impacts are sensitive, diverse, unprecedented, felt beyond the immediate project environment and are potentially irreversible over the long term. Such projects require full EA. Category **B** Projects will result in adverse environmental impacts on human population or environmentally important areas--including wetlands, forests, grasslands, and other natural habitats that are less adverse than those of Category A projects. In general, such impacts are localized; do not affect sensitive area/resources, and reversible, unlike Category A projects. Category C projects are generally benign and typically do not require EA (for example training and other capacity building activities). However, all such projects should be screened to determine if specific environmental management plans are required.

Following EPA decision on the screening activities, the project which the decision is to conduct a PEA (equivalent to World Bank Category B project) or ESIA (World Bank Category B and A projects) a standalone report will be prepared.

PCU-ESS/GWCL-ESS will prepare the Terms of Reference (ToR) for the appropriate safeguards instrument and follow procurement rules for the recruitment of an ESIA consultant. The potential environmental and social issues identified, and the general environmental and social impact mitigation measures provided in this ESMF will provide some basis for the design of the ToR.

The preparation of the appropriate safeguards instruments will be done consistent with the World Bank and EPA procedures which includes consultation with stakeholders right from the TOR development, preparation of reports, dissemination and disclosure of the reports publicly.

**Table 7.1 Planning and Implementation of ESIA Study**

| Procedures for projects requiring an ESIA |
|---|
| First stage: Preparation of Terms of Reference |
| The terms of reference will be prepared together by the PCU Safeguards Specialists and MMA safeguards officer. TOR will be consulted on with stakeholders and concerns incorporated prior to its finalization. The TOR will be submitted to the World Bank for clearance. |
| Second stage: Selection of ESIA consultant |
| Third stage: Preparation of the ESIA with community consultation |
| The report will follow the following format:<br>1. Executive Summary;<br>2. Introduction;<br>3. Relevant Policies, Legal and Institutional Frameworks;<br>4. Description of proposed sub-project;<br>5. Baseline Environmental and Social Conditions;<br>6. Analysis of Sub-Project Alternatives;<br>7. Stakeholder Consultations;<br>8. Potential Environmental and Social Impacts;<br>9. Impact Mitigation and Management Measures and Plan (Note: inclusive of sub-captions on Grievance Redress mechanism (GRM), Labor influx and Gender-based Violence (GBV);<br>10. Environmental and Social Monitoring Plan;<br>11. Conclusion<br>12. Bibliography |

***Step 4: Review of Approval of ESIA for Subprojects/Disclosure***

The PCU/GWCL will submit the draft ESIA to EPA and the World Bank safeguards team for review. On the EPA side, the draft report will be reviewed by the cross-sectoral National Environmental and Social Impact Assessment Technical Review Committee (ESIA/TRC) made up of representatives of relevant Ministries, Departments and Agencies as determined by the EPA.

The review committee is expected to:

- Assist the Agency in screening/reviewing all Environmental Assessment Applications and Reports (Environmental Impact Statements, Annual Environmental Reports, Environmental Management Plans and other related reports);
- Make recommendations to the Executive Director of the EPA for final decision-making;
- Provide technical advice on conduct of assessments and related studies on undertakings and the reports submitted on them;
- Make recommendations on the adequacy of the assessment and any observed gap;
- Advice on the seriousness of such gaps and the risks or otherwise to decisions required to be made;
- Recommend whether the undertakings as proposed must be accepted and under what conditions, or not to be accepted and the reasons, as well provide guidance on how any outstanding issue/areas may be satisfactorily addressed.

The PCU/GWCL will submit all safeguards instruments (ESIAs/ESMPs) to the World Bank in parallel with the EPA for review and clearance and disclosure in-country and on the World Bank external website.

Copies of ESIAs/ESMPs will be placed at vantage points including the EPA Library, relevant MMDAs, EPA Regional Offices and the sector Ministries. EPA serves a 21-day public notice in the national and local newspapers about the ESIA publication and its availability for public comments.

Step 5: Public Hearing and Environmental Permitting Decision (EPD)

Where a Public Hearing is required, the Project in conjunction with the EPA will collaborate to organize same. Regulation 17 of the LI 1652, 1999 specifies three conditions that must trigger the holding of a public hearing on a project by the Agency. These are:

- Where notice issued under regulation 16 results in great public reaction to the commencement of the proposed undertaking;
- Where the undertaking will involve the dislocation, relocation or resettlement of communities; and
- Where the Agency considers that the undertaking could have extensive and far-reaching effects on the environment.

The outcomes/concerns expressed by the stakeholders at the Public Hearing will be used by the PCU/GWCL to finalize the ESIA/ESMP document.

Where a public hearing is held, the processing of an application may extend beyond the prescribed timelines required for EPA's actions and decision-making.

**Environmental Permitting Decision (EPD)**

Where the draft ESIA is found acceptable, the PCU/GWCL will finalize the report and submit eight hard copies and an electronic copy to the EPA. Following submission to EPA, the proponent shall be issued an Environmental Permit within 15 working days and issue gazette notices.

Where the undertaking is approved, the appropriate processing and permitting fees required by the EPA shall be paid and the permit collected.

The PCU, and any institution participating in the implementation, will not issue a Request for Proposal (RPF) of any activity subject to Environmental and Social Impact Assessment (ESIA), without the construction phase's Environmental and Social Management Plan (ESMP) inserted in, and will not authorized the works to commence before the contractor's ESMP (C-ESMP) has been approved and integrated into the overall planning of the works.

This entire section above, on the roles and responsibilities (focus on the key PCU staff) for the implementation of the Framework (ESMF), will be inserted in the E&S safeguards management section of the Project Implementation Manual (PIM**).**

Table 7.2 Summary of Environmental Screening Process, Environmental Assessment and Responsibilities

| No. | Stage | Institutional responsibility | Implementation responsibility |
|---|---|---|---|
| 1. | Environmental and Social screening of proposed project interventions to assist in project formulation using checklist | PCU Environmental Safeguards Specialist (PCU-ESS), GWCL Environmental Safeguards Specialist (GWCL-ESS)<br>PCU Social Safeguards Specialist (PCU-SSS), MMA Environmental Safeguards Officer (MMA-ESO) | PCU-ESS PCU-SSS, PCU-SSS), GWCL-ESS; MMA-ESO, PCU Assistant Environmental Safeguards Officer PCU-AESO) , PCU-Assistant Social Safeguards Officer (PCU-SSSO) |
| 2. | Statutory Environmental Registration of Project | PCU-ESS, GWCL-ESS | PCU-ESS, GWCL-ESS, MMA-ESO, PCU-AESO, PCU-ASSO |
| 3. | Determination of appropriate environmental assessment level/ category | EPA; World Bank | - |
| 3. 1a | Validation/Approval of simple measures (PER, ESMP) | EPA/WB/ | PCU-ESS; GWCL-ESS<br>MMA-ESO |
| 3. | Implementation of environmental assessment | PCU-ESS, PCU-SSS, GWCL-ESS, GWCL-SSS | PCU-ESS; GWCL-ESS<br>MMA-ESO, PCU-AESO, PCU-ASSO |
| 3.1 | If ESIA is necessary | | |
| 3.1a | Preparation and consultation on the Terms of Reference (TOR) | PCU-ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO, PCU-AESO, PCU-ASSO |
| | Approval/clearance of TOR | WB | ESIA Consultant |

| No. | Stage | Institutional responsibility | Implementation responsibility |
|---|---|---|---|
| 3.1b | Selection of Consultant | MSWR-PCU | MSWR-PCU, GWCL |
| 3.1c | Realization of the ESIA, Public Consultation | MMDA/<br>Consultancy firm/ WB team as observers for consultation | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO, MMAs Project Coordinator (MMA-PC), PCU-AESO, PCU-ASSO |
| 4 | ESIA Review and Approval | EPA/WB | - |
| 5. | Public Consultation and disclosure | PCU/GWCL/EPA /WB | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO, PCU-AESO, PCU-ASSO |
| 6 | Integration of environmental and social management plan issues in the tendering documents and project implementation, | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, PCU-PS, MMA-ESO, MMAs Project Coordinator (MMA-PC) | MMA-ESO, MMA Procurement Officer (MMA-PO) |
| 7 | Preparation of Contractor ESMP (CESMP) | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO, MMAs Project Coordinator (MMA-PC) | Contractor's Safeguards Officer |
| 8 | Surveillance and monitoring | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, PCU-PS, MMA-ESO, MMA-PC, MMA-PO, EPA, World Bank | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO, PCU-AESO, PCU-ASSO |
| 9 | Development of monitoring indicators | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO. | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO, PCU-AESO, PCU-ASSO |

| No. | Stage | Institutional responsibility | Implementation responsibility |
|---|---|---|---|
| 10 | Reporting and adherence to EPA permitting conditions | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO, MMAs MMA-PC | PCU -ESS, PCU-SSS, GWCL-ESS, GWCL-SSS, MMA-ESO, MMAs Project Coordinator MMA-PC, PCU-AESO, PCU-ASSO |

## 8. THE ESMF IMPLEMENTATION AND MANAGEMENT

### 8.1 Introduction

The PCU, GWCL and MMAs will be responsible for the E&S assessment and for securing the required approvals and permits for the subprojects under the GAMA AF project with the help of consultants. At the MMAs, the MMA Planning officer (to be designated as the MMA environmental safeguards officer MMA-ESO and the MMA Engineer will take custody of the ESMF and will play a lead role under the guidance of the PCU Environmental Safeguards Specialist and the Social Safeguards Specialist and consultants in conducting the initial sub-project E&S assessments using the screening checklist. They will liaise with EPA for submission of the completed assessment forms, inspection and processes leading to granting of environmental permits for the works.

Successful implementation of the GAMA AF ESMF depends on the commitment of the key stakeholders mainly the national and state agencies, consultant, local authority, beneficiary communities, NGOs, contractors, safeguards specialists, project beneficiary MMAs, GWCL, PCU, consultants as well as capacity within the institutions and the institutional arrangements to effectively use the ESMF.

This session presents the institutional arrangements: capacity building for the implementation of the ESMF, institutional arrangements and grievance redress mechanism for resolving disputes and misunderstanding that may arise from the project.

### 8.2 Capacity Building for ESMF Implementation

Effective and successful implementation of the ESMF depends on the capacity within the MMAs and other relevant institutions to apply or use the framework effectively. It also depends on the appropriate and functional institutional arrangements among the implementing institutions.

During the implementation of the parent GAMA project, safeguards training and workshops have been held for the beneficiary MMAs which included Ministries, the PCU, GWCL, NGOs, Assembly Members, Unit Committee, contractors and consultants. These trainings which were done through collaboration with the World Bank and EPA have enhanced safeguards capacity in these institutions and community agents.

However, the GKMA MMAs currently do not have adequate safeguards capacity to implement safeguards issues successfully on the AF without necessary trainings for them. In this connection, a safeguards capacity building programme has been designed in this ESMF to enhance safeguards capacity and successful implementation of the ESMF in the GKMA Municipalities. It is also noteworthy that safeguards capacity will be required for some of the GAMA MMAs where staff transfers and staff retirements have resulted in some gaps in safeguard knowledge in those MMAs as well. Therefore, safeguards capacity will be strengthened in these MMAs also during the GAMA AF project.

The proposed capacity building needs will include:

- World Bank safeguards requirements for the GAMA-GKMA AF project;
- Ghana Environmental Assessment Regulations and procedures;
- Project Screening and scoping;
- Use of screening forms and checklist;

- Registration of projects with EPA;
- Preparation of TORs for carrying out Environmental and social assessment;
- Completion of Environmental Assessment registration forms;
- Preparation of Environmental and Social Management Plan, roles and responsibilities;
- Preparation of Resettlement Action Plan, roles and responsibilities;
- Public consultations in ESMF, RPF, ESIA and Resettlement process;
- Mechanisms for Grievance Redress and procedures;
- Safeguards institutional Arrangement for the project;
- Environment and Social Audit;
- Disclosure of safeguards instruments;
- Environmental and social mitigation measures implementation monitoring;
- Occupational health and safety;
- Some additional trainings will be required and some hand-held equipment such as noise monitors, particulate matter ($PM_{10}$) monitors and SOx, NOx and $CO_2$ monitors.

Training will be categorized along specific thematic areas and targeted at various stakeholders at various levels taking into account community stakeholders in the MMAs. The World Bank, EPA and MSWR-PCU will take up the responsibility for the trainings. Where necessary, expertise will be drawn from regulators to inform on key issues. The capacity building will be in the form of workshops, field visits and production of guidance reports and tools. To ensure their effective engagement at local level support to the project implementation, some of training activities will filter down to involve community level actors i.e. the Assembly members, opinion leaders and NGOs/CBOs who are in position to mobilize and involve the communities in the interventions and will therefore require some training to be effective. They will be able to communicate effectively in their local languages, negotiation and conflict resolution, and empathizing with communities and their needs. Involving community stakeholders in the training and providing them with relevant information on the project will build trust and maintain good rapport with the people in the project areas. This will help in solving issues before they even become grievances.

The possibility of decentralizing the training sessions will be explored so that MMAs safeguard persons may have session's specific to their activities. Large numbers of participants at specific training sessions will be avoided.

The implementation of the training and awareness creation will be timely and therefore planned during the early stages of the project to ensure that all actors are ready when the sub- projects roll out. Periodically, during the execution of the projects, the safeguard persons may congregate to share ideas and learn lessons from each other. It is expected that participants would at the end of the training be in a position to deal more effectively with difficult environmental and social challenges that they may come across.

Overall, the trainings will enhance stakeholders competence in environmental and social issues control and monitoring so that they can play their roles more effectively.

**Table 8.1 ESMF Training Programme**

| Training required | Target participant to train | When to do the training | Training to be conducted by who | Institutional responsibility to organize the training | Training type | Estimated training logistics cost (USD) |
|---|---|---|---|---|---|---|
| **World Bank Training on** World Bank Safeguards Requirements for the project (O.P. 4.01, 4.04 & O.P. 4.12); roles and responsibilities; **Ghana Environmental** Assessment Regulations and procedures. | GKMA Safeguards Officers: 8 MMAs; GAMA Safeguards officers: 16 MMAs | During project preparatory stage | World Bank &EPA | PCU | Workshop (All listed personnel) | |
| **Training on** the AF project ESMF, roles and responsibilities; **Completion of** screening forms; environmental assessment registration forms Registration of projects with EPA; **Introductory training on** preparation of TORs for carrying out ESIA & ESMPs& RAP/ARAP. | GKMA Safeguards officers and Engineers: 8 MMAs GAMA Safeguards Officers and Engineers:16 MMAs | During project preparatory stage | PCU-ESS & SSS | PCU | Workshop (All relevant listed personnel) | 1,500/MMA x24 MMAs=36,000 |

| Training required | Target participant to train | When to do the training | Training to be conducted by who | Institutional responsibility to organize the training | Training type | Estimated training logistics cost (USD) |
|---|---|---|---|---|---|---|
| **Grievance** Redress Procedures;<br><br>**Disclosure of** the safeguards instruments; | GKMA Safeguards Officers & Community Reps: 8 MMAs<br>GAMA Safeguards Officers & Community Reps: 16 MMAs. | During project preparatory stage | PCU-ESS &SSS | PCU | Workshop (Training of Trainers) | 1,500/MMA x24 MMAs=36,000 |
| **Environmental** and social impacts mitigation measures implementation and monitoring;<br>Training in occupational health and safety | GKMA Safeguards Officers & Engineers: 8 MMAs<br>GAMA Safeguards Officers and Engineers :16 MMAs | During project implementation | PCU | PCU | Training of trainers | 1,500/MMAx 24 MMAs=36,000 |
| **Totals** | | | | | | **108,000** |

**Capacity Building Budgetary Provisions**
The capacity building and training workshops expenses (logistics) is estimated at One Hundred and Eight Thousand US Dollars (USD 108.000) over the four (4) year project life. The actual costs should be determined later and included in the budgets of subprojects when project arrangements and timelines become clearer.

### 8.3 Institutional Arrangements for the Implementation of the ESMF
The MSWR and its PCU, the MMAs and the GWCL are the main implementers of the AF Project. The other agencies whose functions relate to the project in terms of technical support and project E&S approvals is the EPA.

**Safeguards implementation:**
**PCU**

The PCU and the Planning and Development Department of the GWCL will serve as the links between the Bank and the MSWR and GWCL in matters of safeguards compliance. Under the PCU, the safeguards activities will be centrally administered from the Accra office which will coordinate and supervise the MMAs both in GAMA and GKMA with respect to the ESMF compliance.

A mini PCU office will be established in Kumasi from where safeguards activities will be coordinated across the GKMA subprojects. The PCU-ESS and SSS will be stationed in Accra and will coordinate through conduct of regular visits to GKMA during the project and including the initials stages to ensure smooth take-off of the project. Assistant safeguards officers will be stationed in the Kumasi PCU office to provide closer support to the MMA-ESO and MMAs local implementation activities. The PCU existing ESS and the two safeguards assistants-environmental safeguards officer and social safeguards officer will be maintained for the AF project. A social safeguards specialist will be recruited following the approval of the additional financing to be responsible for following up of the social issues.

**GWCL**

GWCL will have its safeguards staffing arrangement as the PCU. Two safeguards assistants – environmental and social safeguards will be recruited and added to the social, and environmental specialists, who will also be stationed in Kumasi.

**MMAs level**
As done under the parent GAMA project, each MMA in GKMA and where transfers have occurred in the GAMA MMAs will designate an officer (preferably the Development Planner) to be dedicated as the focal point (MMA Environmental Safeguards Officer -MMA-ESO) to follow up on safeguards issues of the project in the Assembly in close support with the PCU Safeguards Specialists. Their key activities will include engagement in screening of the MMA's subprojects, completion of EPA registration Forms for subprojects and environmental registration of subprojects, liaison with the PCU and GWCL specialists in monitoring contractors, facilitating field consultation of ESIA/ESMP//RAP consultants through arranging consultation meetings between the consultants and community key stakeholders, disclosure of safeguards instruments among stakeholders, supporting compilation and preparation of safeguards quarterly reports to the World Bank. Appropriate safeguards trainings will be provided to the MMAs safeguards focal persons to enable them function effectively and to be on sound footing.

Environmental Protection Agency (EPA)

The Environmental Protection Agency (EPA) Head office in Accra and its regional offices in Accra, Team and Kumasi will be responsible for:

- Reviewing and approval of the environmental classification of subprojects and also approval of EIAs;
- Capacity building for the project staff and other relevant stakeholder;
- Monitoring at national level implementation of environmental measures.

**The World Bank**

The Bank will provide guidance, elaboration of the TORs and overall quality control of the ESMF through review and clearance of ESIAs/ESMPs and monitoring of ESMF compliance. The Bank will support disclosure of approved safeguards instruments at its external website.

### 8.4 Roles and Responsibilities for Implementation of the ESMF (focused on PCU)

The table below gives a summary of roles and responsibilities of key project staff of the PCU in the implementation of the project's ESMF. The key staff are Project Coordinator (PCU-PC), Environmental Safeguards Specialist (PCU-ESS), Social Safeguards Specialist (PCU-SSS), Social Accountability Specialist (PCU-SAS), Procurement Specialist (PCU-PS), Technical Specialists (PCU-TS), Financial Management Specialist (PCU-FMS), and Monitoring and Evaluation Specialist (PCU-M&ES).

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**Table 8.2 Roles and Responsibilities (focussed on the PCU)**

| No | Steps/Activities | Responsible | Collaboration | Service Provider |
|---|---|---|---|---|
| 1. | Identification and/or siting of the sub-project | PCU-TS | MMAs<br>Beneficiary local communities<br>PCU-ESS,, PCU-SSS | PCU/Consultant |
| 2. | Screening, categorization and identification of the required instrument (use the national EIA procedure) | PCU-ESS | Beneficiary MMAs;<br>PCU-SSS, EPA | EPA |
| 3. | Approval of the categorization and the selected instrument by the EPA | PCU-ESS<br>PCU | PCU-SSS<br>TS-PCU | EPA<br>The World Bank |
| 4. | Preparation of the safeguard document/instrument (ESIA, Envi. Audit, simple ESMP, etc.) in accordance with the national legislation/procedure (taking into account the Bank policies requirements) | | | |
| | Preparation and approval of the ToRs | PCU-ESS | | The World Bank |
| | Preparation of the report | | PCU-PS, PCU-SSS<br>MMAs ESO, Engineer | Consultant |
| | Report validation and issuance of the permit (when required) | | PCU-PS<br>SSS-PCU<br>MMA | EPA<br>The World Bank |
| | Disclosure of the document | | PCU-ESS, PCU-PC, PCU-SAS<br>MMAs | Media;<br>The World Bank |
| 5. | (i) Integrating the construction phase mitigation measures and E&S clauses in the bidding document prior they're advertised; (ii) ensuring that the constructor prepares his ESMP (C-ESMP), gets it approved and integrates the relevant measures in the works breakdown structure (WBS) or execution plan. | PCU-PC<br>PCU-ESS<br>Technical staff in charge of the sub-project (PCU-TS)<br>PCU-PS | PCU-SSS<br>MMAs | Consultants<br>Firms |

| No | Steps/Activities | Responsible | Collaboration | Service Provider |
|---|---|---|---|---|
| 6. | Implementation of the other safeguards measures, including environmental monitoring (when relevant) and sensitization activities | PCU-ESS | PCU-SSS, PCU-PS, PCU-TS Financial Staff (PCU-FMS), MMA | National specialized laboratories NGOs, EPA |
| 7. | Oversight of safeguards implementation (internal) | PCU-ESS | PCU-M&ES, PCU-PC, PCU-FMS), MMAs, PCU-TS, PCU-SAA | Control Firm |
| | Reporting on project safeguards performance and disclosure | PCU | PCU-M&E, ESS-PCU, PCU-SSS | |
| | External oversight of the project safeguards compliance/performance | MSWR | EPA, WB, PCU-M&E, PCU-ESS, PCU-SSS, PCU-PS, PCU-SAS | Consultant |
| 8. | Building stakeholders' capacity in safeguards management | ESS-PCU | PCU-SSS PCU-PS | Other qualified public institutions |
| 9. | Independent evaluation of the safeguards performance (Audit) | ESS-PCU, NPC-PCU | PCU-SSS, PCU-PS, PCU-SAS | Consultant |

### 8.5 Grievance Redress Mechanism

Grievance redress mechanism (GRM) is the institutions, instruments, methods, and processes by which a resolution to a grievance is sought and provided. The consultations of project affected persons and other key stakeholders at the very early stages of project implementation will ensure that their concerns are taken care of during implementation and would help minimize disputes or conflicts arising from implementation of any project activity. For addressing grievances under the GAMA AF, the project will leverage on the GRM system, structure, process and timeline of the parent GAMA project which is currently functional as required by the World Bank. Between 2017 to May 2020, the project received 1,449 complaints and resolved 1,447 through the project's three- tier grievance redress system established at the levels of subproject local communities (1st tier); MMAs (2nd tier); and PCU/MSWR (3rd tier). Membership of the community level redress committees include the local opinion leaders and Assembly Members. These committees communicate their grievance redress results to their respective MMAs where they are compiled and submitted to the PCU. Where complaints come to the MMAs level, they are resolved using the 2nd Tier mechanism and their results including those from the community level grievance redress committees are submitted to the PCU on monthly basis. However, where complaints are beyond the MMAs, they are resolved at the PCU/MSWR level. Due to the amicable settlement of grievances by the Project's GRM system, no case has reached the law courts for resolution. During the PCU's quarterly reporting to the World Bank, the information on the GRM implementation are reported.

In addition to leveraging on the parent project's GRM system, during the preparation of safeguards instruments for the AF subprojects, consultants would review any existing grievance redress systems that are operational at the MMAs and communities including those in the GKMA and propose ways to retrofit them into the existing project GRM.

**Objectives of the Grievance Redress Mechanism**

The objective is to address and resolve grievances or complaints from affected persons promptly, fairly, and in a manner that is, to the extent possible, acceptable to all parties. Every effort will be made to:

- Provide straightforward and accessible ways for the affected persons to voice complaints or resolve any disputes that might arise related to project implementation;
- Seek solutions to any tensions and conflicts early on in the implementation process, to avoid a 'firefighting' approach;
- Identify and implement appropriate and mutually acceptable actions to redress complaints;
- Respond in a timely manner, and with sensitivity to the needs of complainants;
- Ensure that claimants are satisfied with the outcome of the corrective actions, and maintain a dialogue with them to the extent possible;
- Improve community support for the project; and
- Avoid resorting to a high level of adjudication, such as judicial proceedings, as much as possible.

**Potential Sources of Grievance/ Disputes**

Based on experience from the parent project and consultations with relevant stakeholders and communities, grievances and disputes may arise during (but not limited to) the course of civil works and physical and economic displacement of people that will require resettlement/ compensation activities. The grievances may arise due to one or more of the following situations:

- Substandard and poorly constructed sanitation facilities in schools and households by contractors and artisans;
- Delays in reinstatement of properties impacted by project construction works;
- Disagreement on property boundaries either between the affected person and the expropriation agency or between two neighbors;
- Delays in resolving complaints of PAPs;
- No response to complaints made;
- Disagreement with the computation of the resettlement or livelihood assistance or transportation cost;
- Disputed ownership of a given asset (two or more affected people claim that the affected asset is theirs);
- Land acquisition and Involuntary resettlement;
- Mistakes in inventorying or valuing properties;
- Disagreement on asset valuation methods and compensation amounts in cash or in kind;
- Exclusion from list of PAPs;
- Disagreement on resettlement package (e.g. location of resettlement site not being suitable to the PAPs, proposed resettlement plot characteristics potential not adequate or suitable;
- Disagreement between contractor and worker arising from untimely payment of wages for work done;
- Default by contractor in payment in respect of construction materials (e.g. cement, iron rods, construction water, sand, stone chippings) purchased from shop owners and vendors;
- Claims by people who relocated on their own after receiving notification from the respective Assemblies about the project and the likelihood of impact on their activities;
- Siting of the project/subproject; successions, divorces, and other family issues resulting in disputed ownership or disputed shares between inheritors or family members.

Addressing the grievances under the GAMA AF project will leverage on the GRM system, structure and the process and timeline of the parent GAMA project. In other words, AF project grievance redress process will use the already existing GAMA S&W Project Grievance Redress Framework's structure and the process and the timeline outlined in the following levels below. The multi-tier level grievance redress process under the parent project shall be disclosed to the project stakeholders, in particular the PAPs as part of the project implementation arrangements and also when the individual compensation contracts are signed. It will comprise three (3) tiers:

1. Local/Community Mediation Committee (Grievance Redress Team);
2. MMA Level redress teams;
3. GAMA PCU/MSWR.

Aggrieved persons may access the Court as the last option after exhausting all the redress process without solution to the complaint.

Aggrieved persons will be made aware of their right to access any of the three-tiers. However, PAPs will be encouraged to use the 1st and 2nd tier redress mechanism which is at local and Municipal authority level adjudicative system first before proceeding to the 3rd Tier and court as the last resort. The 1st to 3rd tier redress system will be accessed at no-cost to PAPs or other complainants. PAPs will be encouraged to utilize the full spectrum of tiers as much as possible

as this ensures that the grievance redress mechanism is compliant with both national and World Bank safeguard policy requirements and is most desirable. However, PAPs will be made aware of their rights and anonymity in using the system.

**Composition of the Redress Committees**

**Local/Community Mediation Committee**

The Local/Community Mediation Committee (Grievance Redress Team) shall comprise of the following:

- Assembly member of the electoral area-Chair;
- Unit committee member;
- Opinion leader;
- Representatives of PAPs;

**Municipal Level Mediation Committee**

The MA level Mediation Committee (Grievance Redress Team) shall comprise of the following:

- Presiding Member/ Coordinating Director or representative (chair);
- GAMA MMA Project Coordinator- Secretary;
- Assembly member of the area/PAP;
- Representative of the Supervising Consultant;
- Other co-opted members as required.

**Ministry/PCU Level**

- Chief Director/Project Director/ designated representative (chair);
- Safeguards Specialist at the PCU)- Secretary;
- GAMA MMA Project Coordinator;
- Representative of the PAPs.

It is important that the Grievance redress teams are in place at the subproject preparatory stage and be made known to the communities and MMAs ahead of land acquisition or resettlement plan preparation. This is because, disputes can arise from the census state and preliminary identification of subproject sites. It is therefore important that the mediation teams be available to cater for claim, disputes and grievances.

The Grievance redress committees will screen complaints to determine eligibility of complaints under the AF project. Eligibility complaints may include those where: the complaint is related to the project, the issues raised in the complaint fall within the scope of issues the grievance mechanism is authorized to address, and the complaint has standing to file. Ineligible complaints may include those where: the complaint is not related to the GAMA AF project; the nature and issue is outside the mandate of the grievance mechanism; and the complaint has no standing to file.

**The general steps of the grievance process**

The general steps of the grievance process comprise

- Registration/receipt of complaints;
- Acknowledging the complaints;

- Investigate and determine solution to the complaint;
- Implementing the Redress Action;
- Verifying the Redress Action;
- Monitoring and Evaluation; and
- Recourse or Alternatives

***Registration/ Receipts/Acknowledging of Complaints***

The project will use the established multi-tier GRM system under the parent project to register resettlement related complaints and disputes. The receipt of complaints at all levels will include logging and registration of complaints and tracking and providing timely feedback to the complainant as well as monitoring the status of the grievances and reporting. The existence and implementation arrangement to access to the GRM (where, when, how) will be widely disseminated within the project community/town and explained in local languages as part of the initial consultation undertaken for the project in general. Local language brochures should be provided reiterating the functions of the GRM. Channels of presenting complaints could include telephone calls, face-to- face meetings, written letters, WhatsApp message, text messages, fax, etc.

**1st Tier GRC**

The Assembly member of the area will receive and acknowledge receipt of compliant within 24 hours. He/she will capture the complaint on the complaint form and submit to the Grievance Redress Committee at the local level (sample form is attached as Annex 5. The Assembly member of the area will inform the complainants about the status of the grievances and if the grievance can be resolved by the Grievance Committee (i.e. if it necessitates no consultation with other organizations where relevant) to determine possible corrective actions within 5 days. PAPs have the right to escalate complaints to the next level.

**2nd Tier GRC**

The 2nd tier GRC will be chaired by the Presiding Member of the MA or designated representative. Grievances determined to be beyond the 1st Tier committee will be escalated to the 2nd level of resolution at the MMA level. Consultations will be held with relevant authorities to determine solution for the complainant. In such cases, the time frame for the determination of possible corrective actions shall be 10 working days or extended in consultation with the affected persons.

After corrective actions are determined, the proposed solutions or corrective/preventive actions shall be communicated to the complainant within the agreed timeframe. The corrective steps, timeframe within which they are to be completed, and the party responsible for implementing the corrective actions shall be recorded in the Grievance Closeout Form (copy attached as annex 5. Once an agreement has been reached between the applicant and the responsible party on the corrective actions, the applicant will sign off the grievance closeout form on their acceptance of resolution.

(1) If the applicant remains dissatisfied with the outcome, additional corrective action will be agreed on and carried out by the responsible party.

The Committee has a maximum of 20 days following the application within which to resolve any grievances properly lodged with it. The applicant will then be informed by the designated officer and the corrective actions recorded in the Grievance Closeout Form.

**3rd Tier GRC**

If complainant remains dissatisfied with the decision of the grievance redress team, he/she can bring it to the attention of the PCU safeguard person. Otherwise the GRT should forward the issue to MWH PCU for further action The PCU in consultation with the relevant MDA safeguard person will set up an appropriate mediation team to resolve the issue within 2 weeks from the date of receipt of such a decision. If such a time line is not possible, the project would inform the complainant accordingly giving reasons and possible new date.

***Verifying the Redress Action***

When required, the grievance redress team from the MMA will visit the affected property site or get in touch with the complainant to confirm that the redress action is carried out. If the complainant is dissatisfied with the outcome of the redress proposal or action, additional steps may be taken to resolve the issue or reach an amicable agreement.

***Court or Judicial Redress***

If the complainant remains dissatisfied with the mediation effort of the project, the complainant has the option to go to court to pursue appropriate recourse. Courts of law will be a "last resort" option, in view of the above mechanism.

***Monitoring and Evaluation***

The implementation Monitoring and Evaluation Team from the MMA will monitor the activities of the Grievance Redress Teams to ensure that complaints and grievances lodged by PAPs are properly logged, followed-up and resolved amicably.

The M&E framework will comprise of three components:

- Performance monitoring (Internal Monitoring);
- Process or impact monitoring;
- Completion audit or end evaluation.

General monitoring indicators shall include:

- Public consultation;
- Grievance procedures in place and functioning;
- Timely resolution of grievance;
- Timely implementation of agreed redress actions including reinstatement of properties affected;
- Timely compensation disbursement to correct parties;
- Physical progress of resettlement; and
- Amicable resolution of grievances.

**Financing of the GRM**

The GRM process will be financed by the project funds.

# 9. STAKEHOLDER CONSULTATION, PUBLIC PARTICIPATION AND INFORMATION DISCLOSURE

## 9.1 Introduction:

For project development and implementation to be successful, consultation and participation of relevant stakeholders is key. The more the local level people are involved in the planning and management processes, the greater the likelihood that the concerns and interest of the local people will be captured and integrated into the proposed project which will consequently ensure that the works to the benefit of the local communities and their problems are addressed in a meaningful way.

The GAMA AF project consultations took place in the original GAMA MMAs and the Greater Kumasi Metropolitan Area (GKMA) MMAs benefitting from the AF project through meetings.

## 9.2 Consultation in GAMA

In GAMA, the ESMF has benefited from the ongoing stakeholder engagements and information dissemination activities under the parent GAMA implementation which involves field visits and ESMP and ESIA monitoring activities to the MMAs and communities, meetings and interviews where the MMAs management and technical staff and project managers, community elders and their assembly members, youth groups, non-governmental organizations and community based organisations were continuously engaged. The consultation also benefitted from the GAMA ESMF document which governed safeguards implementation arrangements on the project.

In the parent GAMA project communities, awareness was high about the AF project proposal and its environmental and social benefits and mitigation measures. They mentioned some of the original GAMA project benefits such as improved access to toilets in their homes and schools attended by their children, and improved access to water supply in the low income communities. Other areas are payment of compensation for their impacted properties and grievance resolution which contributed positively to the project implementation. An additional area of significance interest to them was their involvement in consultation during preparation of ESMPs, EIAs, and RAP and disclosure of the instruments which helped to inform the communities about the subprojects. Their expectation was that participation and involvement of local communities should be maintained in the AF project era also. Through this, the local communities will continue to provide their concerns and input especially during identification of potential impacts as well as mitigation measures in the planning of future subprojects.

## 9.3 Consultation in GKMA

In the GKMA, all the eight (8) Metropolitan and Municipal Assemblies were visited where direct meetings were held with officials of the MMAs and other specialized agencies i.e. EPA -Kumasi, Lands Commission -Kumasi office, and the Asantehene's Lands Secretariat-Kumasi. Others consulted included local community members and groups i.e. opinion leaders, assembly members, unit committee members, the youth and disable groups. The consultations took place between February and March 2020.

The list of meetings held and participants, the venues and dates of the meetings are found in Annex 1 of this document.

Below is the summary of the key outcomes of the meetings.

### *9.3.1 Consultation with MMAs Officials and Technical Staff:*

Assessing the views and understanding of the MMAs on the GAMA AF Project

With respect to the MMAs in the GKMA they expressed support for the Ministry's idea to extend the GAMA project to additional communities in GKMA under the AF. In particular, the GKMA MMAs enumerated the current challenges of lack of access to household and institutional toilet people in low income communities' face leading to poor environmental sanitation in the Metropolis. Poor access to safe water supply, lack of household toilets in the LICs and schools, broken down urban environmental sanitation management infrastructure especially the existing liquid waste treatment facilities and solid water dumps. The situation in the GKMA lend similarities with the GAMA which they believed led to the formulation and implementation of the parent GAMA Project which has proved successful. This they pointed to as a justification to extend the AF project to them.

Safeguards awareness and capacity in the MMAs

It was noted that almost all the GKMA MMAs engaging in the AF project have recently been established and carved out of KMA from where majority of the other MMAs come from. While some staff in the MMAs have shown signs of engagement in environmental assessment procedures i.e. project screening, environmental registration of proposed projects, completion of relevant EPA forms and permit issues, this cannot be said for the majority of the technical staff of the MMAs. This calls for safeguards capacity and awareness within the MMAs and project communities to ensure successful implementation of AF subprojects. Once communities become conscious of the right to participate in decision making process affecting them, they will also be conscious of the need, the benefit and also the sustainability of the project. Consequently, the MMAs considered safeguards knowledge and skills will be useful for the relevant staff and this should be done at the early stages of the project. The MMAs have indicated their readiness to institutionalize compliance on environmental and regulatory standards and processes in their projects. For instance, at the moment, some of the MMAs are in the process of participation in a World Bank funded 'Secondary Cities Project' which has to do with construction of markets, traffic management, and waste management and these also require them to apply environment management through preparation of ESIAs, ESMPs and RAPs.

While tackling capacity issues in the GKMA, this connection has to be made also that while in terms of GAMA, safeguards capacity exists within the MMAs to manage the AF project, capacity will have to be strengthened especially in some of the MMAs where transfers and retirement of workers have occasioned some capacity gaps and also because of the fact that environmental management knowledge is dynamic.

Identification/ assessing potential environmental and social impact

In the GKMA, both the MMAs technical staff and communities alike have raised a number of environmental and social problems currently which they think could be aggravated if the AF subprojects do not recognize these and put in place mitigation measures. Some of the impacts are: pollution of water bodies and drains through indiscriminate solid and liquid waste disposal without treatment by residents largely due to inadequate collection and treatment facilities i.e. lack of toilets in homes and schools and broken down treatment facilities. Others are chemical and grease discharges from mechanic shops and Kumasi Same Magazine light industrial area.

Some of the rivers in the municipalities were identified as: Owabi, Acheampoing-mene, Asuokru, Bonkumfuor, River Akos, Nkadan, Aboabo, Susai, Wewe, Subin, Oda, Efiafi, Subin; Sisai; Wiwi; Aboabo; and Kwadaso. Other impacts identified were: household liquid and solid waste disposal into drains; poorly managed school toilet facilities leading to flies and odour; open defecation and flooding in communities due to unlined drains and chocking of local drains. Consequently, implementation of the AF subproject will go a long way to resolve some of the environmental sanitation issues in the MMAs.

Cultural resources availability

The GKMA MMAs and communities spoke of existence of some cultural sites i.e. shrines, cemeteries, watersheds areas, however, where they existed, they are put under traditional management systems and protected by walling and other encirclements to prevent encroachment by community people and development projects. As a result, civil works by government or private individuals do not have conflicts with cultural sites in the Municipalities.

Grievance redress mechanisms

The MMAs have dispute resolution committees as required of them, however, their scope has been general and does not focus on resolving community project grievances as will be required of the AF project. Therefore, the parent GAMA grievance redress mechanism should be adopted and if necessary, adapted to suit existing community ones to improve dispute resolution in the MMAs.

Land Acquisition

Land acquisition for sanitation projects have not been problematic in the MMAs as clear procedures exist for land acquisition. School lands exists which can accommodate institutional toilets construction and water supply for the schools and will not require land acquisition. Acquisition of stool lands for projects only require some form of customary drinks, and verification. However, acquisition of private property will require compensation payment.

The Asentehene's Land Secretariat and the Land Commission offices in Kumasi when consulted gave an elaborate procedure for land acquisition and compensation payment which should provide easy identification and problem free acquisition of land for AF subproject activities if the need arises.

Engagement of women in construction labor

There is existence of labor pool particularly unskilled labor in the communities. Women also engage as laborer's on projects, providing ancillary services such as fetching of water, cooking etc. However, abuse of women has not been part of labor activities in the communities.

The MMAs are conscious of gender sensitive issues in development. Some of the MMAs are in the process of drafting policy document that will guide women engagement in labor and other limitations that may be necessary to ensure their protection from all forms of harassment. The consultant informed the MMAs of the Banks policies on sexual exploitation of women, child labor.

Code of Conduct application during civil works by the MMAs

The MMAs apply environmental and social clauses for contractors who they engage in civil works in communities. However, this has to be beefed up with World Bank ethics to include issues such as prohibition of illicit behavior and women-labor protection as part of the AF projects.

Characteristics of low income communities

The MMAs mentioned the followings as existing situations in their low income communities:

Lack of household toilets; reliance on public toilets by residents; dependence on water vendors for drinking water and cooking; people have erected huge overhead tanks from where community members buy water at fees which are higher compared to water at GWCL taps; others rely on shallow well. There is also a situation where water distribution lines exist nearby but due to high connection fees charged by the GWCL, majority of LIC households lack water supply in their homes.

The presence of underground pipes and those of other service providers make it necessary for thorough consultation to avoid damaging these lines.

A large number of homes are made of mud bricks, block and wood. Limited spaces on household compounds and overcrowding exist in most homes.

Livelihoods activities in the low income communities

The main livelihoods activities by the people in the LICs are dry season farming, vegetable farming, petty trading and artisans The MMAs reiterate the fact that during design of project, they will ensure that livelihood activities and properties are not impacted. Where it becomes necessary to displace any economic activity, the affected should be compensated.

MMAs suggestions towards managing institutional toilets of the GAMA AF project
Some of the MMAs put forward proposal for ensuring sustainable management of school toilets which should be explored further during the AF project. These are:

- Exploring the possibility of using the Community Water and Sanitation Guidelines (CWSG) to manage the toilet although it attracts user fees;
- Some percentage contribution from the MMAs Internally Generated Fund (IGF) and Assemblies Common Fund could be used towards maintenance of school toilets in their municipalities.

Some amount of safeguards capacity needs request by the MMAs to ensure environmental and social compliance monitoring on projects.
Key among the requests are**:** screening of new projects; completion of environmental registration and assessment forms; preparation of TORs for ESMP and ESIAs; World Bank safeguards policies; EPA environmental regulations and procedures; approaches to disclosure of ESMF/ESIAs /ESMPs; implementation monitoring and reporting on ESIA/ESMP; RAP implementation, grievance redress mechanisms; application of code of conduct for projects; behavioural change communication.

Traditional rulers' participation in project management in the MMAs

Participation of traditional leaders and community people in projects has been high in the MMAs. Their engagement involves: project identification; community entry activities and awareness; stakeholder consultation; project monitoring; land acquisition for projects dispute resolution on projects. This collaboration has been impacting community projects positively in the MMAs and this could be leveraged in the AF.

### ***9.3.2 Consultation with Community Opinion Leaders, Assembly Members, Youth Groups, Women***

Effective engagement at local level is necessary to gain support for the AF project implementation. When the communities are consulted, they get to understand the project objectives, the potential impacts and are able make input on the project and receive feedback. In this connection, intensive consultation was held with the communities in some LICs in the MMAs through face to face meetings.

Summary of their input is presented below:

Sanitation and water issues

There was overwhelming support for the proposed project which they have expressed their current sanitation and water supply challenges in their areas.

They lamented on poor water and sanitation issues prevailing in their communities i.e. inadequate public toilet facilities, where they exist, they are far from the community people leading to open defecation in the communities and in homes during nightly hours and rainfall; limited connection of water supply to their homes because of high water connection fees; high cost of water from water vendors, poor quality of water in the communities; flooding in the communities during high rainfall periods leading to loss of lives and property. They expect to participate effectively in the subproject activities. In particular, the household toilets subproject presents much excitement however, they would expect that the structures are designed properly and the subsidies reduced from the GAMA 30% to a much lower value.

Environmental pollution in the communities.

The participants have serious concerns about poor environmental conditions of water bodies and drains which is resulting in stench and odor in nearby homes. They recognized the contribution of local residents in throwing solid and refuse into drains and called for broader education in the communities on changing behavior during the project phase which campaign they will readily engage in. It was their belief that the AF project activities, if properly selected, planed and implemented through broad consultation and involvement with the communities could help minimize discharge of untreated liquid effluent into the water bodies and drains. According to them, more often than not, project planners and managers fail to consult people in low income communities.

Environmental and social impacts perceived by the participants about the project

The potential negative impacts perceived by the subproject activities include the following: injury and accidents during activities such as drains construction and pipeline laying since these activities would involve temporary excavation of trenches within the communities. Other feared that roads and walkways could be blocked without advance notice to them leading to

loss of access around the communities. Some teachers and pupils were of the opinion that school toilets would not be fenced leading to public use of the facilities. Untimely collection of school toilets leading to stench in classrooms and school compounds was also raised. They indicated that the project managers should help their youth be employed on the construction face of the works. They were of the opinion that if there will be temporary displacement of some of their items by the project construction, they should be contacted very early and be given the necessary support to minimize the impacts on them. Though they did not expect any serious conflict with the contractors during the project, they expect the workers to be of good behavior.

Effective engagement in the project implementation

The community stakeholders indicated the need for involvement of their leaders during selection and planning of the subprojects. They indicated further that capacity building for stakeholders of the AF project should filter down to community level actors i.e. the Assembly members, opinion leaders and NGOs/CBOs who are in a position to mobilize and involve the communities in the interventions. Involving community stakeholders in the training and providing them with relevant information on the project will build trust and maintain good rapport with the people in the project areas. It will also help in solving issues before they even become grievances**.**

### ***9.3.4 Meetings with People with Disability (PWDs)***

With the help of the MMA Social Welfare officers, face- to -face meetings were held with leaderships and members of PWDs in the GKMA.

They also recognized the benefits of the AF project to them. This is because, majority of their members do not have toilets in their homes and have to rely on public toilets at all times. They talked about the difficulties they face to use public toilets mostly because the entrances to the toilets are not wide enough for those using wheelchairs to enter. They recommend that the household toilet design and school toilets should recognize their challenges. They called for a special package for their members when it comes to household toilets construction for people.

Environmental and social risks issues raised:

The PWDs share experiences where construction works cut through roads and walkways without any alternative provision that would make them cross easily. These situations have posed threats to the welfare anytime there are excavation projects in the communities. The consultant informed the PWDs that ESIAs /ESMPs will be prepared for all the subprojects and the Ministry would ensure that PWDs are consulted and their concerns integrated into designs and the rest of the subproject implementation activities.

## 9.4 Some Activity Expectations of the AF Project by the MMAs, Communities and PWDs Stakeholders

The MMAs, communities and PWDs underlined the fact that the following activities under the project would be very relevant. These are: construction/rehabilitation/expansion of sewage systems serving the MMAs including Chirepatre and Ahinsan sewage facilities; construction of new sewerage systems in remote areas; household toilets; school toilets; rehabilitation of existing school toilets; extension of water to individual homes in the communities; construction/rehabilitation of storm earth drains; construction of culverts over water bodies.

### 9.5 Dissemination and Public Disclosure of ESMF and ESIAs/ESMPs

Disclosure of ESFMF and ESIAs/ESMPs.

World Bank policies require that public consultation and interaction on potential environmental and social issues on projects continue during its life time to ensure stakeholder participation at every stage of the project. Therefore, engagement of the stakeholders including the project beneficiary communities during ESMF/ESIAs/ ESMPs preparation, finalization and implementation will be part and parcel of all subproject activities as follows:

Disclosure of the ESIA and ESMP document at Local and National Levels:

All ESIAs and ESMPs will be prepared in a participatory manner among all the relevant stakeholders. When the ESIA/ESMP document is completed and approved by the World Bank through an 'IDA No Objection, it will be publicly disclosed. The local and national level disclosure will involve publication in national daily newspapers, printing and physical distribution of hard copies of the ESMP document among all the stakeholders. The purpose of the disclosure is to inform the public and project beneficiaries of the completion of the ESIA/ESMP document and to validate the document to ascertain if their concerns raised during the consultation stages are addressed in the document, among others. The disclosure activities would be carried out and concluded prior to the commencement of the actual construction works.

Disclosure of the ESIA and ESMP document at the World Bank level:

Upon completion of the local and national level disclosures of the ESIA/ESMP, the GAMA PCU will submit the document to the GAMA AF Project Task Team Leader of the World Bank who will cause it to be disclosed at the Bank's external website.

The parent GAMA project has rich experience in carrying out disclosure and dissemination of safeguards instruments i.e. ESIA/ESMPs/RAPs/ARAPs in-country and through the Bank. To date, over 40 safeguards instruments have been disclosed which helped to sustain dialogue and trust among key project stakeholders including project affected persons. Engagement during construction and operation of the constructed subproject facilities:

The stakeholders have the responsibility to ensure that the ESIAs/ESMPs measures are implemented as provided for in the document. The Municipal Assembly will maintain flow of information between the communities and the contractors who will be undertaking the drainage works and also those who will be engaged in the maintenance facilities operational phase.

### 9.6 Public Engagement and Consultation during COVID-19 Pandemic Era

With the outbreak and spread of COVID-19, there is a national protocol to exercise social distancing, and especially to avoid gatherings in large numbers. While at the same time, the general public has become increasingly aware and concerned about the risk of transmission, particularly through social interactions and large gatherings in the country and project communities. The World Bank has also provided guidance on how to conduct public consultations in a manner that would minimize the spread of the disease through its Technical Note: Public Consultations and Stakeholder Engagement in World Bank-supported operations when there are constraints on conducting public meetings issued on 20 March 2020. This Note offers advice by the Bank on managing public consultation and stakeholder engagement in the

projects they support with the recognition that the COVID-19 situation is developing rapidly and careful regards need to be given to national requirements and any updated guidance given by the WHO.

The parent GAMA Project, in seeking to prevent the spread of the disease has adopted and ensuring that all engagements and consultations are guided by the national protocols on social distancing due to the COVID-19 pandemic and the guidance provided by the World Bank Technical Note on how to conduct public consultations in a manner that minimizes the spread of the diseases,

Similarly, under the AF project, all public engagement and consultation activities including trainings, workshops, and public disclosure of safeguards instruments (ESIAs, ESMPs, ARAPs/RAPs etc.) as well as the disclosure of this ESMF and RPF of the AF project shall be guided by the national protocols on social distancing due to the COVID-19 pandemic and the World Bank Technical Note if the social distancing protocols are still in force. Specifically, the project's strategy for stakeholder engagement and consultations during the COVID-19 restrictions include the following:

- Avoid public gatherings (taking into account national restrictions), including public hearings, workshops and community meetings;
- If smaller meetings are permitted, conduct consultations in small-group sessions, such as focus group meetings but with appropriate social distancing and safety protocols such as the use of personal protective equipment, handwashing, hand sanitizing etc. If smaller meetings are not permitted, the project will make all reasonable efforts to divide participants into manageable groups and have separate meetings for each group at a suitable time and venue. Alternatively, the project will explore and conduct meetings through online channels, including webex, zoom, WhatsApp and skype, etc;

- Diversify means of communication and rely more on social media and online channels. Where possible and appropriate, create dedicated online platforms and chatgroups appropriate for the purpose, based on the type and category of stakeholders;

- Use traditional channels of communications (TV, newspaper, radio, dedicated phone-lines, and mail) when stakeholders to do not have access to online channels or do not use them frequently. Traditional channels can also be highly effective in conveying relevant information to stakeholders, and allow them to provide their feedback and suggestions;

- Where direct engagement with project affected people or beneficiaries is necessary, such as would be the case of preparation and implementation of Resettlement Action Plans for this project, the project will identify channels for direct communication with each affected household via a context specific combination of email messages, mail, online platforms, dedicated phone lines with knowledgeable operators;

- Each of the proposed channels of engagement will clearly specify how feedback and suggestions can be provided by stakeholders;

- In an unlikely event that all the above means of communication are not practicable in a particular circumstance, the event will be rescheduled to a later time, when meaningful stakeholder engagement will be possible.

The World Bank Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings issued on 20 March 2020 is attached as Annex 9 and shall be implemented during the AF as appropriate.

### 9.7 Construction works during COVID-19 pandemic

Undertaking construction works during COVID-19 pandemic will require that measures are put in place in order to minimize the spread of the disease on the workers and adjacent communities. In the light of this, the parent GAMA Project has put in place and implementing and enforcing a GAMA Project COVID-19 Health and Safety Guidelines and Procedures for Construction Sites. This Guideline is guided by the national protocols on social distancing due to the COVID-19 pandemic and the interim World Bank Note on COVID-19 and Construction/Civil Works.

During the AF project, construction works shall be guided by the GAMA Project COVID-19 Health and Safety Guidelines and Procedures for Construction Sites which contractors, consultants, workers, and all visitors of construction sites must comply with the social distancing protocols due to COVID-19 pandemic. Implementation and monitoring shall be enforced jointly by the PCU, supervising consultants and the Metropolitan and Municipal Assembly where the project is located. Monitoring of construction activities for compliance will be done through site visits following the COVID-19 Health and Safety Guideline Procedures by the PCU, the Consultants and MMAs.

The GAMA Project COVID-19 Health and Safety Guidelines and Procedures for Construction Sites is attached as Annex 10.

## 10. MONITORING AND EVALUATION

### 10.1 Introduction:

Monitoring plans have been developed to track safeguard progress at both the ESMF and sub-project activity level.

### 10.2 ESMF Level Monitoring

The monitoring issues at the ESMF level include confirmation of the dissemination of both ESMF documents, capacity building and training activities, preparation of subproject safeguards instruments, etc. The table below presents monitoring indicators for key ESMF level activities.

**Table 10.1 ESMF Monitoring Indicators and Responsibilities**

| No | Monitoring level | Monitoring Issue | Verifiable indicators | Responsibility |
|---|---|---|---|---|
| 1. | ESMF level | Adequate dissemination of ESMF to stakeholders | Evidence of newspaper disclosure of ESMF;<br>Record of consultations and meetings | PCU, GWCL, MMAs<br>Consultants |
| | | | Workshop reports | |
| | | Capacity building and training programmes | Training reports | PCU, |
| 2. | Sub- project activity level | Screening of sub project | Checklist completed | PCU-ESS; GWCL-ESS; MMA-ESO |
| | | Completion of EA1 & EA2 forms | Completed EA1 Form & EA 2 Form submitted to the EPA | PCU-ESS; GWCL-ESS; MMA-ESO |
| | | Adequate mitigation measures provided to manage adverse impacts | ESIA/ESMPs prepared | PCU-ESS; GWCL-ESS; MMA-ESO; consultants |
| | | Project satisfies statutory provisions EPA Act 1994 (Act 490) LI 1652, 1999 | EPA Permit for project | PCU-ESS; GWCL-ESS; MMA-ESO, EPA |
| | | Post project monitoring and evaluation | Monitoring reports, annual | PCU, MMAs, GWCL |

| | | | | |
|---|---|---|---|---|
| | | | environmental reports | |

**Environmental Monitoring at Sub-project Activity Level**

Monitoring of environmental and social issues will form an essential part of activities to be conducted under the AF project. Oversight of the environmental monitoring will be ensured by the PCU and GWCL Environmental Specialist and MMA-ESOs, supervising consultants, MMA engineers, and contractors. Environmental and social monitoring will aim to ensure compliance with: (i) the measures proposed in the ESIA and ESMP of subprojects, including mitigation measures (ii) commitments of contractors in connection with environmental and other permissions required under the subproject, and (iii) requirements relating to laws and regulations.

Monitoring measures will focus on key indicators to be defined. The monitoring indicators will be parameters which will provide quantitative and / or qualitative information on the impact. The choice of indicators will be guided by the characteristics of relevance, reliability, usefulness and measurability.

The specific objectives of the monitoring plan are to:

- Check the effectiveness of the recommended mitigation measures;
- Demonstrate that the subproject activities are carried out in accordance with the prescribed mitigation measures and existing regulatory procedures; and
- Provide early warning signals whenever an impact indicator approaches critical condition.

During preparation of subproject specific ESIA and ESMP, it will be ensured that monitoring plans are prepared which encompasses clear and definitive parameters to be monitored for each subproject.
A template of environmental and social monitoring plan is proposed in the table below.

Table 10.2 Template for Environmental and Social Monitoring Plan for the GAMA AF

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| **Pre-construction phase** | | | | | |
| **Occupational Health and safety**<br>Accidents<br>Injury | • Provide health and safety training for field staff<br>• Provide Personal Protective Equipment (PPE) for field staff<br>• Provide first aid kits for field staff | • During field surveys in project communities community<br>• Weekly | • Training records<br>• Field staff protected by wearing PPEs | MMA-Development Planner (MMA-DP), PCU-ESS PCU-ESS), PCU Social Safeguards Specialist (PCU-SSS), MMA-ESO, MMA-E, GWCL Project Engineer (GWCL- PE), GWCL-ESS, GWCL GWCL-SSS, MMA Public Relations (MMA-PRO) | 6,500 |
| **Awareness raising/ sensitization**<br>Wrong perception about the project within beneficiary MMAs and communities<br>Lack of cooperation and | • Inform all project beneficiary MMAs decision makers and other key stakeholders<br>• Inform community people adjacent to proposed locations of school toilets, | • Periodically prior to construction<br>• Weekly | • Record of stakeholder meetings<br>• Report on implementation of social distancing protocols on | MMA-PRO, MMA-DP, PCU-ESS, MMA MMA-ESO, MMA-E, | 7,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| political support from key project stakeholder during project planning (MMAs, relevant ministries and departments, low income communities | simplified decentralized/condominal system and digester waste processing facilities, and along water distribution pipeline laying works<br>• Inform potential PAPs about the RPF for the AF project<br>• | | COVID-19 if the social distancing protocols is in force | GWCL- PE, GWCL -ESS, GWCL-SSS | |
| Temporary lack of access to land during construction works<br>Economic and physical displacement concerns | • Adequate, fair and prompt compensation to PAPs to ensure they are not left worse off as a result of the AF project<br>• Ensure no potential PAP is omitted in compensation evaluation | • Prior to commencement of subproject construction<br>• Weekly | • Record of PAPs paid<br>• Record of eligible PAPs not paid compensation<br>• Complaints of omitted PAPs | MMA-DP, PCU-ESS, PCU-SSS MMA-ESS, MMA-E | 5,000 |
| Substandard design of subproject infrastructure/facilities<br>Incorrect alignment of water distribution pipelines | • Use experienced design engineers and personnel<br>• Ensure alignment of pipelines as per established route plans | • Prior to commencement of works<br>• Weekly | • Record on procurement of design engineer | MMA-E, GWCL-PE, GWCL-ESS, PCU-ESS. | 5,000 |
| **Construction phase** | | | | | |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| **Loss of vegetation**<br>Destruction of trees and species of conservation | • No siting of subproject infrastructure or excavation of sensitive habit for subproject activities<br>• Avoid extended land clearing at construction sites<br>• Enforce forests and cultural heritage sites protection<br>• Replant degraded areas with local species to complement natural vegetation degeneration | • Throughout construction period<br>• Weekly | • Amount of trees and species lost<br>• Observable replanted vegetation in disturbed areas | PCU-ESS, MMA-ESO, Supervising consultant, Contractor, MMA-E. | 8,000 |
| Soil and Land Degradation<br>Loosening of soil structure exposing the soil to erosion during rainfall and wind action.; loss of flora and fauna of conservation | • Mark out areas for clearance and use manual method where necessary<br>• Replant degraded areas with local species to complement natural vegetation degeneration<br>• Backfill excavated trenches and pits<br>• Avoiding construction activities during stormy weather conditions | • Early stages of construction phase- site preparation phase<br>• Weekly | • Observable replanted vegetation in disturbed areas<br>• Observable backfilling of excavated trenches and pits<br>• Absence of construction works during stormy weather conditions | PCU-ESS, MMA-ESO, supervising consultant, Contractor, MMA-E | 8,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| Noise and Vibration | • Maintain equipment noise (less than 75 dBs)<br>• Do not undertake demolition activities during evenings and resident's rest hours<br>• Restricting excavation works and use of noisy construction equipment such as concrete mixers and haulage activities to daytime hours (between 8:30am to 5.00 pm).<br>• Restrict haulage speed limit to 20km/hr.<br>• Provide workers with ear plugs during noisy activities<br>• Deploy only well-maintained equipment to limit noise generation. | • Throughout construction period<br>• Daily | • Workers wearing earplugs during noise making construction activities<br>• Absence of excavation/demolition activities during night<br>• Availability of speed limit signage at construction sites/communities<br>• Construction equipment and vehicles maintenance records | PCU-ESS, MMA-ESO, supervising Consultant, Contractor, MMA-E | 7,000 |
| Poor Air Quality<br>Dust inhalation and Cough<br>Skin diseases<br>dust related diseases | • Water should be sprayed on dusty haulage streets and excavated areas around construction sites<br>• Minimize extended vegetation/land clearance during site preparation activities | • Throughout construction period<br>• Daily | • Observable air-born dust particles and exhaust fumes in the atmosphere | PCU-ESS, MMA-ESO, supervising consultant, contractor, MMA-E | 7,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | • Cover construction materials and waste materials with tarpaulin during haulage<br>• Ensure to switch off idling construction equipment and vehicles and prohibit over revving of vehicles<br>• Regular maintenance of construction equipment, machinery and vehicles<br>• Ensure that the air quality levels are constantly monitored which can be obtained from relevant local air pollution control agencies i.e. EPA<br>• Set and enforce low speed limit for haulage trucks on dusty streets and areas in the construction community<br>• Use good quality fuel and lubricant in construction trucks, equipment and machinery<br>• Provide construction workers with nose masks | | | | |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| **Water resources contamination** | • Do not store solid waste or liquid waste near streams/drains in the project communities<br>• No construction solid i.e. debris or liquid i.e. fuel and lubricant should be dumped/discharged into drains/ water bodies in the project communities<br>• Prohibit servicing, cleaning and fueling of construction equipment/trucks in stream/drain courses<br>• Regular maintenance of construction vehicle and equipment<br>• Immediately, clean up oil and lubricant spillages<br>• Adhere to recommended buffer distances as contained in the riparian policy<br>• Provide construction workers with mobile toilets on construction sites | • Throughout construction period<br>• Daily | • Observable change in turbidity of water in local water bodies/drains<br>• Observable oil sheen in local water bodies/drains<br>• Presence of stagnated water in trenches and pits<br>• Availability of on-site toilets for construction workers | PCU-ESS, MMA-ESO, supervising consultant, Contractor, MMA-E | 6,500 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| **Construction waste generation and disposal** | • Minimize land clearance for construction activities<br>• Re-use suitable excavated soil/debris in backfilling<br>• Ensure daily collection and disposal of the construction wastes to designated MMA dump site<br>• Provision of dust bins for workers for storage of housekeeping waste at work camps and construction sites/corridors for disposal to ensure clean construction sites<br>• Suitable excavated soil debris will be used/re-used for backfilling of trenches<br>• Development and implementation of proper Waste Management plans by the Contractor (s). | • Throughout construction<br>• Daily<br>• Weekly | • Availability of Contractor's Waste Management Plan<br>• Availability and use of dust bins at work camps and construction sites/corridors<br>• Absence of waste storage on construction sites<br>• Records on frequency and location of waste disposal<br>• Availability of monitoring reports on the implementation of the contractor's Waste management Plan | PCU-ESS, MMA-ESO, supervising Consultant, Contractor, MMA-E | 13,000 |
| **Localized flooding at construction sites/ community resulting from the ongoing construction activities** | • Do not dump construction materials and wastes into open drains at construction sites/ communities | • Throughout construction period<br>• Daily | • Absence of construction wasted dumping in local water bodies/drains | PCU-ESS, MMA-ESO, supervising consultant, | 6,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | • Daily collection and disposal of construction wastes from the construction sites to approved MMA waste dumps should be done.<br>• Storing construction materials in runoff paths in the construction sites should be avoided<br>• Avoid construction activities during stormy weather conditions<br>• Ensure backfilling of trenches and open pits created by the construction works | | • Observable absence of construction materials/waste storage in runoff direction at construction site/community<br>• Absence of construction activities during stormy weather conditions | Contractor, MMA-E | |
| **Damage to public utility service infrastructure** | • Involvement of the Utility Service companies in identification of underground utility service supply lines within the proposed project catchment<br>• Relocation/reinstatement all affected utility lines in collaboration with the utility companies<br>• | • Weekly | • Evidence of consultation with Utility service providers<br>• Record of affected utility service providers impacted<br>• Number of utility service supply lines affected | PCU-ESS, MMA-ESO, supervising Consultant, contractor, MMA-E | 6,500 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | | | • Number of utility service lines reinstated | | |
| **Risk of substandard construction of subproject facilities** | • Recruit qualified and experienced personnel to design the subproject infrastructure<br>• Conduct stakeholder validation for subproject design drawings prior to construction<br>• Ensure to make available subproject designs to contractors and staff<br>• Monitor and ensure all design standards are followed by contractor and staff<br>• Undertake due diligence to all construction materials specifications prior to use for construction works | • Throughout construction period | • Record of procurement procedures adopted for recruitment design engineer<br>• Evidence of stakeholder validation workshop<br>• Availability of design drawings | MMA Procurement Officer (MMA--PO), PCU Procurement Specialist (PCU-PS), MMA-E,PCU Engineer ( PCU-E) | 7,000 |
| Occupational health and safety | • Provision of PPEs (including safety boots, gloves, nose masks, ear plugs to the workers | Throughout construction period | • Availability of contractor's occupational health and safety plan | MMA-E, PCU ESS, MMA-ESO, Contractor, supervising consultant, MEHO, MSWO. | 10,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | • Construction workers should always wear PPEs and carry first aid kits stocked with essential drugs<br>• Spray water regularly at dusty excavated areas<br>• Regular safety and induction trainings for the construction workers will ensure occupational health and safety among the workers<br>• Regular maintenance of construction equipment and machinery<br>• Prepare and enforce code of conduct providing workers adherence to health and safety measures and prohibiting illicit and immoral behavior by workers<br>• Contractor should prepare and implement occupational health and safety plan | | • Availability of code of conduct<br>• Availability and proper use of PPEs by construction workers<br>• Adherence to health and safety procedures and code of conduct<br>• Record on frequency, type of accidents/injury<br>• Number and record of health and safety induction conducted for workers<br>• Availability of monitoring reports on the implementation of the contractor's occupational health and safety plan<br>• Report on implementation of GAMA COVID-19 Guidelines on | | |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | | | construction works if social distancing protocols is in force<br>• Report on implementation of WB and national protocols on social distancing in public engagements if the national protocols are in force | | |
| Public health and safety | • Provide signage at construction sites directing the public away from danger zones at the sites<br>• Condoning off active construction areas to prevent public accessing active work areas including pits and dangerous trenches<br>• Provide temporary alternative routes/access for pedestrians and motorists where their paths are restricted<br>• Provide traffic warnings at cross roads leading to construction sites | Throughout construction period | • Availability of contractor's traffic management plan<br>• Availability of signage/warning signs at construction sites<br>• Observable j hoarding of active construction sites i.e. deep open pits and trenches, etc.<br>• Availability of alternative access routes for pedestrians and motorists | MMA-E, PCU-ESS, MMA-ESO, Contractor, supervising consultant, MEHO, (MSWO), | 10,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | • Public sensitization programme on the dangers and safety management measures at the construction site<br>• Contractor should prepare and implement public health and safety plan for the subproject construction activities | | • Record of public sensitization activities on public health and safety regarding the works<br>• Availability of contractor's health and safety plan<br>• Availability of monitoring reports on the implementation of the contractor's traffic management plan and the health and safety plan | | |
| **Risk of social conflict** *due to labor influx)* | • Maximizing the use of local labor<br>• Consultation with and involvement of local communities in the project planning and implementation<br>• Contractor to provide code of conduct which includes sanctions for workers involved in criminal acts | Throughout construction period | • Number of construction workers employed from local community<br>• Record of community consultation and sensitization meetings and workshops | MMA-E, PCU-ESS, MMA-ESO, Contractor, supervising consultant, MEHO, MSWO | 6,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | • Provide training on the code of conduct for workers<br>• Contactors sensitization for workers regarding local community cultural values and norms<br>• Enforcement of the code of conduct and the applicable sanctions<br>• Integrating the code of conduct into contractors contract for workers | | • Availability of contractor's code of conduct<br>• Number of trainings held for workers on the code of conduct<br>• Number of workers violated the code of conduct and sanctioned<br>• Evidence of contractor's code of conduct integrated into workers' condition of employment<br>• Availability of monitoring reports on the implementation of the contractor's code of conduct | | |
| **Increased risk of illicit behaviour and crime** including prostitution, theft and drug abuse (*due to labor influx)* | • Maximizing the use of local labor<br>• Provide sensitization and awareness education for both workers and local communities | Throughout project construction | • Record of sensitization meetings held on illicit behavior and crime | MMA-E, PCU-ESS, MMA-ESO, Contractor, Supervising consultant, MEHO, MSWO | 6,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | • Contractor to provide code of conduct which includes sanctions for workers involved criminal acts<br>• Provide training on the code of conduct for workers<br>• Enforcement of the code of conduct and local laws on illicit behavior and crime<br>• Cooperation with local law enforcement in prevention of crime on the project<br>• Integrating the code of conduct into contractor's contract for all workers<br>• Paying adequate salaried for workers to reduce incentive for theft | | • Availability of contractor's code of conduct<br>• Record of trainings held for workers on the code of conduct<br>• Number of workers sanctioned for violating the code of conduct<br>• Complaints of workers on salary inadequacy<br>• Availability of monitoring reports on the implementation of the contractor's code of conduct | | |
| **Gender-based violence (including sexual harassment, child abuse and exploitation)**<br><br>*(Due to Influx of non-local labor into subproject communities)* | • GBV information and awareness raising campaigns for community members, especially women and girls<br>• Contractor's Code of conduct on GBV which includes sanctions for sexual exploitation, sexual | Throughout construction period | • Record of GBV awareness raising campaigns<br>• Availability of contractor's code of conduct<br>• Record of trainings held for workers on the code of conduct | MMA-E, PCU-ESS, MMA-ESO, Contractor, Supervising consultant, MEHO, MSWO | 6,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | harassment of workers especially women employees and enforcement of the code.<br>• Regular training for workers on code of conduct and required lawful conduct in host communities and legal consequences for failure to comply with laws<br>• Provision of information to host community about the contractor's code of conduct (where applicable)<br>• Integrating the code of conduct into contractor's contract for all workers | | • Number of workers sanctioned due to GBV behavior<br>• Evidence of integrating code of conduct into workers' condition of employment<br>• Availability of monitoring reports on the implementation of the contractor's code of conduct | | |
| **Child labor and school dropout**<br><br>*(due to influx of non-local labor into subproject communities)* | • Ensure that children under 18 years are not directly or indirectly employed on any subproject<br>• Contractor to hire workers through recruitment offices and avoid hiring at the gate to eliminate hiring of child labor<br>• Preparation of contractor's code of conduct on child | Throughout construction period | • Presence of children under 18 years engaged in construction works<br>• Number of under aged children found engaged in construction works<br>• Record of construction | MMA-E, PCU-ESS, MMA-ESO, Contractor, Supervising consultant, MEHO, MSWO | 6,000 |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | labor which includes sanctions for using children under 18 years<br>• Communication on hiring criteria, minimum age, the code of conduct and applicable laws<br>• Enforcement of the code of conduct and laws on child labor<br>• Integrating the code of conduct into contractor's contract for all workers | | worker's recruitment process<br>• Number of construction staff sanctioned as a result engagement of child labour on the works<br>• Evidence of integrating code of conduct into workers condition of employment | | |
| **Operational phase** | | | | | |
| **Ecological impacts** | • De-sludge school and household toilets regularly<br>• Regular inspection, maintenance and repair of the sanitation facilities<br>• Regular screening of local residents of water-- borne diseases and facilitate medical treatment<br>• Develop and implement facility management plan for the school toilets and SDCTPs | Throughout operation /lifespan of projects facilities | • Availability of facilities management plans<br>• Availability of maintenance schedules<br>• Record of toilet facilities desludged<br>• No. of school toilet facilities implementing facility management plans | MMA, MMA-SHEP Coordinator, MEHO, MMA-E | MMAs Annual Sanitation Facility Management Plan Budget |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | • Allocate financial resources for operationalization of the facility management plan in MMAs Annual Budgets | | • Evidence of budget for facility management plans captured in MMAs and GWCL annual budgets | | |
| **Odour** | • Ensure regular and proper housekeeping in sanitation facilities<br>• Desilt septic tanks regularly<br>• Ensure regular and adequate allocation of financial resources in MMAS Annual Budgets for facility management plans implementation | | • Availability of facilities management plans<br>• Availability of maintenance schedules<br>• Record of cleaning of toilet facilities in schools<br>• Evidence of budget for facility management plans captured in MMAs and GWCL annual budgets | MMA, MMA-SHEP Coordinator, MEHO, MMA-E MMA, MMA-SHEP Coordinator, MEHO, MMA-E | MMAs Annual Sanitation Facility Management Plan Budget |
| **Public Health and safety**:<br><br>Flooding of drainage project downstream communities | • Regular desilting of drains<br>• Ensure regular inspection of pipeline routes for detection of pipeline | Throughout operation of facilities | • No. of flood incidents in communities<br>• No. of community's flood resulting from project infrastructure | MMAs, MMA-E, Consultant, MEHO | MMAs Annual Sanitation Facility Managem |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| Flooding of pipeline project communities and<br><br>Flooding of toilets/simplified sewerage facilities | • Backfill all construction excavated pits promptly<br>• Remove stagnant water and spray affected areas with mosquito insecticides and cover the open pits<br>• Prepare Facility management plans for subprojects facility maintenance | | • Desilted drains<br>• Absence of abandoned excavated pits<br>• Availability of monitoring reports on the implementation of the facility Management Plan. | | ent Plan Budget |
| **Occupational health and hazards:** | • Provision of PPEs to maintenance workers and enforcement<br>• Regular safety and induction trainings on occupational health and safety risk for maintenance workers<br>• Provide the workers with first aid box stocked with adequate essential drugs<br>• Prepare and enforce code of conduct providing workers adherence to health and safety measures and prohibiting illicit and immoral behavior by workers | Throughout operational period | • Workers using PPEs and in the correct way<br>• Record of safety induction training for maintenance workers<br>• Availability of code of conduct<br>• Availability of monitoring reports on the implementation of the code of conduct. | MMA-E, SHEP-Coordinator, MEHO | MMAs Annual Sanitation Facility Management Plan Budget |

| Potential impacts | Mitigation measures | Implementation schedule | Monitoring indicators | Responsibility | Estimated /indicative Cost ($) |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

## 11. ESTIMATED BUDGET FOR THE ESMF IMPLEMENTATION

The project is submitted for a duration of four (4) years. Effective implementation of the ESMF depends on sufficient budget for the various implementation activities, arrangements and responsibilities in the ESMF. This include (but not limited to) capacity building, training workshops, logistics, grievance redress, monitoring and evaluation. It is estimated that an amount of One Hundred and Twenty-Seven Thousand US Dollars (USD 127,000 will be required. This does not include the cost of hiring consultants, for preparation of safeguards instruments for sub-projects which will be determined when the quantity of sub-projects to be prepared become clearer as the project implementation develops. This budget will be inclusive of the additional finance request.

The Table below shows details of the ESMF implementation budget.

***Table 11.1: Estimated Budget for the ESMF Implementation***

| No | Activity | Description | Estimated amount (USD) | Estimated budget in (GHC) |
|---|---|---|---|---|
| | Capacity building and training | Training workshops, seminars | 108,000 | 622,080 |
| | Communication | Radio, TV discussions, Adverts in newspapers relating to ESMF, ESIAs and ESMPs disclosures, etc. | 7,000 | 40,320 |
| | Monitoring ESMF/ESIA/ESMP Mitigation measures implementation; monitoring of trainings undertaken by MMAs; disclosure of safeguards reports, stakeholder consultations etc. | Safeguards M&E | 12,000 | 69,120 |
| | **Total** | | **127,000** | **731,520** |

$1=GHC 5.76

## CONCLUSION

This Environmental and Social Management Framework (ESMF) for the GAMA AF project was prepared by employing the procedures prescribed by the World Bank OP 4.01 and in accordance with the national environmental assessment regulations LI 165 1999. The PCU will ensure that the ESMF procedures are followed and reported throughout the life of the project. Monitoring plans will be integrated into all ESIAs/ESMPs and indicators monitored. Furthermore, the existing safeguards experience from the parent GAMA project will be brought to bear to ensure a successful implementation of the AF project.

**ANNEXES:**

**Annex 1: Consultation Participants Lists and Pictures**

**Annex 2: Environmental and Social Screening Form**

**Annex 3a: EPA Form EA1**

**Annex 3b: EPA Form EA2**

**Annex 4: EPA Environmental Permit Procedures**

**Annex 5: Grievance Redress Form**

**Annex 6: General Environmental and Social Clauses for Contractors**

**Annex 7: Sample Company Code of Conduct: Preventing Gender Based Violence and Violence Against Children**

**Annex 8: Sample Camp Management Plan**

**Annex 9: World Bank Technical Note: Public Consultations and Stakeholder Engagement in World Bank -Supported Operations when there are Constraints on Conducting Public Meetings**

**Annex 10: GAMA COVID-19 Health and Safety Guidelines and Procedures for Construction Sites**

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