REPUBLIC OF GHANA

MINISTRY OF EDUCATION

SECONDARY EDUCATION TRANSFORMATION FOR ACCESS, RELEVANCE AND RESULTS FOR JOBS (STARR-J) PROJECT (P514793)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

April 24, 2026

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ABBREVIATIONS AND ACRONYMS

Abbreviation / Acronym	Full Meaning
ACM	Asbestos-Containing Material
AER	Annual Environmental Report
ASL	Above Sea Level
ASM	Artisanal and Small-Scale Mining
CAMFED	Campaign for Female Education
CERC	Contingency Emergency Response Component
CENDLOS	Centre for National Distance Learning and Open Schooling
C-ESMP	Contractor Environmental and Social Management Plan
CSIR	Council for Scientific and Industrial Research
CTVET	Commission for Technical and Vocational Education and Training
DP	Development Partner
DOVVSU	Domestic Violence and Victim Support Unit
EA	Environmental Assessment
ECOP	Environmental Code of Practice
EMIS	Education Management Information System
EMP	Environmental Management Plan
EPA	Environmental Protection Authority
EPF	Environmental Policy Framework
ESF	Environmental and Social Framework
ESCP	Environmental and Social Commitment Plan
ESMP	Environmental and Social Management Plan
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social Standard
ESRS	Environmental and Social Review Summary
E-waste	Electronic Waste
FPMU	Funds and Procurement Management Unit
Free SHS	Free Senior High School
GBV	Gender-Based Violence
GER	Gross Enrollment Ratio
GES	Ghana Education Service
GFDRR	Global Facility for Disaster Reduction and Recovery
GIIP	Good International Industry Practice
GMMB	Ghana Museums and Monuments Board
GNFS	Ghana National Fire Service
GoG	Government of Ghana
GPI	Gender Parity Index
GRM	Grievance Redress Mechanism
ICT	Information and Communications Technology
IPF	Investment Project Financing
IWRM	Integrated Water Resources Management
KBA	Key Biodiversity Area
L.I.	Legislative Instrument
LMP	Labor Management Procedures
LVD	Land Valuation Division
M&E	Monitoring and Evaluation
MEST	Ministry of Environment, Science and Technology
MoE	Ministry of Education
MoGCSP	Ministry of Gender, Children and Social Protection

MMDA	Metropolitan, Municipal, and District Assembly
NaCCA	National Council for Curriculum and Assessment
NaSIA	National Inspectorate Authority (formerly National Inspectorate Board)
NEET	Not in Employment, Education, or Training
NGO	Non-Governmental Organization
OHS	Occupational Health and Safety
PAD	Project Appraisal Document
PCN	Project Concept Note
PDO	Project Development Objective
PPE	Personal Protective Equipment
PTA	Parent-Teacher Association
PTT	Project Technical Team
PwD	Person with Disability
RAP	Resettlement Action Plan
RF	Resettlement Framework
RPF	Resettlement Policy Framework
RPE	Respiratory Protective Equipment
SEA	Sexual Exploitation and Abuse
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SHS	Senior High School
SHTS	Senior High Technical School
SMC	School Management Committee
SRGBV	School-Related Gender-Based Violence
SRIM	Statistics, Research, and Information Management
STARR-J	Secondary Education Transformation for Access, Relevance and Results Project
STEAM	Science, Technology, Engineering, Arts, and Mathematics
STEM	Science, Technology, Engineering, and Mathematics
TMP	Traffic Management Plan
ToR	Terms of Reference
TVET	Technical and Vocational Education and Training
TVI	Technical and Vocational Institute
WASH	Water, Sanitation, and Hygiene
WASSCE	West African Senior School Certificate Examination
WBG	World Bank Group
WBG EHS	World Bank Group Environmental, Health, and Safety
WRC	Water Resources Commission

EXECUTIVE SUMMARY

The World Bank will be supporting the Ministry of Education (MoE) of the Republic of Ghana in implementing the Secondary Education Transformation for Access, Relevance, and Results for Jobs (STARR-J) project. The project is financed through an IDA Credit of US$300 million.

The objective of the project is to expand access to, and improve the quality and relevance of, secondary education in Ghana. In practical terms, this means that more Ghanaian adolescents — particularly girls, students with disabilities, and young people in underserved communities — will have a place in a secondary school, that the quality of teaching and learning in those schools will improve, and that the institutions responsible for managing secondary education will be better equipped to plan, monitor, and deliver results.

What the Project Will Do

The project is organized into three main components:

Component 1 — Increase Equitable Access to Secondary Education. This component targets the elimination of the double-track system and safeguards against its return through a sequenced, two-horizon strategy. In the near term, rehabilitation and strategic upgrading of existing schools — combined with CSSPS reform, teacher deployment and demand communications supported under Component 3 — will create a more balanced distribution of student demand, enabling double-track schools to convert to single-track. Over the longer term, new school construction is deliberately sited and sized to absorb projected enrollment growth through 2040, ensuring that the capacity created by the project is sufficient to sustain single-shift schooling as Ghana's youth population continues to rise. Beneficiary schools will include a mix of SHS, Senior High Technical Schools (SHTS), and Technical and Vocational Institutes (TVIs), with all integrated (special needs) secondary schools specifically targeted. School selections will be detailed in the Project Implementation Manual (PIM).

Component 2 — Improve Quality and Relevance of Programs in Secondary Schools. This component strengthens secondary education in Ghana by addressing quality and relevance as two mutually reinforcing dimensions for providing the building blocks of skills for jobs. Improving the quality of instruction — through better-trained teachers, improved teaching and learning materials (TLMs), and digital skills — only delivers its full value when what is being taught connects to credible pathways beyond school. Equally, labor market relevance without strong instructional quality will produce graduates who may be pointed in the right direction but poorly equipped for the world of work. Subcomponent 2.1 strengthens the quality of teaching and learning across all secondary education, while Subcomponent 2.2 builds labor market relevance through program rationalization and a pilot of deeper employer partnerships in priority growth sectors.

Component 3 — Strengthen Systems, Communication, and Evidence-based Decision-making. This component focuses on the system-level activities essential for sustaining the access and quality gains supported under Components 1 and 2. It combines investments in data and evidence systems, communications, demand generation and behavior change, and project management and monitoring, recognizing that infrastructure and quality improvements alone will not deliver results without informed decision-making, shifts in household and community behavior, and robust systems for tracking and sustaining progress. Three PBCs are embedded in the project under this component to drive reform progress and are described, along with their verification protocols, in the Project Appraisal Document. PBC 1 links disbursement to the update of CSSPS to reflect verified effective seat capacity only, as confirmed by an independent review of declared vacancies against NaSIA-verified school capacity assessments. PBC 2 requires the deployment of qualified teachers to all secondary schools, as confirmed

by GES deployment records. PBC 3 requires the production of a complete and validated secondary education dataset covering enrollment, teacher deployment, and learning outcomes across all SHS, SHTS, and TVIs, submitted to the EMIS, confirmed by an independent review.

Where the Project Will Work

Project activities will take place nationwide, across all 16 administrative regions of Ghana, in both urban and rural areas, benefitting an estimated 2.3million people during the implementation period. However, new school construction and infrastructure expansion will prioritize regions with the greatest documented shortfall in secondary school places — namely the Savannah, North-East, Oti, and Upper West regions.

The specific locations of infrastructure subprojects — including new school construction sites, E-Block completion sites, and rehabilitation sites — are not fully known at this stage, because subproject sites are identified through a participatory process involving enrollment deficit analysis, catchment area assessments, community engagement, and formal site selection criteria applied by GES regional and district directorates. This process will be completed during project implementation, once financing is confirmed and the project's geographic targeting criteria have been applied. Subproject locations are expected to be progressively identified and confirmed beginning in the first year of project implementation, with the majority of sites confirmed before civil works contracts are awarded.

Purpose of this ESMF

This Environmental and Social Management Framework (ESMF) has been prepared to identify the potential environmental and social risks and impacts of proposed project activities and to set out suitable measures to manage, reduce, or eliminate those risks and impacts. It describes Ghana's applicable environmental and social legislation and the World Bank's Environmental and Social Framework (ESF) policies that apply to this project, and sets out the principles, approaches, implementation arrangements, and mitigation measures that the MoE and its implementing partners will follow throughout project implementation.

Key Environmental and Social Risks

The overall environmental and social risk for the STARR-J project has been classified as Substantial, reflecting the scale, complexity, sensitivity and geographic breadth of civil works across more than 200 school sites nationwide. The following are the main environmental and social risks associated with the project's activities. These risks have been identified through screening of the proposed project activities against applicable environmental and social standards:

- Construction-related risks: Civil works at new and existing school sites may result in dust, noise, vibration, solid waste, and run-off affecting school communities and neighboring residents. Construction at active school sites risks disrupting teaching and learning, particularly during national examinations. These risks will be managed by requiring contractors to prepare and implement site-specific Environmental and Social Management Plans (ESMPs) and by prohibiting disruptive works during examination periods.
- Occupational health and safety: Construction workers face risks of injury and accidents on site. All civil works contracts will require contractors to comply with occupational health and safety standards, provide appropriate personal protective equipment, and maintain safe and orderly work sites.
- Community health and safety: The presence of construction workers near school communities, including boarding school dormitories, creates risks to students — particularly female students —

including risks of gender-based violence, sexual exploitation and abuse (SEA), and sexual harassment (SH). A dedicated GBV/SEA/SH Action Plan will be prepared and will be implemented before civil works commence at any boarding school, including mandatory access control protocols, a zero-tolerance Code of Conduct in all civil works contracts, and confidential referral pathways to the Domestic Violence and Victim Support Unit (DOVVSU) and Ministry of Gender, Children, and Social Protection (MoGCSP).

- Land acquisition and involuntary resettlement: Construction of new schools and expansion of existing schools may require additional land, which could result in displacement of residents, loss of livelihoods (including informal traders and market vendors near school gates), or disputes arising from customary land tenure arrangements — including unresolved legacy land disputes. A Resettlement Policy Framework (RPF) has been prepared, and site-specific Resettlement Action Plans (RAPs) will be prepared for each site where land acquisition or displacement is required, before any civil works commence at that site.
- Child labor: Construction supply chains and work sites carry risks of child labor. All civil works contracts will set a minimum working age of 18, with mandatory identity verification at the point of engagement, and regular unannounced inspections by the project's Environmental and Social Specialists who will be part of the Project Technical Team (PTT).
- Digital safeguarding: Deployment of internet connectivity and digital devices to students under Component 2 carries risks of online harm to adolescent users. As part of the GBV/SEA/SH Action Plan, a Digital Safeguarding Framework will be developed before any digital infrastructure under Component 2 is deployed, setting out content filtering standards, online safety training for students, teacher supervision protocols, and a confidential mechanism for reporting online harm.
- Inclusion and accessibility: New and rehabilitated school infrastructure carries a risk of repeating the inaccessibility patterns of existing school buildings for students with disabilities. All new construction and significant rehabilitation will incorporate universal design standards — including ramps, accessible sanitation facilities, wide doorways, tactile guide paths, and assistive-technology-compatible ICT equipment — as mandatory engineering specifications. The National Schools Inspectorate Authority (NaSIA) will verify accessibility compliance before any building is commissioned.
- Chance finds of cultural heritage: Construction and ground disturbance at school sites — particularly at older schools with historical significance — may encounter previously unidentified cultural heritage assets. The ESMF includes Chance Finds Procedures requiring all works to stop immediately and the relevant authorities to be notified if cultural heritage is encountered during construction.
- Biodiversity and vegetation loss: Construction of new schools in rural areas may result in clearance of local vegetation and habitat modification. The project's site selection criteria will prioritize locations with minimal environmental sensitivity, and the Exclusion List prohibits construction in protected areas, critical habitats, and ecologically sensitive sites.

To avoid the worst risks from the outset, an Exclusion List (**Table 0-1)** is included in the ESMF. This list identifies categories of subproject activities and locations that are ineligible for financing under the project — including works in protected areas, sites of critical natural habitat, locations subject to unresolved legacy land disputes where resolution cannot be confirmed before works commence, and sites that would require significant involuntary displacement of residential communities.

Implementation Arrangements

The Ministry of Education (MoE), acting as Implementing Agency (IA) will coordinate and perform the day-to-day project activities and implementation of this ESMF in collaboration with existing education sector structures, mainly including the Ghana Education Services (GES), Ghana TVET Services, and the Funds and Procurement Management Unit (FPMU). A designated Project Technical Team (PTT) within MOE shall be responsible for the (i) coordinating implementation across components and agencies; (ii) consolidating annual work plans and budgets; (iii) overseeing procurement, financial management, safeguards, and monitoring and evaluation (M&E); (iv) ensuring alignment with the Project Implementation Manual (PIM) and ensuring compliance on legal and fiduciary requirements; and (v) serving as the primary technical interface with the World Bank. The PTT at the central level, which will include dedicated full-time Environmental, Social, and GBV Specialists responsible for day-to-day oversight of ESMF implementation across all project components. The TVET Service and Ghana Education Service (GES) who will manage school-level infrastructure activities, will designate Regional and District E&S Focal Points in all 16 regions responsible for site-level supervision, contractor oversight, community engagement, and grievance redress at the regional and district levels.

Given the cross-sectorial nature of secondary education, the MoE will collaborate with other sector ministries, namely, Ministry of Gender, Children and Social Protection (MoGCSP), the Ministry of Health (MoH) and Ghana Health Service, and the Ministry of Local Government, Chieftaincy and Religious Affairs (MLGCRA) to implement activities related to Gender-based Violence (GBV) prevention and response, adolescent wellbeing, school-based social services, and community engagement, land acquisition, in districts and regions with no access to public secondary schools.

The Project Oversight Committee (POC), which shall be chaired by the sector minister or designate will perform the overarching supervisory roles and responsibilities, which shall include, but not limited to, the review and approval of consolidated annual work plans and budgets, and formulation of policies in resolving high-level implementation bottlenecks.

Civil works contractors will be required to prepare and implement contractor ESMPs (C-ESMPs) in accordance with the project ESMF and the applicable World Bank Environmental, Health, and Safety Guidelines. Contractor staff, supervisors, and subcontractors will be required to attend mandatory induction training on the project's environmental and social requirements — including the Code of Conduct, GBV/SEA/SH obligations, and child labor prohibitions — before mobilizing to any site.

Capacity building for all parties responsible for implementing the ESMF — including MoE, TVET Service and GES central and regional staff, district focal points, school management, and contractors — will be provided through a structured training program. Training will be delivered through a combination of centralized workshops, regional training sessions, and on-site coaching by the PTT E&S Specialists and World Bank implementation support missions. Particular emphasis will be placed on building the capacity of GES district directorates in the northern regions, which have the most dispersed and logistically challenging project sites.

The total estimated budget for ESMF implementation, covering the preparation of site-specific instruments, environmental and social monitoring, capacity building and training, and community engagement — is estimated at USD 2,537,040, and is included in the project's overall financing package.

Monitoring

The PTT's Environmental, Social, and GBV Specialists will be responsible for primary monitoring of ESMF implementation across all project sites. Monitoring will include regular field supervision visits to civil works sites, review of contractors' monthly environmental and social compliance reports, documentation of grievances received and resolved through the project's Grievance Redress Mechanism (GRM), and quarterly consolidated environmental and social monitoring reports submitted to the World Bank.

TVET Service and GES Regional and District E&S Focal Points will conduct routine site-level monitoring in their respective areas, using mobile data collection tools (digital forms and cell phone applications) to

report on site conditions, contractor compliance, community engagement activities, and GRM case status in near-real-time.

The World Bank will conduct regular implementation support missions, including field visits to project sites and will review all environmental and social monitoring reports, ESMP compliance documentation, GRM data, and RAP implementation progress as part of its ongoing supervision of the project.

1. Introduction

The Government of Ghana (GoG) through the Ministry of Education (MoE) will be implementing the Secondary Education Transformation for Access, Relevance and Results Project (STARR-J) financed by the World Bank through Investment Project Financing (IPF). The Project, which will be implemented nationwide across all 16 regions of Ghana, will strengthen the priorities of the GoG related to expanding access to and improving the quality and relevance of secondary education, including technical and vocational education and training (TVET), as part of the government's Big Push Initiative and its commitment to boosting secondary education access and quality, deepening foundational and practical skills acquisition in STEAM, digital literacy, and market-relevant trades, and reducing youth unemployment by equipping graduates with the competencies required for productive employment and economic transformation. This Environmental and Social Management Framework (ESMF) is developed to support the environmental and social due diligence of Project activities. It follows the World Bank Environmental and Social Framework (ESF) as well as the national legislation and regulations of Ghana.

1.1. Rationale of the ESMF

Ghana's Environmental Assessment (EA) Regulations, 2025 (L.I. 2504) provide the general framework and procedures for EA related to development projects. Development Partners (DPs) and funding institutions, including the World Bank, also have their respective EA requirements. As part of funding arrangements for the Secondary Education Transformation for Access, Relevance and Results Project (STARR-J), the GoG is expected to apply the relevant World Bank Environmental and Social Standards, the World Bank Group General Environmental, Health and Safety (WBG EHS) Guidelines and relevant national legislative requirements.

This ESMF sets the stage for the identification, assessment and management of the potential adverse environmental and social risks and impacts of the Project activities and will apply throughout the entire life of the Project. It should be read together with other frameworks and plans prepared for the project, including the Resettlement Framework (RF), the Stakeholder Engagement Plan (SEP), the Environmental and Social Commitment Plan (ESCP) and the Labor Management Procedures (LMP), and the GBV/SEA/SH Action Plan.

1.2. Objectives of the ESMF

The objective of this ESMF is to identify, assess and mitigate the potential negative environmental and social risks and impacts of the Project consistent with the relevant Environmental and Social Standards (ESSs) of the World Bank ESF and national requirements. More specifically, this ESMF aims to: (a) identify and assess the potential environmental and social risks and impacts of the Project, and propose appropriate mitigation measures; (b) establish procedures for the environmental and social screening, review, approval, and implementation of activities; (c) specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring adverse environmental and social issues related to the activities; (d) identify the staffing requirements, as well as the training and capacity building needed to successfully implement the provisions of the ESMF; (e) address mechanisms for public consultation including with vulnerable and disadvantaged groups and disclosure of project documents; (f) define criteria for determining site-specific instruments (e.g., ESMP, E&S checklist, biodiversity management plans, Occupational Health and Safety – OHS- plans, and where relevant, Resettlement Action Plan, Labor Management Plan, Stakeholder Engagement Plans, etc.); (g) provide

guidance on grievance redress mechanisms (GRM), including workers' GRM and (h) present an indicative budget for the implementation of the ESMF.

1.3. Approach and Methodology

The preparation of this ESMF entailed: (i) desk review of relevant policies, laws, regulations, and technical guidance; (ii) review of similar projects and lessons learned; (iii) analysis of potential E&S risks and mitigation options across typical activities; (iv) preliminary baseline profiling of environmental and social conditions in target areas; and (v) stakeholder consultations with government entities, local authorities, civil society, community representatives, and private sector actors. Inputs from consultations were incorporated into this ESMF, the screening criteria, engagement approaches, and capacity-building plan. Assumptions and limitations include evolving site selection and design details, which will be addressed through iterative screening and assessment during preparation of site-specific instruments.

1.3.1. Literature Reviewed

The following documents were reviewed:

- The Project Concept Note (PCN)
- The Project Appraisal Document (PAD)
- National frameworks on environmental/social assessment
- Resettlement Framework
- World Bank Environmental and Social Framework (ESF)
- World Bank Group General Environmental, Health and Safety (WBG EHS) Guidelines
- Relevant international conventions ratified by Ghana

1.3.2. Field Visits/Stakeholders Consultations

A field visit was conducted during March 2026 to selected regions (including Eastern, Savanna and Western North) to observe the baseline conditions of environmental and social relevance to the Project. Stakeholder consultations were done on February 12 through February 21, 2026 to solicit feedback on Project activities as well as the potential E&S risks and impacts associated with the Project. Details of stakeholder consultations including issues discussed and how they have been incorporated into the Project design or been mitigated are discussed in Chapter 7.

1.4. Scope and Application

The ESMF applies to all components and activities financed under the project that may generate E&S risks and impacts. It covers both physical works (e.g., minor civil works, rehabilitation, installation of small equipment) and soft activities (e.g., technical assistance, training, institutional support). The ESMF excludes activities that are inconsistent with the ESF or fall under the project's Negative List.

Application of the ESMF is mandatory for all subprojects. Screening and assessment will be carried out prior to approval and mobilization, and instruments will be proportionate to risk. The ESMF shall be integrated into procurement processes (e.g., bidding documents, ToRs), contractor management, supervision, and reporting.

1.5. Document Structure

This ESMF is organized into seven chapters as follows.

- Chapter 1: Introduction sets out the rationale, objectives, methodology, and scope of the ESMF, explaining why it has been prepared, how it relates to Ghana's national EA requirements and the World Bank's Environmental and Social Framework, and how it should be read alongside other project instruments such as the RF, SEP, LMP, ESCP, and GBV/SEA/SH Action Plan.
- Chapter 2: Project Description presents the Project Development Objective, the four project components and their associated activities, the geographic scope and school selection criteria, and the phased four-year implementation schedule.
- Chapter 3: Environmental and Social Policies, Legislation, and Institutional Frameworks identifies and discusses the national policies, laws, regulations, and institutional arrangements governing environmental and social risk management in Ghana, alongside the applicable World Bank Environmental and Social Standards and WBG General EHS Guidelines.
- Chapter 4: Environmental and Social Baseline Conditions characterizes the existing physical, biological, socioeconomic, and cultural environment across the project's nationwide footprint, providing the reference baseline for impact assessment and risk identification.
- Chapter 5: Potential Environmental and Social Risks, Impacts, and Standard Mitigation Measures identifies and assesses the key environmental and social risks and impacts associated with project activities, presents standard mitigation measures, and includes tailored provisions for disadvantaged and vulnerable groups.
- Chapter 6: Environmental and Social Screening, Institutional Arrangements, and Capacity Building establishes the procedures for screening subprojects and determining the applicable site-specific instruments, defines the roles and responsibilities of implementing agencies, outlines staffing requirements for the Project Technical Team, and presents the capacity building and training program required to implement the ESMF effectively.
- Chapter 7: Stakeholder Engagement, Disclosure, and Consultations summarizes the stakeholder engagement process conducted during ESMF preparation, including the disclosure of project documents and the outcomes of consultations with a broad range of stakeholders — including affected communities, female students, persons with disabilities, traditional authorities, informal traders, NGOs, school administrators, and district officials. It highlights the key concerns raised by each stakeholder group and explains how these concerns have been addressed in the project design and the ESMF.

2. Project Description

2.1. Project Development Objective (PDO)

The Project Development Objective (PDO) is to expand access to, and improve the quality and relevance of, secondary education in Ghana.

Progress will be measured by the following PDO-level indicators:

- Access: Gross Enrollment Ratio (GER) at the senior secondary level, disaggregated by gender (percentage), tracking progress in expanding equitable access to secondary education for both boys and girls, including in underserved and rural districts.
- Quality: Percentage of WASSCE candidates in public schools who achieve a grade of C6 or above in Mathematics, disaggregated by gender (*Percentage*), measuring improvements in learning quality and outcomes in core subjects critical for higher education and productive employment.
- Quality: Percentage of WASSCE candidates in public schools who achieve a grade of C6 or above in General Science, disaggregated by gender (*Percentage*). measuring improvements in learning quality and outcomes in core subjects critical for higher education and productive employment.
- Relevance: Percentage of TVET students enrolled in priority programs, disaggregated by gender (*Percentage*), tracking the relevance and quality of technical and vocational pathways for labor market entry.

In addition, progress will be monitored through intermediate results indicators including the number of schools transitioning from double-track to single-track operation, number of teachers and TVET instructors trained, number of school infrastructure facilities constructed or rehabilitated meeting resilience and accessibility standards, percentage of grievances resolved within the timeframe specified by the project's Grievance Redress Mechanism (GRM), and percentage of citizens satisfied with project-financed activities, disaggregated by gender and vulnerability status.

2.2. Components and Proposed Activities

This PDO will be achieved through the implementation of four interrelated components and their associated sub-components, as described below. These components are mutually reinforcing components focusing on access, quality and relevance, and systems strengthening.

Table 2-1: Overview of Project Components

Project Component	IDA Financing (US$ million)	GoG Financing (US$ million)
Component 1: Increase equitable access to secondary education	**257.7**	**-**
Subcomponent 1.1: Rehabilitate and upgrade existing secondary schools	182.7	-
Subcomponent 1.2: Construct and complete new secondary schools	75.0	-
Component 2: Improve quality and relevance of programs in secondary schools	**33.8**	**31.0**
Subcomponent 2.1: Strengthen the quality of teaching and learning in secondary education	30.0	31.0

Subcomponent 2.2: Build labor market relevance in secondary education	3.8	-
Component 3: Strengthen systems, communications, and evidence-based decision-making	**8.5**	**-**
Subcomponent 3.1: Strengthen data systems, monitoring, and project management	3.5	-
Subcomponent 3.2: Mobilize demand and address school-related gender-based violence	1.0	-
Subcomponent 3.3: Performance-Based Conditions	4.0	
Component 4: Contingency Emergency Response Component (CERC)	**0**	**-**
Total Costs	**300.0**	**31.0**

Summarized descriptions of the project components is presented below. Detailed descriptions is provided under Annex 1.

Component 1: Increase Equitable Access to Secondary Education

This component aims to eliminate the double-track system and prevent its recurrence through a phased strategy. Short-term investments in rehabilitation, targeted upgrades, and system reforms (CSSPS, teacher deployment, and communications under Component 3) will rebalance demand and enable double-track schools to convert to single-track. Long-term construction of new schools will expand capacity to meet enrollment growth through 2040. Beneficiary institutions include SHS, SHTS, TVIs, and all integrated special needs secondary schools, with final selection detailed in the PIM.

Subcomponent 1.1 — Rehabilitate and upgrade existing secondary schools

(i) ***Rehabilitation of 150 schools with limited infrastructure*:**

Finances essential improvements in Category C and other under-resourced schools, including classroom expansion, upgraded labs and workshops, ICT upgrades, improved WASH, and furniture. Schools are selected through a needs-based and regionally balanced ranking.

(ii) ***Strategic upgrading of 50 schools*:**

Upgrades 30 schools from Category C→B and 20 from B→A based on demand patterns, land availability, leadership strength, and community support. Packages include enhanced STEM facilities, ICT infrastructure, libraries, gender-responsive sanitation, sports areas, workshops, housing, and targeted teacher deployment, with priority programs in STEM, climate-smart agriculture, and agribusiness.

Subcomponent 1.2 — Construct and complete new secondary schools

(i) ***Construction of seven new schools in underserved districts and population-dense peri-urban areas*:**

Addresses severe supply gaps in underserved districts and high-density peri-urban areas. New schools add at least 1,200 seats each, support inclusive education, and prioritize technical programs aligned with local labor needs. Two schools will serve students with disabilities.

(ii) ***Completion of three E-block schools*:**

Finances completion, furnishing, and commissioning of three partially built community day schools, each providing roughly 1,200 additional seats. Programs will be aligned with local employment opportunities.

Component 2: Improve Quality and Relevance of Programs in Secondary Schools

This component enhances instructional quality and aligns secondary education with labor market needs, ensuring students gain both strong foundational skills and pathways to further education and employment.

Subcomponent 2.1 — Strengthen the quality of teaching and learning in secondary education

(i) **Teacher professional development:**

Provides structured training for SHS, SHTS, and TVI teachers in learner-centered pedagogy, practical instruction, climate awareness, school safety, and gender-responsive teaching. TVI instructors receive CBT training, industry immersion, and preparation for non-traditional trades; teachers gain access to AI-assisted tools.

(ii) **Teaching and learning materials:**

Supports updated, digitized TLMs and expanded access through CENDLOS platforms. School libraries will be enhanced with inclusive learning resources.

(iii) **Digital skills mainstreaming:**

Develops a digital skills curriculum for all secondary students, with corresponding teacher training integrated into TPD.

(iv) **Support for at-risk students:**

Finances remedial learning, mentoring, and career guidance. Counselors receive training in GBV prevention and guidance delivery. Integrated schools receive grants for accessibility improvements, and Women in STEM initiatives promote girls' participation in STEM/TVET.

Subcomponent 2.2 — Build labour market relevance in secondary education

(i) **Program alignment and skills for employability:**

Labor market assessments inform program rationalization across SHS, SHTS, and TVIs, prioritizing green skills, digital skills, renewable energy, agriculture, tourism, health, and manufacturing. Entrepreneurship and soft skills are embedded across institutions, with TPD sequenced to match program changes.

(ii) **Industry partnerships, instructor immersion and work-based learning:**

In select SHTS and TVIs, structured partnerships with local employers support instructor immersion, student placements, and practitioner-led instruction. The pilot tests scalable employer engagement models and ensures equitable access, particularly for girls entering non-traditional trades.

Component 3: Strengthen systems, communications, and evidence-based decision making

This component supports the system-level foundations — data, evidence, communications, behavior change, monitoring, and institutional capacity — necessary for sustaining access and quality gains.

Subcomponent 3.1 — Strengthen the secondary education data ecosystem and evidence base

(i) **Strengthening data systems:**

Upgrades and integrates SHS, SHTS, and TVI data into a unified EMIS with a unique student ID system, learning assessment data, and GIS-based school mapping. A structured data access framework supports evidence-informed planning.

(ii) **Strengthen the evidence base:**

Expands the evidence lab's mandate to secondary education, generating research on gender disparities, post-secondary pathways, skills demand, and program choice to inform adaptive decision-making.

Subcomponent 3.2 — Mobilize demand and strengthen community engagement

(i) **Communications and demand generation campaigns:**

Implements national-to-local campaigns that promote equitable enrollment, highlight school improvements, address gender norms, and use mapping and CSSPS data for targeted outreach.

(ii) **GBV awareness, mitigation and behavior change:**

Establishes a GBV referral pathway, strengthens counselor capacity, and supports boys' and girls' clubs to promote safe school environments and shift gender norms. Engagement with school management and communities reinforces accountability.

Subcomponent 3.3 — Embed project monitoring, evaluation, and institutional sustainability

(i) **Project management:**

Finances the PTT, compliance functions, a digital GRM, specialist staffing, GBV service-provider mapping, and capacity building on GRM/GBV protocols.

(ii) **Monitoring, evaluation, and systems strengthening:**

Supports systematic data collection, supervision, independent verification, and early-warning systems to track progress and guide course correction. Investments strengthen school leadership, regional supervision, and institutional systems for sustainable improvement.

Component 4: Contingency Emergency Response Component — CERC

This component provides a mechanism to rapidly reallocate project funds in the event of an eligible crisis or emergency during project implementation, in accordance with World Bank CERC procedures.

2.3. Geographic Scope and Targeting

Project activities will be implemented nationwide across all 16 regions of Ghana, benefitting an estimated 2.3 million people during the implementation period. The primary beneficiaries are approximately 2.2 million students — including learners with disabilities — enrolled across 956 public secondary schools, with priority given to students from underserved rural and peri-urban communities, and districts with limited secondary school coverage. About 100,000 teachers and 2,000 school heads and their deputies will benefit from improved learning environments, professional development, and strengthened school management support. Gender and vulnerability considerations are central to project design: targeted measures will support girls, students from poor households, and students with disabilities through gender-responsive infrastructure, inclusive teaching practices, and interventions to reduce physical, financial, and social barriers to participation — including deliberate support for girls' participation in STEM and TVET programs. Institutional beneficiaries include MoE and its agencies, which will benefit from strengthened data systems and service delivery capacity, and communities in project areas will benefit from improved access to secondary education and local employment opportunities linked to school construction and rehabilitation.

Site selection will follow transparent, data-driven criteria including: the poverty headcount index of the district; secondary school gross enrollment ratio relative to the population aged 15–17 years; student learning outcomes as measured by WASSCE pass rates; severity of infrastructure deficiencies as assessed

by NaSIA inspections; geographic equity across regions; projected population growth of the 15–17 age cohort by 2040; and the potential of schools to attract and redistribute enrollment demand away from oversubscribed Category A institutions. Priority targeting favors the most underserved communities, including the 13 districts that currently have no public secondary school, districts with only one public secondary school but large projected youth populations, and the 3 regions — Savannah, North-East, and Oti — that have no Category A secondary school.

Target areas span a range of settlement types, including densely populated urban peripheries such as Kpone Katamanso, Ga Central, Ablekuma Central, and Adentan in Greater Accra, where demand for secondary school places significantly outstrips supply; secondary towns and peri-urban communities across all 16 regions where underperforming Category B and C schools will be upgraded; and rural and remote communities, particularly in the Savannah, North-East, Upper West, and Upper East regions, where poverty headcounts are highest, school infrastructure is most deficient, and access to quality secondary education is most constrained. Districts such as Kpandai (poverty headcount: 76.9%), Nkwanta North (49.9%), Nanumba North (31.6%), and Gushegu (35.7%) represent priority rural intervention areas where new construction or E-Block completion will have the greatest equity impact.

The ESMF applies uniformly across all project locations and establishes the procedures for preparing and implementing the site-specific environmental and social instruments required for each subproject activity. Depending on the nature, scale, and location of each subproject, the applicable instruments may include one or more of the following: an Environmental and Social Management Plan (ESMP) or Environmental and Social checklist for rehabilitation and upgrading works; a Resettlement Action Plan (RAP) where land acquisition or physical or economic displacement is confirmed; a Biodiversity Management Plan where construction sites are located in or near areas of ecological sensitivity; Occupational Health and Safety (OHS) plans for all civil works contractors; a Labor Management Plan (LMP) specifying labor conditions, worker grievance mechanisms, and child labor prevention measures; and site-level Stakeholder Engagement Plans (SEPs) to guide community consultation and disclosure at the subproject level. Digital safeguarding measures will additionally apply to all schools receiving internet connectivity and digital learning infrastructure under Component 2. No civil works will commence at any site until the applicable site-specific instrument has been prepared, reviewed, cleared, and disclosed in accordance with the procedures set out in this ESMF and the World Bank's Environmental and Social Framework.

2.4. Implementation Schedule and Phasing

The project will be implemented over **four (4) years**. Given the scale and geographic spread of civil works across more than 200 school sites nationwide, implementation will be sequenced in batches to allow for adequate environmental and social due diligence, contractor mobilization, and supervision capacity at each stage. The indicative phasing is as follows:

Year 1 (2026–2027): Mobilization, Readiness, and Preparation

This phase focuses on establishing the institutional, technical, and environmental and social foundations for project implementation. Key activities include:

- Establishment and operationalization of the Project Technical Team (PTT) within the Ministry of Education.
- Finalization and disclosure of all required ESF instruments in accordance with the agreed timelines:
    - ✓ Prior to appraisal: SEP and ESCP — both disclosed.
    - ✓ Prior to negotiations: ESMF, RPF, and LMP.

  - ✓ Prior to project effectiveness: GBV/SEA/SH Action Plan.
- Completion of site selection, assessment of specific needs of each candidate school, environmental and social screening, and confirmation of land access status for the first batch of priority subprojects, including the 3 E-Block completions, new school construction in the 7 priority districts, and the first tranche of school upgrades and rehabilitations.
- Preparation of site-specific ESMPs and RAPs for confirmed first-batch sites, prior to commencement of any civil works.
- Completion of detailed engineering designs, technical specifications, and bidding documents for priority subprojects, incorporating ESHS requirements including Codes of Conduct, OHS plans, traffic management plans, and GBV/SEA/SH mitigation measures.
- Procurement of civil works contractors for priority subprojects, with ESHS requirements integrated into all contractual obligations.
- Launch of capacity building and training programs for PTT staff, GES, CTVET, TVET Service, and district-level officials on ESF requirements, OHS management, GBV/SEA/SH prevention and response, and grievance redress.
- Operationalization of the project-level Grievance Redress Mechanism (GRM), including the education sector-wide IT-enabled grievance management system, with accessible channels for students, parents, workers, and communities.
- Initiation of central and district-level communication campaigns under Subcomponent 1.2 to support school choice and enrollment in STEM and TVET programs.

Years 2–3 (2027–2029): Full-Scale Implementation and Supervision

This phase covers the bulk of civil works construction, rehabilitation, and upgrading activities across all batches, alongside quality improvement and systems strengthening interventions. Key activities include:

- Progressive commencement and supervision of civil works across all batches, including: completion of 3 E-Block schools; construction of 7 new schools in unserved and high-demand districts; upgrading of 50 schools from Category C to B and Category B to A; and rehabilitation of 150 low-performing secondary schools, covering classrooms, workshops, STEM laboratories, WASH facilities, and inclusive infrastructure for students with special educational needs.
- Preparation of site-specific ESMPs and RAPs for subsequent batches of subprojects on a rolling basis, with no civil works commencing until applicable instruments have been cleared and disclosed.
- Ongoing environmental and social supervision of all active construction sites, including regular field inspections by the PTT Environmental and Social Specialists, regional and district focal points where required.
- Implementation of GBV/SEA/SH prevention and response measures across all active school sites, including contractor Codes of Conduct, survivor-centred reporting pathways, trained school counsellors, and referral mechanisms.
- Delivery of structured teacher professional development programs for SHS teachers in Mathematics, English, Science, and Social Studies, and for TVET instructors in competency-based training methodologies and industry-relevant pedagogy under Component 2.
- Deployment and upgrading of CENDLOS iBox and iCampus digital learning platforms with revised SHS and TVET curriculum content, alongside digital safeguarding measures for schools receiving internet connectivity.
- Establishment of structured industry partnerships for TVET work-based learning, internships, and apprenticeships in priority sectors.

- Continuous stakeholder engagement and information disclosure in accordance with the SEP, with adaptive management informed by GRM feedback, semi-annual implementation reviews, and World Bank supervision missions.
- Ongoing monitoring and reporting on PDO-level and intermediate results indicators, with data disaggregated by gender, region, school type, and vulnerability status.

Year 4 (2029–2030): Consolidation, Evaluation, and Sustainability

This phase focuses on completing remaining civil works, embedding sustainability mechanisms, and capturing lessons for future scale-up. Key activities include:

- Completion and commissioning of all remaining civil works, with final environmental and social clearances, handover inspections, and confirmation of operational readiness, including inclusive and accessible facilities, WASH systems, and digital infrastructure.
- Full transition of all eligible double-track schools to single-track operation, supported by infrastructure completions and communication campaigns confirming improved school quality and enrollment redistribution.
- Roll-out of operations and maintenance (O&M) plans for all newly constructed, rehabilitated, and upgraded schools, with responsibilities clearly assigned to school management, district education directorates, and MoE.
- Administration of the first cycle of the national sample-based diagnostic learning assessment for senior high school students under Subcomponent 3.1, generating baseline and progress data disaggregated by gender, region, and school type.
- Strengthening of the EMIS to incorporate updated senior secondary indicators, with training for education officials at national, regional, and district levels on data use for planning and decision-making.

3. Environmental and Social Policies, Legislation, and Institutional Frameworks

This section identifies and discusses the policies, legislation, and institutional frameworks relevant to the Secondary Education Transformation for Access, Relevance and Results for Jobs (STARR-J) Project. It covers national environmental and social policy frameworks, applicable legislation and regulations, and the institutional arrangements governing environmental and social risk management in Ghana.

3.1. National Environmental and Social Policy Frameworks and Action Plans

Table 3-1: National Environmental and Social Policy Frameworks and Action Plans

Policy / Action Plan	Description	Relevance to the Project
National Environmental Policy, 2013	The Policy provides a comprehensive framework for the integrated and holistic management of Ghana's environment. Its vision is to ensure that all citizens enjoy good quality of life through access to clean air and water, wholesome food, decent housing, and a healthy environment. It emphasizes sustainable development, equitable access to land and natural resources, and strengthened environmental governance. It also promotes public participation in environmental decision-making and seeks to harmonize environmental management with social and economic development goals.	The project involves large-scale civil works across more than 200 school sites nationwide, including new construction, rehabilitation, and upgrading of secondary and TVET schools. These activities carry risks of air and noise pollution, soil erosion, land degradation, and increased resource consumption.
National Environmental Action Plan, 1988	This Action Plan outlines strategies for safeguarding Ghana's natural resources and environmental quality. It seeks to prevent the overexploitation of land, water, forests, and wildlife, and to avoid irreversible environmental damage. It further emphasizes the protection and maintenance of ecosystems and ecological processes essential for the functioning of the biosphere.	Construction of new schools in rural and peri-urban areas, and rehabilitation of existing schools, may involve site clearance, excavation, and sourcing of construction materials, which can disturb local ecosystems and natural resources.
National Climate Change Policy, 2013	The Policy provides Ghana's strategic response to climate change, with the goal of achieving climate-resilient and climate-compatible development. It outlines measures for climate mitigation and adaptation across key sectors, including agriculture, water resources, energy, infrastructure, and natural resource management.	The project's school infrastructure investments incorporate climate adaptation and mitigation measures directly aligned with this Policy. New and rehabilitated school buildings will integrate climate-resilient designs including rainwater harvesting systems, elevated foundations, reinforced roofing, proper drainage, energy-efficient designs, solar-powered lighting, and green landscaping.
Environmental Sanitation Policy, 2010	This Policy outlines Ghana's framework for achieving and maintaining a clean, safe, and attractive environment in both rural and urban areas. It covers solid waste management, liquid waste and wastewater management, excreta disposal, stormwater drainage, and hazardous waste handling.	Expanded school enrollment resulting from project-financed infrastructure investments will increase demand for sanitation services, waste disposal, and WASH facilities across all beneficiary schools. Construction activities will also generate solid and liquid construction waste.
National Water Policy, 2007	The Policy provides direction for the sustainable development and management of Ghana's water resources. It addresses water resources management, urban water supply, and community water and sanitation services.	The introduction of Free SHS in 2017 significantly increased water consumption across Ghana's secondary schools, a pressure that the project will amplify through expanded enrollment and boarding capacity. New and rehabilitated schools will be required to incorporate water-efficient designs, rainwater harvesting systems, and

Policy / Action Plan	Description	Relevance to the Project
		proper wastewater management to reduce demand on local water resources.
Riparian Buffer Zone Policy, 2014	This Policy establishes national guidelines for the creation, protection, and management of buffer zones along rivers, streams, wetlands, lakes, reservoirs, and other water bodies. It seeks to protect and restore riparian ecosystems, improve water quality, prevent erosion and sedimentation, and regulate land use practices near water bodies. The Policy also emphasizes afforestation, biodiversity conservation, and enforcement of buffer zone restrictions to prevent degradation from farming, construction, mining, and other human activities.	The construction of 7 new schools across diverse geographic settings, including rural and peri-urban areas, may involve sites in proximity to rivers, streams, or other water bodies, particularly in regions with high surface water prevalence such as the Volta Basin area. The ESMF's site screening procedures will include assessment of proximity to water bodies and will exclude or apply buffer zone protections to sites within restricted riparian zones.
National Land Policy, 1999	The Policy provides a comprehensive framework for efficient land administration, equitable land distribution, and sustainable land use. It addresses issues related to compulsory land acquisition, prompt and fair compensation, security of land tenure, and the reduction of land-related conflicts. It emphasizes community participation, environmental sustainability, protection of landowners' rights, and creation of an enabling environment for investment in land and natural resource management.	Land acquisition is among the most significant social risks of the project. Construction of 7 new schools, completion of 3 E-Blocks, and expansion of existing schools are all likely to require additional land, in a context where approximately 80 percent of Ghana's land is under customary ownership, boundaries are largely indeterminate, and legacy cases of incomplete state compensation remain unresolved.
Child and Family Welfare Policy, 2015	This policy sets out Ghana's Child and Family Welfare System comprising of laws and policies, programmes, services, practices and structures designed to promote the wellbeing of children by ensuring safety and protection from harm; achieving permanency and strengthening families to care for their children successfully. The Policy underscores that a child is an integral part of the family, as such, a child's welfare cannot be separated from that of the family.	The Policy provides the national framework for protecting children from harm, promoting their well-being, and ensuring responsible institutional support systems. Its principles directly reinforce the social safeguards and risk-management obligations of the STARR-J Project, which aims to strengthen teaching, assessment, and learning reforms across Ghana.
National Gender Policy, 2015	The Policy sets out Ghana's vision for gender equality and women's empowerment. It focuses on addressing social, economic, political, and cultural inequalities affecting women, girls, vulnerable persons, and persons with disabilities. The Policy promotes equal access to resources, participation in decision-making, protection from discrimination, and the integration of gender considerations across all national development planning processes.	Gender and social inclusion are central to the project's design. Girls face persistent barriers to secondary education completion, STEM enrollment, and TVET participation — with female TVET enrollment below 10 percent in 2025 and approximately 52 percent of secondary school non-completers being girls.
National Employment Policy, 2012	This Policy outlines strategies for addressing unemployment and underemployment in Ghana. It focuses on job creation through agricultural modernization, rural enterprise development, private sector development, skills training, and improved productivity across economic sectors. The Policy also promotes youth employment, informal sector support, value-chain enhancement, and strengthening linkages between farm and non-	Ghana's secondary education graduates frequently lack the foundational competencies and practical skills required by employers, contributing to a youth unemployment rate of 36.6 percent among those aged 20–24 years. Approximately 260,000 of the 400,000 secondary school graduates who enter the labor market annually do not continue to tertiary education.

Policy / Action Plan	Description	Relevance to the Project
	farm economic activities to stimulate rural economies.	
National Education Strategic Plan (ESP), 2018–2030	The ESP provides the medium- and long-term policy framework for Ghana's education sector, setting out strategic objectives, targets, and resource allocation plans across all education levels from kindergarten through tertiary. It establishes ambitious goals for access, quality, equity, and relevance, including a 60:40 science-to-humanities enrollment ratio at the tertiary level and improved learning outcomes across all sub-sectors.	The project is the primary investment vehicle for operationalizing the ESP's secondary education priorities. All three project components — expanding access, improving quality and relevance, and strengthening systems — directly correspond to the ESP's strategic pillars. The project's PDO indicators on GER, pass rates in Mathematics and Integrated Science, and TVET program completion are explicitly aligned with ESP targets.
National Disability Policy, 2000	The Policy establishes Ghana's commitment to the full inclusion and participation of persons with disabilities in all aspects of national life, including education, employment, and access to public services. It promotes barrier-free access to physical infrastructure, reasonable accommodation, and non-discrimination in service delivery.	The project explicitly targets students with special educational needs as primary beneficiaries, requiring all newly constructed schools to be modeled for inclusive education, with one newly constructed school designated as a full special school for persons with disabilities. All rehabilitated and upgraded schools will incorporate barrier-free access, disability-accessible sanitation facilities, and inclusive learning environments consistent with Government of Ghana design standards.
Children's Act, 1998 (Act 560) and Child Labour Policy	Ghana's Children's Act establishes the legal framework for the protection of children's rights, including protection from economic exploitation, hazardous work, and all forms of abuse. Ghana's Child Labour Policy operationalizes these protections across sectors, including construction and informal labor markets.	The project's civil works activities across more than 200 school sites in areas where informal labor practices may be prevalent introduces risks of inadvertent child labor in the construction supply chain.

3.2. National Legislation

Table 3-2: National Legislation and Relevance to the Project

Legislation	Description	Relevance to the Project
Environmental Protection Act, 2025 (Act 1123)	Establishes the Environmental Protection Authority (EPA) and consolidates all laws related to environmental protection. It governs pesticide control, hazardous waste management, electronic waste regulation, and climate change coordination. The Act mandates EPA oversight, issuance of environmental permits, certification of environmental practitioners, and registration of pesticides and industrial chemicals.	The project involves large-scale civil works across more than 200 school sites, including new construction, rehabilitation, and upgrading of secondary and TVET schools. These activities generate construction waste, hazardous materials, and potentially electronic waste from decommissioned ICT equipment in schools being upgraded with new digital infrastructure under Component 2.
Environmental Protection (Environmental Assessment) Regulations, 2025 (L.I. 2504)	Provides the regulatory framework for environmental assessment in Ghana. It requires registration of undertakings, prohibits project commencement without an environmental permit, and mandates mitigation of environmental risks. It also requires Annual Environmental Reports (AER) and Environmental Management Plans (EMP) for approved undertakings.	This is the primary national regulatory instrument governing the environmental assessment process for the project. Construction of new schools in 7 districts, completion of 3 E-Blocks, upgrading of 50 schools, and rehabilitation of 150 schools all constitute undertakings that require registration and environmental permitting under these Regulations. No civil works will commence at any subproject site until the applicable environmental permit has been obtained from the EPA,

Legislation	Description	Relevance to the Project
		consistent with the screening and permitting procedures established in this ESMF.
Water Use Regulations, 2001 (L.I. 1692)	Requires all persons or entities using significant volumes of water for commercial purposes to obtain Water Use Permits from the Water Resources Commission (WRC). WRC must confirm EPA approval of an EIA or EMP before issuing a permit.	The project's expansion of secondary school enrollment and boarding capacity will significantly increase water consumption across beneficiary schools. Large-scale construction activities will also require substantial water for civil works. Where water abstraction from boreholes, rivers, or other water sources meets the threshold for commercial use, Water Use Permits must be obtained from the Water Resources Commission prior to abstraction.
Land Act, 2020 (Act 1036)	Consolidates land-related laws in Ghana. Provides comprehensive procedures for compulsory land acquisition, stakeholder consultations, fair and adequate compensation based on Replacement Cost at Market Value, and mechanisms for dispute resolution. Strengthens participatory land governance.	Land acquisition is among the most significant social risks of the STARR-J project. The construction of 7 new schools, completion of 3 E-Blocks, and expansion of infrastructure at existing schools are all likely to require additional land in contexts where approximately 80 percent of Ghana's land is under customary ownership, boundaries are often indeterminate, and legacy cases of incomplete state compensation remain unresolved.
Lands (Statutory Wayleaves) Act, 1963 (Act 186)	Allows the State to enter land for construction and maintenance of public utilities and establish rights of way. Provides compensation for losses or damages resulting from works, with certain Ministerial discretionary powers regarding compensation exemptions.	This Act may be relevant where project civil works — including connections to utilities such as water supply, electricity, and drainage systems serving newly constructed or rehabilitated schools — require the establishment of rights of way or access across private or communally held land. In such cases, the Act's provisions on entry, construction, and compensation for resulting losses or damages will apply.
Land Use and Spatial Planning Authority Act, 2016 (Act 925)	Consolidates laws on land use and spatial planning and establishes a decentralized planning framework. Mandates sustainable land and settlement development, regulates planning at national, regional, and district levels, and ensures land use aligns with health, safety, and environmental standards.	All new school construction and significant expansion of existing schools must comply with applicable national, regional, and district spatial planning regulations and land use designations under this Act.
Lands Commission Act, 2008 (Act 767)	Establishes the Lands Commission and integrates four land sector agencies under one body for improved land administration: Survey and Mapping Division, Land Registration Division, Land Valuation Division (LVD), and Public/Vested Lands Management Division. LVD is the only authority for compensation valuation for expropriated persons.	The Lands Commission plays a direct role in the project's land acquisition processes. Where land is required for new school construction or expansion, the Lands Commission's Land Valuation Division (LVD) — as the sole authority for compensation valuation for expropriated persons — will be engaged to conduct independent market valuations and determine fair compensation amounts. The Survey and Mapping Division will support boundary delineation for new school sites, which is particularly important in areas governed by customary tenure where boundaries are often indeterminate. Land Registration Division services will be used to confirm ownership status and secure title where required.
Local Governance Act, 2016 (Act 936)	Grants District Assemblies authority over local governance, including receiving compensation	Metropolitan, Municipal, and District Assemblies (MMDAs) play a critical role in project

Legislation	Description	Relevance to the Project
	claims for losses tied to development plans. Mandates MMDAs to enforce spatial planning regulations, prohibit or demolish unauthorized developments, and recover associated costs. Compensation is not provided for enforcement-related demolitions.	implementation at the local level. District education directorates under the Ghana Education Service (GES) are embedded within MMDA structures and are responsible for regional and district-level supervision of project activities, including school-level infrastructure works, teacher deployment, and grievance redress.
Labour Act, 2003 (Act 651)	Consolidates all labour laws and defines the rights and responsibilities of employers and employees. Establishes the Labour Commission and guarantees freedom of association. Part XV mandates employers to ensure safe, satisfactory, and healthy working conditions, applicable to both construction and operational phases.	The project will engage a large number of contractors, subcontractors, and project workers across more than 200 school sites nationwide. The Labour Act establishes the baseline legal requirements for labor relations, worker rights, and occupational health and safety that apply to all project-related employment.
Workmen's Compensation Law, 1987 (PNDCL 187)	Requires employers to compensate workers for injuries sustained in the course of employment. Covers accidental injuries and ensures compensation obligations are fulfilled by employers.	Construction activities across more than 200 active school sites present inherent occupational health and safety risks, including risks of accidental injury to workers from machinery, falling objects, unsecured work areas, and structural hazards — particularly at E-Block sites abandoned since 2017 where structural integrity concerns are heightened.
Factories, Offices, and Shops Act, 1970 (Act 328)	Regulates the registration and operation of factories and workplaces. Requires employers to maintain safe and healthy working environments and renew factory registration. Defines a factory broadly as any premises involving manual labour.	Construction sites established under the project constitute factories within the broad definition of this Act and are therefore subject to its workplace health and safety requirements. Contractors are required to register construction sites as applicable and maintain safe, healthy working environments throughout the civil works period.
Ghana National Fire Service Act, 1997 (Act 537)	Re-establishes and empowers the Ghana National Fire Service to prevent and manage fires. Mandates public fire education, technical advice for building plans, and issuance of fire certificates. Ensures fire safety in building design and operations.	Fire safety is a critical consideration for the project, particularly given that many beneficiary schools have boarding facilities housing large numbers of students, and that construction activities introduce flammable materials and hazardous substances to active school environments. All new school buildings and significantly rehabilitated facilities must comply with fire safety requirements and obtain fire certificates from the Ghana National Fire Service prior to commissioning and occupation.

3.3. Institutional Frameworks

Table 3-3: Institutional Framework for E&S Risks Management for the Project

Institution	Description	Relevance to the Project
Ministry of Environment, Science and Technology (MEST)	The MEST exists to establish a strong national scientific and technology base for accelerated sustainable development of Ghana, to enhance the quality of life for all citizens. It provides overarching policy direction for environmental governance in Ghana, including the frameworks within which environmental assessments, pollution control, and natural resource management are regulated.	The MEST sets the national environmental policy within which the project's civil works activities — including new school construction, rehabilitation, and upgrading across all 16 regions — must be implemented. The Ministry's policy direction on climate change, waste management, and environmental governance directly informs the environmental management standards embedded in this ESMF.

Institution	Description	Relevance to the Project
Environmental Protection Authority (EPA)	The EPA is responsible for enforcing environmental policy and legislation, prescribing environmental standards and guidelines, and responding to environmental emergencies and incidents. It issues environmental permits and pollution abatement notices for controlling waste discharges, emissions, deposits, or other sources of pollutants, and issues directives, procedures, or warnings for the purpose of controlling adverse environmental impacts. Under L.I. 2504, the EPA regulates the environmental assessment process for all development projects in Ghana.	The EPA is directly relevant to the project. Civil works — including construction of 7 new schools, completion of 3 E-Blocks, upgrading of 50 schools, and rehabilitation of 150 secondary schools — constitute undertakings requiring EPA registration and environmental permitting under L.I. 2504. No civil works will commence at any subproject site until the applicable EPA environmental permit is secured.
Ministry of Local Government and Rural Development	The Ministry exists to promote the establishment and development of a vibrant and well-resourced decentralized system of local government to ensure good governance and balanced rural-based development.	Local Governments are relevant to the project at multiple levels. District Assemblies issue building permits and enforce spatial planning regulations applicable to new school construction and rehabilitation works across all 16 regions. MMDAs serve as key community engagement platforms for project communication campaigns under Subcomponent 1.2. District education directorates embedded within MMDA structures oversee school-level infrastructure, provide first-level grievance redress, and support community consultation.
Lands Commission	The Lands Commission is the body charged primarily with the management and administration of state and vested lands. It advises on the policy framework for land development to ensure coordinated development. Its functions are set out in Article 256 of the 1992 Constitution and the Lands Commission Act, 2008 (Act 767). It comprises four divisions: the Survey and Mapping Division, the Land Registration Division, the Land Valuation Division (LVD), and the Public and Vested Lands Management Division.	The Lands Commission is directly relevant to the project given that land acquisition is among the most significant social risks of the operation. New school construction, E-Block completions, and expansion of existing schools are all likely to require additional land in contexts where approximately 80 percent of Ghana's land is under customary ownership, boundaries are often indeterminate, and legacy cases of incomplete state compensation remain unresolved. The LVD — as the sole authority for compensation valuation for expropriated persons — will conduct independent market valuations for all project-related land acquisitions. The Survey and Mapping Division will support boundary delineation for new school sites.
Ministry of Education (MoE)	The MoE is the lead government ministry responsible for policy formulation, coordination, and oversight of Ghana's education sector. It is guided by the Education Strategic Plan (ESP) 2018–2030 and oversees a broad network of implementing agencies, including GES, CTVET, the TVET Service, NaCCA, NaSIA, and CENDLOS.	The MoE is the primary implementing agency for the STARR-J project and bears overall accountability for project implementation, environmental and social risk management, fiduciary compliance, and results reporting. Day-to-day project coordination is vested in the Project Technical Team (PTT) housed within MoE. The FPMU manages all infrastructure activities.
Ghana Education Service (GES)	GES is a statutory body under the MoE responsible for implementing government policy on pre-tertiary education across Ghana. It operates through 16 regional education directorates and 261 district education offices,	Under the project, GES serves as the primary implementing agency for all general secondary education activities, including school-level infrastructure oversight, teacher professional development under Subcomponent 2.1, school

Institution	Description	Relevance to the Project
	providing the decentralized institutional infrastructure for supervision, monitoring, and service delivery at the school level. GES is responsible for teacher deployment, professional development, school leadership support, and district-level performance monitoring.	leadership strengthening, and district-level supervision of civil works, E&S compliance, and grievance redress. GES regional and district offices serve as district-level focal points for environmental and social monitoring, contractor oversight, and community engagement at project school sites.
Commission for Technical and Vocational Education and Training (CTVET) and TVET Service	CTVET is the regulatory body responsible for regulating, promoting, and administering TVET in Ghana. It sets standards, develops curricula, and oversees certification and quality assurance of TVET programs. The TVET Service is the implementing arm responsible for managing TVET institutions and overseeing TVET service delivery across the country. Together they manage Ghana's 233 public and 34 private TVET institutions, currently serving over 177,000 students.	CTVET and the TVET Service are responsible for implementing all TVET-related activities under Components 1 and 2, including upgrading of TVET workshops and equipment, instructor capacity building, curriculum and assessment alignment, and establishment of industry partnerships for work-based learning. Both agencies are responsible for E&S compliance oversight at TVET school sites included in the project's civil works program.
National Inspectorate Authority (NaSIA)	NaSIA is the statutory body responsible for quality assurance in Ghana's pre-tertiary education system. It conducts inspections and assessments of schools to evaluate compliance with established standards for infrastructure, teaching quality, school leadership, and learning outcomes, and informs decisions on school categorization and resource allocation.	NaSIA's assessments — including its 2022 comprehensive assessment of the 24 lowest-performing secondary schools in Ghana — have directly informed the project's targeting criteria for rehabilitation, upgrading, and infrastructure investment. Under the project, NaSIA will conduct pre- and post-intervention assessments of project-supported schools to verify that infrastructure investments meet the standards required for school category upgrades.
National Council for Curriculum and Assessment (NaCCA)	NaCCA is the statutory body responsible for developing, reviewing, and managing the national curriculum and assessment standards for pre-tertiary education in Ghana. It oversees curriculum design, development of teaching and learning materials, and design of national assessment frameworks aligned with the revised competency-based curriculum.	NaCCA is relevant to the project under Components 2 and 3. Under Component 2, NaCCA oversees the alignment of revised teaching and learning materials with the updated SHS curriculum and guides the development of the digital skills curriculum. Under Component 3, NaCCA is responsible for designing, piloting, and administering the new sample-based national diagnostic learning assessment for senior high school students under Subcomponent 3.1.
Ministry of Gender, Children and Social Protection (MoGCSP)	The MoGCSP is responsible for formulating and implementing policies and programs for the promotion of gender equality, child protection, and social inclusion in Ghana. It coordinates the national response to gender-based violence through the Domestic Violence and Victim Support Unit (DOVVSU) of the Ghana Police Service, and oversees implementation of the Children's Act, 1998 (Act 560) and related child protection frameworks.	The MoGCSP is a key cross-sectoral collaborator for the project given the Substantial GBV/SEA/SH risk rating and the project's focus on adolescent learners, including girls and students with special needs. The project's GBV/SEA/SH Action Plan is developed in coordination with MoGCSP to ensure alignment with national GBV response systems, referral pathways, and survivor-centred support services.
Water Resources Commission (WRC)	The WRC is the statutory body responsible for the regulation, management, and sustainable development of Ghana's water resources. It issues Water Use Permits for significant water abstraction and manages the integrated water resources framework in coordination with the EPA.	The WRC is relevant to the project where civil works or school operations require significant water abstraction from rivers, boreholes, or other water sources meeting the threshold for Water Use Permits under L.I. 1692.

Institution	Description	Relevance to the Project
Ghana National Fire Service (GNFS)	The GNFS is the statutory body responsible for fire prevention, firefighting, and fire safety regulation across Ghana. It provides technical advice on building plans, conducts fire safety inspections, and issues fire certificates for buildings prior to occupation.	The GNFS is directly relevant to the project given the significant number of new school buildings and rehabilitated facilities under Component 1, many of which include boarding facilities housing large numbers of students.

3.4. National Environmental Quality Standards

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

The Ambient Noise Controls provide for maximum permissible levels of noise based on categorised zones as shown in Table 3-4. The standard also provides noise requirement for a construction site which includes:

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

The permissible noise levels for Ghana are compared with the WBG general EHS guidelines on noise management in Table 3-4 below. For this project, the most stringent of the two applies.

Table 3-4: Requirements for Ambient Noise Control

Zone	Permissible Noise Level in dB(A)		WBG EHS Guidelines	
	Day (6:00-22:00)	Night (22:00-6:00)	Day 07:00 – 22:00	Night 22:00 – 7:00
Residential Area	55	48	55	45
Educational and health facilities, offices and law courts	55	50	55	45
Mixed use	60	55	-	-
Area with some light industry	65	60	70	70
Commercial areas	75	65	70	70
Light industry areas	70	60	70	70
Heavy industry areas	70	70	70	70

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

The Ghana Standard on Environment and Health Protection - Requirements for Ambient Air Quality and Point Source / Stack Emissions provides the maximum limit for ambient air pollutants Table 3-5. These are compared with the WHO/WBG general EHS guidelines on ambient air quality. For this project, the most stringent of the two applies.

Table 3-5: Requirements for Ambient Air Quality – Maximum Limit for 24 Hours

Substance	Maximum Limit (µg/m^3)	WBG EHS Guidelines

Sulphur Dioxide (SO_2)	50 (24 hours)	50 (24hr; interim target 2)
Nitrogen Oxide (NO_2)	250 (1 hour)	200 (1 hour)
Total suspended particulate matter	150	-
Particulate Matter (PM_{10})	70 (1 year)	50 (1 yr; interim target 2)
Particulate Matter ($PM_{2.5}$)	35 (I year)	25 (1yr; interim target 2)
Black Carbon	5	-

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

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

Table 3-6: Requirements for Effluent Discharge

Parameter	Unit	Maximum Permissible Levels	WBG EHS Guidelines
Colour (TCU)	TCU	200	
pH	pH Units	6 – 9	6 - 9
Conductivity	µS/cm	1500	
Total Suspended Solids (TSS)	mg/l	50	50
Total Dissolved Solids (TDS)	mg/l	1000	500
Total Phosphorus	mg/l	-	2
Total Nitrogen	mg/l	-	10
COD	mg/l	250	125
BOD		-	30
Oil and grease	mg/l	5	10
Aluminium	mg/l	1.0	
Copper	mg/l	5	
Lead	mg/l	0.1	
Total Coliform Bacteria	MPN/100 ml	-	400

3.5. International Requirements, Safeguard Policies, Conventions and Agreements

3.5.1. World Bank Environmental and Social Framework

The 10 Environmental and Social Standards (ESSs) for sustainable development in the ESF and their relationship with the Project are summarized in Table 3-7 below.

Table 3-7: Summary of Environmental and Social Standards of the ESF

Standard	Summary of Core Requirements	Relevant	Application to the Project
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	ESS1 sets out the Borrower's responsibilities for assessing, managing, and monitoring environmental and social risks and impacts associated with all stages of a project supported by the Bank.	Yes	All STARR-J activities must be assessed for environmental and social risks and impacts, and appropriate safeguards instruments must be prepared, consulted upon, and disclosed. The project involves large-scale, geographically dispersed civil works across more than 200 existing secondary schools, new school construction in 7 districts, and

Standard	Summary of Core Requirements	Relevant	Application to the Project
			completion of 3 E-Blocks, alongside quality improvement and systems strengthening interventions.
ESS2: Labour and Working Conditions	ESS2 recognizes how Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers fairly and providing safe and healthy working conditions.	Yes	The project will involve the use of direct workers within the Ministry of Education's Project Technical Team (PTT), as well as contracted workers engaged by civil works contractors and subcontractors across more than 200 school sites nationwide. Construction activities — including new school construction, rehabilitation of 150 schools, upgrading of 50 schools, and completion of 3 E-Blocks — will involve significant numbers of contracted workers and may involve primary supply workers providing construction materials. These activities present Occupational Health and Safety (OHS) risks including exposure to dust, noise, hazardous materials (including asbestos in older school structures), moving machinery.
ESS3: Resource Efficiency and Pollution Prevention and Management	This ESS sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle, since economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people and ecosystem services.	Yes	Civil works activities under Component 1 — including new school construction, rehabilitation, upgrading, and E-Block completion — will require the use of resources including surface and groundwater for construction purposes, quarried and extracted construction materials, energy for construction equipment and operations, and building materials. Construction activities will generate solid and liquid waste, dust, noise, and emissions from machinery and material transport.
ESS4: Community Health and Safety	ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.	Yes	Construction activities under Component 1 will be implemented within and adjacent to active school communities across all 16 regions, directly exposing students, teachers, parents, and surrounding community members to construction-related hazards. Key risks include increased traffic from construction vehicles, exposure to dust, noise and vibration, falling objects, unsecured work zones, and unsafe pedestrian routes within school premises, etc.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	This ESS emphasizes that involuntary resettlement should be avoided. Where involuntary resettlement is unavoidable, it will be minimized and appropriate measures to mitigate adverse impacts on displaced persons and on host communities receiving displaced persons will be carefully planned and implemented.	Yes	The construction of 7 new schools in districts with no existing public secondary school or with severely limited secondary school capacity, completion of 3 E-Blocks, and expansion of infrastructure at 200 existing schools are all likely to require additional land and could result in physical or economic displacement of individuals and communities.

Standard	Summary of Core Requirements	Relevant	Application to the Project
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	This ESS recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. It addresses sustainable management of primary production and harvesting of living natural resources and recognizes the need to consider the livelihoods of project-affected parties whose access to or use of biodiversity or living natural resources may be affected by a project.	Yes	The construction of 7 new schools in rural and peri-urban areas, completion of 3 E-Blocks in diverse geographic settings, and rehabilitation of schools across all 16 regions may involve site clearance, excavation, and sourcing of construction materials from quarries or natural resource areas, which can result in habitat modification, vegetation loss, soil erosion, and localized disturbance to biodiversity. Some project sites — particularly those in rural areas of the Savannah, North-East, and Upper West regions — may be located in or near areas with significant vegetative cover or proximity to riverine ecosystems.
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	This ESS ensures that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples and Sub-Saharan African Historically Underserved Traditional Local Communities.	No	This standard is not currently relevant to the project.
ESS8: Cultural Heritage	This ESS recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present, and future. It sets out measures designed to protect cultural heritage throughout the project life cycle.	Yes	Construction and expansion activities at existing school sites — many of which are long-established institutions in communities with deep historical significance — as well as new school construction in rural and peri-urban areas, carry a risk of encountering previously undiscovered or undocumented cultural heritage assets during excavation and site clearance. Older school structures earmarked for rehabilitation or E-Block completion may themselves have historical or architectural significance.
ESS9: Financial Intermediaries	Financial Intermediaries are required to monitor and manage the environmental and social risks and impacts of their portfolio and subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing.	No	The project design does not foresee the use of financial intermediaries during project implementation.
ESS10: Stakeholder Engagement and Information Disclosure	This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice.	Yes	The project affects a large and diverse set of stakeholders across all 16 regions of Ghana, including students, parents and guardians, school authorities, teachers, TVET instructors, traditional authorities, host communities, district assemblies, civil society organizations, development partners, contractors, and national education sector agencies. Given that not all secondary schools will benefit from project investments, there are particular sensitivities around school selection criteria, land acquisition, construction impacts, and gender dynamics that require

Standard	Summary of Core Requirements	Relevant	Application to the Project
			careful, inclusive, and continuous stakeholder engagement.

3.5.2. World Bank Group Environmental, Health and Safety (WBG EHS) Guidelines

The WBG General Environmental Health and Safety (EHS) Guidelines is a technical reference document containing information on cross-cutting environmental, health and safety issues potentially applicable to all industry sectors. The guidelines applicable to this project are as follows:

- Environmental;
- Occupational Health and Safety;
- Waste Management;
- Community Health and Safety; and
- Construction and Decommissioning.

4. Environmental and Social Baseline Conditions

This section presents a description of the existing environmental and social conditions comprising the bio-physical and socioeconomic conditions of Ghana and the proposed project areas. Given that the STARR-J project will be implemented nationwide across all 16 regions and 261 districts — spanning urban, peri-urban, and rural settings — the baseline characterization is presented at the national level, with regional differentiation where relevant to project-specific risks and impacts. Establishing this baseline is essential for identifying potential project impacts, determining risk levels, informing the design of mitigation measures, and ensuring effective implementation of the ESMF.

1.1. Physical Environment

1.1.1. Project Location

The Republic of Ghana is located between latitudes 4°45'N to 11°N and longitudes 1°15'E to 3°15'W. It has a total border of 2,093 km, including 548 km with Burkina Faso to the north, 688 km with Côte d'Ivoire to the west, and 877 km with Togo to the east. It has a coastline on the Gulf of Guinea, part of the Atlantic Ocean, measuring 539 km. The country has an area of 239,540 sq. km and is divided into 16 administrative regions and 261 Metropolitan, Municipal, and District Assemblies (MMDAs).

The STARR-J project will be implemented across all 16 regions of Ghana: Greater Accra, Ashanti, Eastern, Central, Western, Western North, Volta, Oti, Bono, Bono East, Ahafo, Northern, Savannah, North-East, Upper East, and Upper West. Project sites will include existing public secondary and TVET schools selected for rehabilitation or upgrading, unfinished E-Block community day secondary schools selected for completion, and greenfield sites for new school construction in 6 priority districts. The geographic diversity of these sites — spanning coastal lowlands, forest belt communities, savannah landscapes, and remote northern districts — means that environmental and social baseline conditions vary significantly across the project footprint, and site-specific screening and assessment will be required for each subproject in accordance with the procedures established in this ESMF.

1.1.2. Relief and Topography

Ghana is characterized by fairly low relief, with few areas of moderate elevation in the north and east. The land is generally below 600 meters above sea level (ASL). Physiographic regions include the coastal plains in the south, the forest dissected plateau across the middle belt, and high hilltops which form important ecological subsystems within generally undulating terrain. At the southern and northern margins of the Volta Basin, two prominent areas of highland are found: the Kwahu Plateau in the south and the Gambaga Escarpment in the north. On the eastern margins of the Volta Basin lies a relatively narrow zone of high mountains running in a south-west to north-east direction, including the Akwapim, Buem, and Togo Ranges, with Mt. Afadjato registering the highest point in the country at approximately 885 meters ASL.

The topographic diversity of Ghana is relevant to the STARR-J project primarily for civil works planning and climate resilience. School sites in hilly or sloped terrain — particularly in the Eastern, Volta, and Oti regions — are more susceptible to soil erosion, slope instability, and surface runoff during construction. New school construction in northern regions on relatively flat savannah terrain may face challenges related to flooding, waterlogging, and inadequate drainage during the rainy season. Site-specific ESMPs will include terrain assessments and specify drainage, erosion control, and slope stabilization measures appropriate to the topographic conditions of each subproject site.

1.1.3. Climatic Conditions

Rainfall

Average rainfall over Ghana is approximately 1,260 mm per year, but ranges considerably from about 890 mm per year in the coastal zone near Accra to over 2,030 mm per year in the southwestern rainforests. The rainfall pattern is bi-modal in the southwestern forest zone, producing a major rainy season from April to July and a minor season from September to November, giving two growing seasons per year. Elsewhere in the country, a uni-modal distribution produces a single growing season from May to October, with a pronounced dry season from November to March that is intensified in the northern savannah regions by the Harmattan wind — a dry, dusty northeasterly wind from the Sahara that significantly reduces visibility and air quality, particularly between December and February.

Rainfall reliability and distribution are highly relevant to the STARR-J project. Construction activities scheduled during the wet season in the southern and middle belt regions face elevated risks of site flooding, erosion, and material damage, requiring careful construction scheduling, drainage provisions, and erosion control measures in site-specific ESMPs. In northern regions, the dry season Harmattan conditions increase dust generation from construction activities, heightening respiratory health risks for workers and nearby students and communities. Climate change projections for Ghana indicate increasing rainfall variability, more frequent extreme weather events, and rising temperatures, underscoring the importance of the project's climate-resilient school design standards — including elevated foundations, reinforced roofing, adequate drainage, rainwater harvesting, and solar-powered lighting — across all project sites.

Temperature

Mean annual temperatures in Ghana range from approximately 26°C in the coastal south to 32°C in the northern savannah regions. Temperatures in the north can exceed 40°C during the dry season. Rising temperatures associated with climate change are increasing thermal discomfort in school environments, particularly in poorly ventilated or overcrowded classrooms — a direct concern given the project's focus on eliminating the double-track system and increasing enrolment in schools that already operate at or above capacity. The project's school infrastructure designs incorporate natural ventilation, shading, and energy-efficient cooling where appropriate, to maintain thermally comfortable learning environments and reduce reliance on energy-intensive air conditioning systems.

1.1.4. Drainage and Hydrology

Ghana is drained by three main river systems: the Volta, South-Western, and Coastal River Systems. The Volta River system occupies nearly 70 percent of the land area of Ghana, followed by the South-Western system (22 percent) and the minor Coastal system (8 percent). Total water resources are estimated at 53.2 km^3 per year, comprising 30.3 km^3 per year of internally generated water resources and 22.9 km^3 per year of runoff from countries sharing the Volta Basin, principally Burkina Faso.

Major sources of water across Ghana include natural rainfall, rivers, streams, lakes, groundwater, and artificial impounded water sources such as dams, dugouts, and reservoirs. The Volta Lake — one of the largest man-made lakes in the world — is a critical water source for communities in the Volta, Oti, Northern, and Savannah regions. In northern Ghana, groundwater from boreholes and hand-dug wells is the primary source of domestic and institutional water supply for most communities, including schools. The mean annual recharge of the Volta River system is approximately 14.8 percent of mean annual precipitation, with peak recharge occurring during the months of June, July, August, and September.

Water availability and quality are directly relevant to the STARR-J project. The expansion of secondary school enrolment and boarding capacity through project-financed infrastructure will significantly increase institutional water demand. New and rehabilitated schools will be required to incorporate rainwater harvesting systems and water-efficient fixtures to reduce demand on local water sources. Construction activities near rivers, streams, or other water bodies must comply with the Riparian Buffer Zone Policy, 2014, and site-specific ESMPs will include measures to prevent water contamination from construction runoff, waste disposal, and chemical handling. In northern regions where groundwater is the primary water source, the risk of borehole overextraction and contamination requires careful management and, where significant volumes are abstracted, Water Use Permits from the Water Resources Commission.

1.1.5. Soils

Ghana's soils reflect its diverse geology, climate, and vegetation. The country's major soil types include Forest Ochrosols (well-drained, moderately fertile soils found in the forest belt, suitable for agriculture and construction), Savannah Ochrosols (drier, less fertile soils in the transition and savannah zones), Groundwater Laterites (seasonally waterlogged soils common in northern lowland areas), and Coastal Sandy Soils (low-fertility, highly permeable soils along the southern coast). Lateritic soils — iron-rich, seasonally hardened soils — are widespread across many regions and present particular challenges for construction, including poor load-bearing capacity when wet and high dust generation when dry.

Soil conditions are relevant to the STARR-J project for both construction planning and environmental risk management. School sites on poorly drained lateritic or groundwater laterite soils — particularly in the northern regions — require careful foundation design, drainage provisions, and erosion control measures to prevent structural damage and site degradation. Site clearance and excavation at greenfield school construction sites risk significant topsoil loss and erosion, particularly in areas with high rainfall intensity or sloped terrain. Site-specific ESMPs will include soil management and erosion control measures appropriate to the soil conditions of each subproject site.

1.2. Biological Environment

1.2.1. Ecosystems and Biodiversity

Ghana's diverse ecosystems range from coastal wetlands and mangroves in the south to moist semi-deciduous forests in the middle belt and savannah woodlands in the north. This ecological diversity supports a rich variety of flora and fauna, including numerous species of conservation significance.

Coastal Wetlands and Mangroves

Ghana's coastline hosts a series of ecologically important coastal wetlands, lagoons, and mangrove forests, notably the Ramsar-listed Songor and Keta lagoons in the Volta Region, the Muni-Pomadze Ramsar site in the Central Region, and the Densu Delta Ramsar site near Accra. These ecosystems support significant biodiversity including migratory waterbirds, marine turtles, fish nurseries, and endemic plant species. Mangrove forests along the coast provide critical ecosystem services including coastal protection, carbon sequestration, and fisheries habitat. Project school sites in the coastal belt — particularly in Greater Accra, Central, Western, and Volta regions — must be screened for proximity to these sensitive ecosystems, and construction near or within riparian buffer zones, lagoons, or mangrove areas must be avoided or subject to enhanced environmental management.

Forests

Ghana's forest belt spans the Ashanti, Eastern, Western, Western North, and Ahafo regions and supports the country's most biodiverse terrestrial ecosystems. Forest types include Moist Evergreen Forest in the southwest (high rainfall zone), Moist Semi-Deciduous Forest across the middle forest belt (the most extensive forest type), Dry Semi-Deciduous Forest in the forest-savannah transition zone, and Upland Evergreen Forest on higher elevations. Ghana's forests harbor numerous species of national and international conservation significance, including forest elephants, chimpanzees, Diana monkeys, bongo, and a rich diversity of birds, reptiles, and plants, including timber species of high economic value. Several forest reserves and protected areas within the forest belt — including Kakum National Park, Bia National Park, and Ankasa Resource Reserve — are designated critical habitats under international conservation frameworks. New school construction in the forest belt regions must be preceded by biodiversity screening to assess proximity to forest reserves and critical habitats, and sites within or adjacent to protected areas will be excluded or subject to a Biodiversity Management Plan.

Savannah

Northern Ghana — encompassing the Northern, Savannah, North-East, Upper East, and Upper West regions — is dominated by Guinea Savannah woodland in the south and Sudan Savannah in the far north. These ecosystems support characteristic savannah flora including shea trees, dawadawa, baobab, and various grasses, alongside wildlife species including elephants, roan antelope, warthog, baboons, and diverse birdlife. The Mole National Park in the Savannah Region is Ghana's largest protected area and a significant biodiversity asset. Savannah ecosystems are ecologically sensitive to land degradation, overgrazing, bush burning, and deforestation, all of which are already significant environmental challenges in northern Ghana. Given that several of the project's priority new school construction sites are located in the northern regions — including in North East Gonja (Savannah Region) — site screening for proximity to protected areas and ecologically sensitive savannah habitats will be a critical step in subproject preparation. Tree planting and landscaping requirements for all project school sites will contribute to the restoration of savannah vegetation in degraded areas.

1.2.2. Key Biodiversity Areas and Protected Areas

Ghana has a network of protected areas comprising national parks, resource reserves, wildlife sanctuaries, and Ramsar wetlands. Key protected areas relevant to the STARR-J project's geographic footprint include Mole National Park (Savannah Region), Kakum National Park (Central Region), Bia National Park and Ankasa Resource Reserve (Western Region), Bui National Park (Bono Region), Digya National Park (Bono East and Ashanti regions), and the coastal Ramsar sites along the southern coast. The Wildlife Division of the Forestry Commission maintains jurisdiction over these areas and enforces buffer zone regulations that restrict development within defined distances from protected area boundaries.

The ESMF site screening procedures will include a mandatory assessment of each proposed subproject site's proximity to Key Biodiversity Areas, national parks, resource reserves, wildlife sanctuaries, riparian buffers, and Ramsar sites. Sites within or adjacent to protected areas or critical habitats will be excluded from the project or, where avoidance is not possible, will be subject to enhanced environmental assessment and a site-specific Biodiversity Management Plan consistent with the requirements of ESS6. A map of Ghana's protected area network and its relationship to project site locations will be incorporated into each site-specific ESMP once subproject locations are confirmed.

1.3. Socioeconomic and Cultural Environment

1.3.1. Demography and Settlement Patterns

Ghana's population was estimated at 32.4 million in the 2021 Population and Housing Census, with an annual growth rate of approximately 2.1 percent. The population is projected to reach approximately 34.3 million by 2026. Urbanization is significant, particularly along the coastal and forest belts, with Greater Accra, Ashanti, and Western regions hosting the highest urban population densities. Greater Accra alone accounts for approximately 17 percent of the national population, with Accra and its peri-urban municipalities experiencing among the highest rates of population growth in the country.

Northern regions — including Northern, Savannah, North-East, Upper East, and Upper West — maintain higher rural population shares, lower population densities, and significantly lower access to public services including secondary education. The 15–17 year age cohort — the primary target population for secondary education — was estimated at approximately 1.7 million in 2025 and is projected to reach 2.2 million by 2035 and 2.6 million by 2040, reflecting Ghana's substantial youth bulge. Of these, 38 percent of the national population is currently aged between 15 and 35 years.

Population density and settlement form directly influence the STARR-J project's site selection, construction planning, and community engagement requirements. In densely populated urban peripheries such as Kpone Katamanso, Ga Central, and Ablekuma Central in Greater Accra — all identified as priority districts for new school construction — land availability is constrained, construction logistics are complex, and community interface during civil works is heightened. In rural and remote northern districts, low population density means that school siting decisions have significant implications for travel distance and access, particularly for girls and students from low-income households.

1.3.2. Livelihoods and Economic Activities

Ghana's economy is diverse across its regions, reflecting the country's varied agro-ecological zones and levels of urban development. Agriculture remains the dominant livelihood in rural areas, particularly in the savannah and forest transition zones, where food crops (maize, yam, sorghum, groundnuts), cocoa, and increasingly oil palm and cashew are the primary income sources. The northern savannah regions are predominantly subsistence farming communities, with high rates of poverty and limited economic diversification. In the forest belt, cocoa farming is the primary cash crop, while timber, food crops, and small-scale mining contribute to local economies in the Western, Western North, and Ashanti regions. Large-scale and artisanal small-scale mining (ASM) is particularly significant in the Ashanti, Eastern, Western, and Western North regions, where it can pose environmental and social risks to surrounding communities.

Urban economies in Greater Accra, Kumasi, Tamale, and other major cities are dominated by the service sector, trade, and manufacturing, with a large informal economy providing livelihoods for a significant proportion of the urban workforce. An estimated 1.5 million Ghanaian youth aged 15–24 years are currently classified as Not in Employment, Education, or Training (NEET), reflecting the severity of youth unemployment — particularly for young women — and the critical importance of the STARR-J project's investments in secondary education quality and relevance.

Subproject civil works may intersect with farming activities, petty trade, and informal services in and around school communities, requiring careful management of temporary access disruptions, construction traffic, and livelihood impacts. Where construction activities temporarily restrict access to economic activities — such as market stalls near school gates, farmland adjacent to school boundaries, or informal trading that depends on school foot traffic — site-specific ESMPs will include livelihood impact

assessments and, where displacement of economic activities is unavoidable, appropriate compensation and restoration measures consistent with ESS5.

1.3.3. WASH, Health, and Education

Water, Sanitation and Hygiene (WASH)
Access to safe water and adequate sanitation varies significantly across Ghana's regions. Urban areas in Greater Accra, Ashanti, and Western regions have relatively higher access to piped water supply, though informal settlements within these areas often lack adequate WASH services. Rural communities, particularly in the northern regions, rely primarily on boreholes, hand-dug wells, and surface water sources, with limited access to treated piped water. Open defecation remains a challenge in parts of rural northern Ghana, reflecting significant gaps in sanitation infrastructure and hygiene behavior.

Within Ghana's secondary school system, WASH conditions have been significantly strained by the enrolment surge associated with the introduction of Free SHS in 2017. Existing sanitation infrastructure in many schools — particularly Category C schools earmarked for rehabilitation under the project — is inadequate for current enrolment levels, with NaSIA's 2022 assessment of the 24 lowest-performing secondary schools finding widespread deficiencies in sanitation facilities, water supply, and hygiene conditions. The project's infrastructure investments will include gender-appropriate and disability-accessible WASH facilities at all newly constructed, rehabilitated, and upgraded schools, directly addressing these baseline deficiencies.

Health
Ghana's public health profile is shaped by a combination of communicable diseases, non-communicable diseases, and environmental health risks. Malaria remains the leading cause of morbidity and mortality, particularly among children and communities in rural areas. Other significant communicable diseases include respiratory infections, diarrheal diseases, and tuberculosis. HIV/AIDS prevalence is approximately 1.7 percent nationally, with regional variations. Climate-sensitive health risks — including heat stress, waterborne diseases associated with flooding, and respiratory illnesses linked to Harmattan dust — are of increasing concern as climate change intensifies.

Construction activities under the STARR-J project introduce additional community health risks, including respiratory hazards from construction dust and Harmattan conditions, waterborne disease risks from improper management of construction runoff and wastewater, and vector-borne disease risks from stagnant water in improperly managed construction sites. The presence of external contractors and labor influx in school communities introduces additional public health risks, including sexually transmitted infections. Site-specific ESMPs and the project's LMP will include community health protection measures, OHS requirements for contractors, and emergency response procedures consistent with the WBG General EHS Guidelines.

Education
Ghana's secondary education system is characterized by significant geographic disparities in infrastructure quality, teacher availability, and learning outcomes. The introduction of Free SHS in 2017 increased gross enrolment at the senior secondary level from 55.9 percent in 2017 to 70.1 percent in 2024, but this access gain has not been matched by commensurate improvements in infrastructure, teacher supply, or learning quality. The double-track system — currently operating in 365 schools (39 percent of public secondary

schools) accommodating 68 percent of total public secondary enrolment — reflects the severity of infrastructure overstretching resulting from the enrolment surge.

NaSIA's 2022 assessment of the 24 lowest-performing secondary schools found that 70.6 percent of ICT laboratories were in poor condition, 87.5 percent lacked technical and vocational workshops, and 58.3 percent lacked designated science laboratories. School construction activities under the project will take place in or adjacent to active school environments, requiring careful management of construction scheduling, site safety, and access controls to minimize disruption to ongoing teaching and learning activities. Community health and safety risks — including children's safety near construction zones — are explicitly identified as a key risk requiring mitigation through child-safe construction practices, full fencing of construction areas, and restricted contractor access to school premises.

1.3.4. Gender, Vulnerability, and Social Inclusion

Gender

Gender inequalities in Ghana's secondary education system are multidimensional. While Ghana has achieved near-parity or parity in gross enrolment ratios at the lower secondary (GPI: 1.02) and higher secondary (GPI: 1.05) levels nationally, significant disparities persist in educational outcomes, subject choice, and progression. Approximately 52 percent of students who do not complete higher secondary education are girls. Girls' enrolment in STEM programs at the senior secondary level is strikingly low, with women representing only 10 percent of TVET enrolment in 2025 and largely concentrated in traditionally female-dominated programs such as hospitality and fashion design.

Gender-based violence, including sexual harassment, coercion, bullying, and other forms of school-related gender-based violence (SRGBV), remains a significant risk within Ghana's secondary education system and disproportionately affects adolescent girls. The project's GBV/SEA/SH risk is rated Substantial, reflecting the combination of adolescent vulnerability, contractor presence across school sites, boarding school environments, and the expansion of digital connectivity without adequate safeguarding measures. Cultural norms — including gendered expectations around domestic roles, social hierarchies, and stigma around reporting violence — shape attitudes toward education, protection, and grievance redress, and must be addressed through targeted awareness-raising, community engagement, and survivor-centred support mechanisms.

Vulnerable Groups

Vulnerable groups in the project context include girls and women, students with disabilities and special educational needs, students from low-income and food-insecure households, youth classified as NEET, communities in remote northern districts with lower service access and higher poverty rates, and persons living near construction sites who may be disproportionately exposed to construction-related health and safety risks. An estimated 36.6 percent of youth aged 20–24 years are unemployed, with female unemployment significantly higher than male unemployment among TVET graduates. The project's targeting criteria for school rehabilitation and construction explicitly prioritize districts with the highest poverty headcounts and lowest secondary enrolment rates, including Kpandai (poverty headcount: 76.9%), Nkwanta North (49.9%), Nanumba North (31.6%), and Gushegu (35.7%).

The ESMF, SEP, GBV/SEA/SH Action Plan, and LMP will incorporate tailored provisions to ensure that vulnerable groups are meaningfully engaged, their specific needs are addressed in project design and implementation, and that project activities do not impose disproportionate adverse impacts on already

marginalized populations. All newly constructed schools will be modeled for inclusive education, and one newly constructed school will be designated as a full special school for persons with disabilities.

1.3.5. Land Ownership, Tenure, and Use

Ghana operates a dual land tenure system comprising statutory (state) land ownership and customary (traditional) land ownership. Approximately 80 percent of land in Ghana is held under customary tenure, administered by traditional authorities including chiefs (stools in southern Ghana and skins in northern Ghana), family heads, and clan leaders. Customary land boundaries are largely determined by oral tradition, historical use, and community consensus rather than formal documentation, making boundary delineation complex and disputes common. The remaining 20 percent of land is under statutory ownership, comprising state-acquired and vested lands administered by the Lands Commission.

Customary land tenure systems vary significantly across Ghana's regions. In southern Ghana, stool lands are administered by paramount chiefs and their sub-chiefs, with land allocated for use through customary grants. In northern Ghana, skin lands are similarly administered by traditional rulers, but land tenure arrangements are generally less formally documented and more susceptible to overlapping claims and disputes. Tenancy arrangements — including sharecropping in cocoa areas — are common in the forest belt, where tenants may have long-term occupancy rights over land they do not formally own.

Land acquisition is among the most significant social risks of the STARR-J project. Legacy cases of incomplete state compensation for past land acquisitions — including sites associated with the original 2013–2015 E-Block program — remain unresolved in some locations, heightening community sensitivities around new state land requirements. The project's RF establishes the detailed procedures for land acquisition screening, consultation with affected landowners and communities, fair compensation at Replacement Cost at Market Value, grievance redress, and monitoring, consistent with the requirements of ESS5 and the Land Act, 2020 (Act 1036). No civil works will commence at any subproject site until land access is formally secured and documented.

1.3.6. Cultural Heritage

Ghana possesses a rich and diverse cultural heritage encompassing both tangible and intangible assets. Tangible cultural heritage includes historical structures and monuments, traditional palaces and shrines, colonial-era buildings, sacred groves, burial grounds, and archaeological sites, many of which are registered and protected under the Ghana Museums and Monuments Board (GMMB). Intangible cultural heritage includes traditional festivals, oral histories, music, dance, craft traditions, and indigenous knowledge systems that are deeply embedded in community life across all regions.

Several of Ghana's existing secondary schools are long-established institutions located within communities with significant historical and cultural heritage, and older school structures earmarked for rehabilitation may themselves have architectural or historical significance. New school construction sites in rural and northern communities may encounter previously undiscovered or undocumented cultural heritage assets — including sacred groves, traditional shrines, or burial sites — during excavation and site clearance activities, given the prevalence of such assets in many Ghanaian communities and the limited extent of systematic archaeological survey outside urban centers.

The ESMF includes mandatory Chance Finds Procedures to be incorporated into all site-specific ESMPs and construction contracts. These procedures specify that if culturally significant materials or structures are encountered during construction works, all civil works in the affected area must be immediately

halted, the site secured, and the Ghana Museums and Monuments Board notified for assessment and guidance. Construction may only resume following clearance from the GMMB. Contractors will be trained in Chance Finds Procedures as part of pre-construction orientation, and compliance will be monitored through regular site supervision by the project's Environmental Specialists and regional focal points.

1.4. Regional Environmental and Social Sensitivities

The following regional profiles summarize the key environmental and social sensitivities characteristic of different parts of the country that must be considered in site screening, subproject design, and ESMP preparation:

Coastal Belt (Greater Accra, Central, Western, Volta)

The coastal belt is Ghana's most densely urbanized zone, characterized by high population density, significant informal settlement, and intensive land use. Environmental sensitivities include flood-prone lowlands, coastal erosion and saline intrusion risks, and ecologically sensitive wetlands, lagoons, and mangrove ecosystems. Several Ramsar-listed wetlands are located in this zone, including the Songor, Keta, and Densu Delta sites. Social sensitivities include high land values, complex customary and statutory land tenure in peri-urban areas, significant informal economic activity near school sites, and elevated GBV/SEA/SH risks associated with high-density urban and peri-urban school environments. Construction near coastal wetlands, lagoons, or mangroves must be avoided; drainage provisions must address flood risk; and social risk management must reflect the complexity of urban land tenure and community dynamics.

Forest Belt (Ashanti, Eastern, Ahafo, Western North)

The forest belt is characterized by dense settlements, high agricultural productivity, significant forest biodiversity, and cocoa and timber landscapes. Higher rainfall and steep terrain in parts of the Eastern and Western North regions increase erosion potential during construction. Forest reserves and protected areas — including Kakum and Bia National Parks — are present across this zone, requiring careful site screening for biodiversity impacts. Social sensitivities include complex land tenure in cocoa farming areas, significant seasonal labor migration, artisanal and small-scale mining activity in parts of the zone, and established community governance through traditional authority structures. School construction sites in this zone must include erosion control, slope stabilization, and drainage measures appropriate to high-rainfall forest belt conditions.

Savannah and Northern Regions (Northern, Savannah, Upper East, Upper West, North-East)

The northern regions are characterized by lower rainfall, pronounced dry seasons, drought risk, groundwater dependence, savannah woodland ecosystems, higher poverty rates, and lower secondary education enrolment and infrastructure coverage. These regions host several of the project's highest-priority intervention districts, including the four districts with no existing public secondary school. Environmental sensitivities include savannah ecosystem fragility, risk of land degradation and desertification, dust generation during dry season construction, and proximity to Mole National Park in the Savannah Region. Social sensitivities include higher poverty and food insecurity, lower literacy rates, stronger traditional authority structures governing land allocation, limited experience with formal grievance mechanisms, and significant constraints on girls' access to secondary education linked to cultural norms, distance, and economic pressures. Community engagement in northern regions must be designed to be culturally appropriate, multilingual, and accessible to communities with lower formal literacy, and site-specific ESMPs must account for Harmattan dust suppression, water scarcity management, and the heightened vulnerability of project-affected communities.

5. Potential Environmental and Social Risk Impacts and Standard Mitigation Measures

This section identifies the potential environmental and social risks and impacts associated with STARR-J project activities and presents standard mitigation measures to be applied. Given that specific subproject sites will be confirmed during implementation, this section provides a structured, proportionate approach to risk identification and management aligned with Good International Industry Practice (GIIP) and the World Bank Group Environmental, Health, and Safety Guidelines (EHSGs). Site-specific risks and mitigation measures will be assessed and elaborated in Contractor Environmental and Social Management Plans (C-ESMPs) and site-specific ESMPs prepared for each subproject prior to commencement of civil works.

Typical project activities under STARR-J include: civil works comprising new school construction in 7 districts, completion of 3 E-Blocks, rehabilitation of 150 schools, and upgrading of 50 schools; procurement and installation of equipment including STEM laboratory equipment, TVET workshop tools and machinery, ICT and digital learning infrastructure, solar energy systems, and WASH facilities; and service delivery and capacity building activities including teacher professional development, TVET instructor training, communication campaigns, digital learning platform deployment, and systems strengthening support.

5.1. Key Environmental Risks and Impacts

Loss of Vegetation and Habitat Disturbance

Land preparation works for new school construction in 7 districts and 3 E-Block completions — including site clearance, excavation, and grading — will involve removal of surface vegetation, demand for construction materials (sand, gravel, timber, laterite), disturbance of topsoil, and risks of unsustainable quarrying/borrow pits. In rural and peri-urban sites, particularly in the forest belt and savannah regions, this may result in loss of flora and fauna, habitat fragmentation, reduction in biodiversity value of affected ecosystems, and disturbance to species of ecological importance. Loss of tree cover and vegetation also reduces shade, increases surface temperatures at school sites, and diminishes local ecosystem services. Risk of introducing invasive species through landscaping or materials. Possible impacts from illegal sourcing construction materials from sensitive ecosystems; illegal sand mining etc. The risk is assessed as localized, direct, potentially permanent for greenfield sites, and of moderate to substantial magnitude depending on site location and existing vegetation cover. Sites near forest reserves, sacred groves, or ecologically sensitive areas present the highest risk.

Air Emissions and Dust

The use of earth-moving machinery, construction vehicles, and equipment during site clearance, excavation, foundation works, and material transport will generate dust and exhaust fumes, causing temporary deterioration of air quality at and around construction sites. This risk is particularly acute during the dry season and Harmattan period in northern Ghana, when ambient dust levels are already elevated, and at densely occupied urban school sites where students, teachers, and community members are in close proximity to construction activities. Prolonged exposure to construction dust and emissions can cause upper respiratory diseases, aggravate existing health conditions, and impair visibility and learning conditions. The risk is assessed as localized, direct, temporary, and of moderate severity, with heightened risk at urban sites and in northern regions during the Harmattan season.

Noise and Vibration

The operation of construction machinery and equipment — including excavators, compactors, pile drivers, concrete mixers, and heavy transport vehicles — will generate noise and vibration that may exceed permissible levels prescribed by the EPA and the WBG EHS Guidelines. Exposure of sensitive receptors, including students in classrooms adjacent to active construction zones, teachers, and nearby residential communities, may cause nuisance, disruption to teaching and learning, and potential health effects including stress, impaired concentration, and hearing damage with prolonged exposure. The risk is assessed as direct, temporary, and localized within approximately 50 meters of active construction zones, with heightened significance at sites where construction occurs in close proximity to occupied classrooms, examination halls, or boarding facilities. Noise disturbances near ecologically sensitive habitats may also affect the behavior of critical fauna species.

Waste Generation and Hazardous Materials Management

Construction activities will generate significant volumes of solid waste including excavated soil, demolished materials, packaging, and construction debris. Rehabilitation of older school structures — particularly E-Blocks abandoned since 2017 and schools constructed before the 1990s — may encounter and disturb asbestos-containing materials (ACMs) in roofing, ceiling, and insulation components, presenting serious community health risks if not properly managed. The replacement of outdated ICT equipment in schools being upgraded with new digital learning infrastructure under Component 2 will generate electronic waste (e-waste) including computers, monitors, batteries, and other electronic components containing hazardous substances. Improper disposal of construction waste, ACMs, and e-waste — including open burning, uncontrolled dumping, burial or disposal of solar batteries — risks soil and water contamination, air pollution, and direct health hazards to workers and communities. The risk is assessed as localized, potentially serious if unmitigated, and requiring specific hazardous materials management protocols.

Water Resources and Quality

Construction activities near rivers, streams, drainage channels, or groundwater recharge areas risk contamination of water resources through uncontrolled discharge of construction runoff, sediment, cement washings, chemical storage/handling, fuel, lubricants and oil spills, and improper disposal of wastewater and solid waste. Contamination from septic systems and sanitation facilities. In northern Ghana, where communities and schools rely primarily on boreholes and hand-dug wells for water supply, construction activities that disturb soil and groundwater recharge zones may compromise the quality and yield of local water sources. Excavation and grading on sloped or lateritic soils — particularly in the forest belt and northern regions during the rainy season — increases surface runoff and erosion, potentially causing sedimentation of nearby water bodies and degradation of aquatic ecosystems. The expanded school enrollment and boarding capacity resulting from project-financed infrastructure will also significantly increase institutional water demand, potentially stressing local water supply systems. Inappropriate wastewater discharges from expanded schools/WASH facilities. The risk is assessed as localized to moderate, direct, and of varying severity depending on site proximity to water bodies and seasonal rainfall conditions.

Soil Erosion and Land Degradation

Site clearance, excavation, and grading activities — particularly on sloped terrain in the Eastern, Volta, Oti, and Western North regions, and on lateritic soils in the savannah regions — will expose bare soil to erosive forces from rainfall, surface runoff, and wind. Without adequate erosion control measures, construction activities risk significant topsoil loss, gully formation, slope instability, and long-term land degradation at and around school sites. In northern Ghana, land degradation from construction activities compounds existing desertification pressures and reduces the productivity of adjacent agricultural land.

The risk is assessed as localized, direct, and of moderate to substantial magnitude on sloped or degraded sites, with potential for irreversibility if topsoil loss is severe.

Traffic and Accident Impacts

Construction activities will significantly increase heavy vehicle traffic on roads serving school sites, including the delivery of construction materials, operation of heavy machinery, and movement of construction workers. In densely populated urban and peri-urban areas — particularly in Greater Accra where several new school construction sites are proposed — increased construction traffic poses risks of road accidents, damage to roads and community infrastructure, pedestrian safety hazards, and community disruption. Within school sites, the movement of construction vehicles and machinery in proximity to students, teachers, and school visitors creates direct safety risks, particularly for children. The risk is assessed as direct, temporary during the construction period, and of moderate to substantial magnitude at urban and high-density school sites, with heightened risk during peak school hours and examination periods.

Climate and Disaster Risks to Infrastructure

Ghana's changing climate — characterized by increasing rainfall variability, more frequent extreme weather events including flooding and windstorms, rising temperatures, and coastal erosion — poses risks to the long-term performance and resilience of project-financed school infrastructure. Schools constructed without adequate climate adaptation features risk structural damage, flooding, or heat stress impacts that undermine the project's access and quality objectives over time. The risk is assessed as long-term, widespread, and of potentially substantial magnitude without adequate climate-resilient design standards.

5.2. Key Social Risks and Impacts

Physical Displacement and Land Acquisition

New school construction in 7 districts, expansion of infrastructure at existing schools, and E-Block completions may require additional land, potentially resulting in the physical displacement of households, businesses, or communities currently occupying or using the affected land. In contexts where approximately 80 percent of Ghana's land is under customary ownership with indeterminate boundaries and limited documentation, land acquisition risks are elevated, and the potential for disputes, grievances, and delays is significant. Legacy cases of incomplete compensation from past state acquisitions — including some E-Block sites from the 2013–2015 program — add further complexity. The risk is assessed as substantial, localized to specific subproject sites, and potentially serious if not managed through a robust RF and site-specific RPs.

Loss of Livelihoods and Economic Displacement

Beyond physical displacement, project civil works may result in the temporary or permanent loss of livelihoods for individuals and households whose economic activities are affected by land acquisition, construction access restrictions, or disruption to trade and commerce in and around school sites. This includes informal traders operating near school gates, farmers with land adjacent to school boundaries, and small businesses whose operations depend on school foot traffic or proximity. The risk is assessed as localized, direct, and of moderate severity, with heightened risk at urban and peri-urban school sites where informal economic activity is concentrated.

Labor Influx and Associated Community Risks

The engagement of contractors and subcontractors across more than 200 school sites nationwide under a relatively compressed implementation timeline will introduce external workers into school

communities, particularly in rural and peri-urban areas where local labor supply may be insufficient and workers may need to be recruited from outside the community. Labor influx introduces risks of increased pressure on local services and infrastructure, social tensions between incoming workers and host communities, spread of communicable diseases including HIV/AIDS and sexually transmitted infections, increased alcohol and substance use, and heightened GBV/SEA/SH risks in communities adjacent to worker accommodation.

Labor influx associated with the project's compressed implementation timeline adds a further dimension of risk. Where local labor supply is insufficient, contractors will recruit workers from outside host communities, introducing external workers whose behavior, values, and community relationships may differ significantly from those of local residents. Labor influx is internationally recognized as a key driver of GBV/SEA/SH risk in infrastructure projects, particularly in rural and peri-urban settings where community safeguarding structures are weakest and formal GBV response services are most limited. Poor housing arrangements for incoming workers, inadequate supervision of worker conduct outside working hours, and weak contractor management capacity — all identified as risks in the project's ESRS — compound these vulnerabilities significantly.

The risk is assessed as substantial, particularly at rural and remote school sites where social infrastructure and community safeguarding systems are weakest.

Occupational Health and Safety (OHS) Risks

The construction sector is inherently high-risk, with common hazards including **falls from heights, injuries from moving equipment, electrocution, and being struck by objects**. During school rehabilitation and upgrading, additional risks arise from working within partially occupied or structurally weakened buildings, where **structural instability, confined workspaces, and interaction between workers and existing users** increase accident potential.

Key **physical and operational risks** include exposure to heavy machinery, excavation hazards, manual handling injuries, slips and falls, and traffic-related incidents from construction vehicles. Workers are also exposed to **dust, noise, and vibration**, which can lead to respiratory issues and hearing impairment, while **poor housekeeping and inadequate use of personal protective equipment (PPE)** further elevate accident risks. Electrical works during upgrading and installation of ICT systems introduce electrocution risks, and the handling of construction materials such as cement, bitumen, and steel may result in cuts, burns, and musculoskeletal injuries.

In addition, **chemical and environmental health risks** are significant, particularly during rehabilitation of older school structures. Workers may be exposed to hazardous substances such as asbestos-containing materials, lead-based paints, fuels, and solvents, as well as contaminated soil or water runoff. Biological risks, including communicable diseases, may arise from poor sanitation, labor influx, or inadequate welfare facilities on-site. These risks are compounded where water supply and sanitation provisions for workers are insufficient.

Finally, **organizational and management-related risks** are critical in determining OHS outcomes. These include inadequate training, weak supervision, poor coordination among contractors, and failure to enforce safety standards, all of which are known contributors to accidents in construction projects. In the STARR-J context, risks are further amplified where construction occurs within or near active school environments, requiring strict site segregation, traffic management, and safety awareness to protect both workers and school communities.

Child Labor

Construction activities in areas where informal labor practices are prevalent and contractor oversight may be weak and introduce the risk of inadvertent use of child labor in the construction supply chain, including in material supply chains. Ghana's construction sector has documented instances of child labor, particularly in artisanal and informal segments of the industry. Given that project construction sites are located within or adjacent to school environments, the use of child labor at construction sites would constitute a particularly serious reputational and safeguarding risk. The risk is assessed as substantial requiring proactive prevention through contractor obligations, age verification, and site inspections.

GBV, SEA/SH Risks

The conduct of construction activities within active secondary school environments introduces a Substantial risk of gender-based violence, sexual exploitation and abuse, and sexual harassment (GBV/SEA/SH). Unlike construction in uninhabited or non-operational settings, civil works under the STARR-J project will take place within schools that remain open and operational throughout the construction period, meaning that adolescent learners — including girls and students with special educational needs — will be in direct and daily proximity to construction workers and external contractors across all project sites. This co-existence of vulnerable learners and an external male-dominated construction workforce within the same physical environment is a primary driver of GBV/SEA/SH risk and distinguishes the project's risk profile from standard infrastructure operations.

The risk is further compounded by the residential nature of boarding schools, which house a significant proportion of Ghana's secondary school students — approximately 75 percent of public senior secondary school students have boarding status. Boarding environments present heightened GBV/SEA/SH exposure due to the extended and unsupervised hours that students spend on school premises, including evenings and weekends when construction workers may still be present or returning through school grounds. The physical boundaries between boarding facilities and construction zones are often difficult to enforce consistently, particularly at schools where construction is taking place across multiple parts of the campus simultaneously.

At the institutional level, Ghana's secondary schools present variable and often insufficient safeguarding capacity to detect, respond to, and manage GBV/SEA/SH incidents. School-level grievance handling is frequently informal, undocumented, and highly dependent on individual school leadership, with documented weaknesses in survivor-centred reporting, case management, and referral to support services. Many schools lack trained counsellors with the competency to handle GBV/SEA/SH disclosures sensitively, and the stigma associated with reporting incidents — particularly for adolescent girls — means that actual incidence is likely significantly underreported relative to reported cases.

Social Exclusion and Discrimination

The project's large-scale nature — involving school selection, enrollment redistribution, and targeted investments in specific schools and districts — creates risks of perceived or actual exclusion for communities, schools, and student groups not selected for project benefits. Students with disabilities may face exclusion from benefits if inclusive design standards are inadequately implemented. Girls from culturally conservative communities may face barriers to accessing improved STEM and TVET programs even where infrastructure investments have been made. Communication campaigns and enrollment redistribution initiatives risk reinforcing existing social hierarchies if poorly designed. The risk is assessed as moderate and requiring proactive inclusion measures across all project components.

Loss of Cultural Heritage

Excavation, site clearance, and construction activities at existing and new school sites may encounter previously undiscovered or undocumented cultural heritage assets including sacred sites, shrines, burial

grounds, or archaeological artifacts. Older school structures earmarked for rehabilitation or demolition may themselves possess historical or architectural significance. Disturbance or destruction of cultural heritage without proper management would violate ESS8 and could generate serious community grievances and social tensions. The risk is assessed as moderate, widespread across Ghana given the country's rich cultural heritage, and requiring systematic Chance Finds Procedures at all construction sites.

Social Tensions, Insecurity, and Conflicts

School site selection processes, land acquisition, and enrollment redistribution may generate community tensions and conflicts, particularly where community expectations are not met, where school selection criteria are perceived as unfair or non-transparent, or where land acquisition disputes are inadequately resolved. In northern Ghana, where inter-community and inter-ethnic tensions over land and resources are documented, construction activities that disturb land boundaries or introduce external workers into sensitive community contexts could exacerbate existing social tensions. The risk is assessed as moderate and requiring proactive community engagement, transparent communication, and accessible grievance mechanisms.

Risks to Adolescent Safety from Digital Connectivity

The deployment of internet connectivity and digital learning tools in beneficiary schools under Component 2, without adequate digital literacy training, online safeguarding protocols, and supervision systems, may expose students — particularly adolescent girls — to harmful online content, cyberbullying, online grooming, and peer-to-peer sexual exploitation. This risk is compounded by the limited experience of school authorities in managing digital safeguarding risks and the absence of established protocols for monitoring or responding to online harms in Ghana's secondary school system. The risk is assessed as moderate to substantial and requires specific digital safeguarding measures integrated into Component 2 implementation.

Table 5-1: Environmental and Social Risks and Mitigation Measures

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
ENVIRONMENTAL					
Vegetation clearance and earthworks for new school construction in 6 districts and E-Block completion	**Loss of vegetation and habitat disturbance:** Site clearance, grubbing, and excavation at greenfield school construction sites may result in loss of flora and fauna, fragmentation of natural habitats, and reduction in the biodiversity value of affected ecosystems. Risk is most significant where sites are located near forest reserves, sacred groves, riparian buffer zones, or ecologically sensitive savannah habitats in the Savannah, North-East, and forest belt regions. Most new school sites are however located on already-degraded or agricultural land, limiting the severity of biodiversity impacts across the portfolio. However, risk associated with material sourcing for construction, opening new borrow pits, illegal sourcing etc. may exist. The risk is localized, direct, and reversible with appropriate restoration measures at the majority of sites.	Likely	Moderate	Moderate	Sites with potential significant biodiversity risks and impacts shall be avoided through the Exclusion list. Also all sites within or adjacent to protected areas or critical habitats shall be excluded. Limit vegetation clearance strictly to the minimum footprint required for school construction. Retain existing mature trees within and around school site boundaries wherever feasible, incorporating them into school landscaping designs. Implement mandatory tree planting (using a 1:3 replacement ratio and implement a tree sapling management plan to ensure survival) and landscaping using indigenous, non-invasive species at all new construction sites. Restore disturbed areas outside the permanent construction footprint with appropriate indigenous vegetation upon completion of works.
Earthworks, excavation, and grading at new construction sites and existing school rehabilitation	Soil erosion and land degradation: Excavation, grading, and removal of surface vegetation expose bare soil to erosive forces from rainfall, surface runoff, and wind. On sloped terrain in the Eastern, Volta, Oti, and Western North regions, uncontrolled erosion risks topsoil loss and gully formation. However, at school-scale construction sites with small footprints and short construction periods, the impact is localized, temporary, and reversible with standard erosion and sediment controls. The risk does not approach the magnitude associated with large linear infrastructure or mining operations.	Likely	Moderate	Moderate	Where the scale of erosion and sedimentation are high, prepare site-specific erosion and sediment control plans as part of C-ESMP. Implement silt fences, sediment traps, check dams, and diversion channels to control surface runoff from active construction areas. Stabilize exposed slopes and embankments with erosion control matting or vegetative cover as appropriate to site conditions. Schedule construction activities to minimize soil exposure during the peak rainy season where feasible. Restore topsoil to all areas disturbed outside the permanent construction footprint following completion of civil works. Maintain existing drainage channels and avoid blocking natural surface water flows during construction. Follow WBG General EHS Guidelines on soil erosion and stormwater management.
Operation of construction	Air emissions and dust: The use of earth-moving machinery, haulage trucks, concrete mixers, and	Likely	Moderate	Moderate	Implement dust suppression measures at all active construction sites, including regular watering of

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
machinery, heavy vehicles, and equipment at all civil works sites	construction vehicles during site clearance, excavation, foundation works, and material transport will generate construction dust and exhaust fumes, causing temporary deterioration of air quality at and around school construction sites. Risk is elevated during the dry season and Harmattan period in northern Ghana, and at urban school sites where students, teachers, and community members are in close proximity to construction activities. The risk is localized, direct, and temporary during construction.				unpaved surfaces and active earthworks areas, particularly during dry season and Harmattan conditions in northern Ghana. Enforce speed limits for all construction vehicles on unpaved access roads within and around school sites. Ensure all construction equipment and vehicles are properly maintained and comply with applicable emission standards under the Environmental Protection Act, 2025 (Act 1123). Cover all haulage trucks transporting excavated material, aggregates, and construction waste. Erect site perimeter hoarding to contain dust within the construction zone and away from occupied school buildings. Schedule high-dust activities to avoid peak school hours and examination periods at active school sites. Provide appropriate respiratory protective equipment (RPE) for all construction workers. Monitor ambient dust levels at sensitive receptors and take corrective action where levels exceed EPA and WBG EHS Guidelines thresholds.
Operation of heavy construction machinery, vibratory compaction equipment, and concrete breaking at active school sites	Noise and vibration: The operation of excavators, compactors, concrete mixers, and concrete breakers will generate noise and vibration that may cause nuisance and disrupt teaching and learning at adjacent occupied school buildings. Vibration from heavy compaction equipment may also cause structural disturbance to older adjacent school buildings. The risk is direct, temporary during construction, and localized within approximately 50–100 metres of active construction zones. Impacts are reversible and effectively managed through scheduling controls and construction management measures.	Likely	Moderate	Moderate	Restrict high-noise and vibratory activities to defined daytime working hours (typically 7:00 AM to 5:00 PM) on weekdays, avoiding early mornings, evenings, and weekends at school sites. Prohibit high-noise construction activities during national and school examination periods, in consultation with school management and the GES district directorate. Position noise-generating equipment as far as practicable from occupied classrooms, examination halls, and boarding facilities. Install temporary acoustic screening between construction zones and sensitive school buildings where minimum distances cannot be maintained. Conduct noise monitoring at sensitive receptor locations throughout construction and take corrective action when levels exceed permissible thresholds. Ensure construction equipment is regularly serviced and fitted with appropriate noise suppression devices. Provide hearing protection PPE to workers operating near high-noise equipment.

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
Rehabilitation of older school structures under the 150-school rehabilitation program and E-Block completion	Asbestos and hazardous materials (including lead pipes and lead-based paints): Rehabilitation of older secondary school buildings — including E-Blocks abandoned since 2017 and schools constructed before the mid-1990s — may encounter asbestos-containing materials (ACMs) in roofing sheets, ceiling boards, pipe insulation, and floor tiles, and lead pipes and lead-based paints. Not all schools in the rehabilitation portfolio will contain these risks; the risk materializes only at the subset of older structures where these are confirmed. However, where these are disturbed without proper management, the release of asbestos fibers and lead presents serious occupational and community health risks that are potentially irreversible. Structural integrity concerns at E-Block sites further heighten OHS risks during renovation.	Possible	Major	Substantial	Conduct mandatory pre-construction asbestos and lead surveys at all schools earmarked for rehabilitation, E-Block completion, or partial demolition, carried out by EPA-certified environmental practitioners prior to commencement of any civil works. Prepare site-specific Asbestos and Lead Management Plans for all sites where ACMs and lead materials are confirmed, including removal, handling, transport, and disposal procedures. All asbestos and lead removal must be carried out exclusively by EPA-certified specialist contractors equipped with appropriate PPE including full-face respirators and protective suits. Transport and dispose of all asbestos and lead waste in sealed, clearly labeled, leak-proof containers to EPA-approved hazardous waste disposal facilities, with documented chain of custody. Conduct structural integrity assessments of all E-Block sites prior to commencement of completion works and address identified structural hazards before mobilizing workers.
Procurement and replacement of ICT equipment and digital learning infrastructure in schools under Component 2	Electronic waste (e-waste) generation: The replacement of outdated ICT equipment — including desktop computers, monitors, printers, and batteries — in schools receiving new digital learning infrastructure under Component 2 will generate e-waste. E-waste generation is a certain outcome of this activity. However, volumes from school ICT replacement are modest compared to industrial e-waste streams, the materials present lower acute hazards, and established e-waste collection and disposal pathways exist in Ghana through EPA-registered recyclers. The risk of significant environmental harm is therefore low if proper disposal channels are used.	Certain	Minor	Moderate	Develop and implement an E-waste Management Plan for all schools receiving new digital learning infrastructure under Component 2. Engage only EPA-registered e-waste recyclers and authorized disposal facilities for collection and processing of all decommissioned ICT equipment, in compliance with the Environmental Protection Act, 2025 (Act 1123). Prioritize refurbishment and reuse of functional decommissioned equipment — including redistribution to lower-resource schools or community libraries — before disposal. Maintain records of all e-waste disposed of, including quantities, receiving facility details, and disposal certificates. Prohibit disposal of e-waste in general municipal waste streams or open dumps. Train school administrators on e-waste management responsibilities.
All civil works generating	Construction waste generation and improper disposal: Civil works across more than 200 school	Certain	Minor	Moderate	Prepare and implement site-specific Waste Management Plans as part of each C-ESMP,

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
construction debris, packaging waste, and food waste from contractor activities	sites will generate solid waste including excavated soil, demolished building materials, cement bags, packaging, timber offcuts, and food waste from contractor activities. Construction waste generation is a certain outcome of civil works activities. However, at school-scale construction sites, waste volumes are modest and manageable through standard waste management controls and established licensed disposal routes in Ghana. The risk of significant environmental harm is low if proper waste management procedures are implemented and enforced.				applying the waste management hierarchy: reduce, reuse, recycle, and dispose responsibly. Segregate waste at source into recyclable materials, non-hazardous construction waste, and hazardous waste streams using clearly labeled, color-coded containers at each site. Store solid waste temporarily in designated, covered, and secured areas on-site prior to authorized off-site disposal. Engage licensed waste contractors for collection and disposal at EPA-approved facilities. Prohibit open burning, uncontrolled dumping, and burial of any waste on school premises or in surrounding community areas. Maintain waste management records for each site, available to the PTT and World Bank upon request. Follow WBG General EHS Guidelines on waste management and the Environmental Protection Act, 2025 (Act 1123).
Construction activities near rivers, streams, drainage channels, and groundwater sources, particularly for new school sites in rural areas	Water resource contamination and quality degradation: Construction activities near water bodies risk contamination through uncontrolled discharge of sediment-laden runoff, cement washings, fuel and oil spills, and improper disposal of construction wastewater. The risk materializes only at the subset of school sites located in proximity to rivers, streams, seasonal watercourses, or shallow groundwater sources — not across the full portfolio. In northern Ghana, where schools and communities rely primarily on boreholes and hand-dug wells, construction activities that disturb groundwater recharge zones require particular care. The risk is localized and reversible with appropriate mitigation at affected sites.	Possible	Moderate	Moderate	Conduct site-specific screening for proximity to rivers, streams, wetlands, drainage channels, and groundwater sources as part of subproject preparation using the ESMF screening checklist. Maintain mandatory setback distances from water bodies consistent with the Riparian Buffer Zone Policy, 2014. Establish spill prevention and containment measures at all fuel and chemical storage areas, including impermeable bunding, drip trays, and spill response kits. Prohibit discharge of untreated construction wastewater or sediment-laden runoff into watercourses or areas near groundwater sources. Install sediment traps and silt fences at the downslope boundary of construction sites adjacent to water bodies. Monitor water quality upstream and downstream of construction sites near watercourses throughout construction. Obtain Water Use Permits from the Water Resources Commission where significant water volumes are abstracted for construction purposes. Incorporate rainwater harvesting systems and water-efficient fixtures in all new and rehabilitated

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
					school designs to reduce long-term demand on local water supplies.
Operation of construction vehicles and delivery of materials at all school construction and rehabilitation sites	Traffic and road safety hazards: Increased heavy vehicle traffic on roads serving school sites — including delivery of construction materials, aggregates, concrete, and movement of heavy equipment — creates road safety hazards for local road users, pedestrians, cyclists, and students. Construction traffic is temporary and confined to the construction period. At school-scale sites, traffic volumes are modest and effectively managed through standard Traffic Management Plans. The risk is of moderate severity, temporary in duration, and manageable with appropriate site-specific controls.	Likely	Moderate	Moderate	Prepare and implement site-specific Traffic Management Plans (TMPs) as part of each C-ESMP for all sites involving significant construction vehicle movements. Designate specific construction vehicle access routes that avoid school main entrances and student pedestrian routes. Restrict delivery of heavy construction materials to defined non-peak hours, avoiding morning and afternoon student arrival and dismissal periods. Install clearly visible traffic warning signs, speed limit controls, and pedestrian crossing points at all active construction site access points. Engage certified traffic marshals to manage construction vehicle movements at site access points during peak activity periods. Repair all damage to community roads caused by construction vehicle movements at contractor's expense. Follow WBG General EHS Guidelines on traffic management and community health and safety.
New school construction incorporating solar energy systems, STEM laboratories, and digital infrastructure	Greenhouse gas emissions and climate risks to infrastructure: Construction activities involving diesel-powered equipment, concrete production, and material transport generate GHG emissions. GHG generation from project construction activities is certain. However, emissions from school-scale construction are de minimis relative to national and global baselines, and the project incorporates solar energy systems and climate-resilient design features that partially offset lifecycle emissions. The risk is best characterized as a routine construction impact rather than a significant project-level climate risk.	Certain	Minor	Moderate	Minimize idle running of diesel construction equipment and enforce engine shut-off requirements when equipment is not in active use. Prioritize locally sourced construction materials to reduce transport-related emissions where quality standards are met. Incorporate climate-resilient design standards in all new and rehabilitated school infrastructure, including elevated foundations, reinforced roofing, adequate stormwater drainage, rainwater harvesting systems, natural ventilation, energy-efficient designs, and solar-powered lighting. Apply GFDRR-funded multi-hazard risk assessment findings to infrastructure design in high-risk locations.
SOCIAL					
New school construction in 6 districts, E-Block completion, and	Physical displacement and land acquisition: New school construction and infrastructure expansion may require additional land, potentially resulting in the physical displacement of households,	Possible	Major	Substantial	Prepare and disclose a Resettlement Framework (RF) prior to project effectiveness. Prepare site-specific Resettlement Plans (RPs) prior to commencement of civil works at each subproject

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
expansion of infrastructure at existing schools	businesses, or communities occupying or using affected land. The project prioritizes existing government-owned school footprints and available government land to minimize displacement — meaning physical displacement will not occur at all sites and is dependent on site-specific conditions. Ghana's dual land tenure system, with approximately 80 percent of land under customary ownership and unresolved legacy compensation cases from the original 2013–2015 E-Block program, elevates land acquisition risks at affected sites. The risk is substantial at sites where land acquisition is required, but its occurrence across the full portfolio is not certain.				site where physical or economic displacement is confirmed. Conduct land tenure assessments for all proposed construction and expansion sites, documenting ownership status, existing users, and any unresolved legacy land claims before site approval. Prioritize site selection criteria that minimize or avoid land acquisition and displacement. Engage the Lands Commission's Land Valuation Division (LVD) for independent asset valuation, ensuring compensation at full Replacement Cost at Market Value. Ensure all compensation is paid, verified, and documented before civil works commence at any affected site, consistent with ESS5 and the Land Act, 2020 (Act 1036). No civil works will commence at any site until land access is formally secured, and documentation validated. Establish a project-level GRM accessible to all project-affected persons before civil works commence.
Right-of-way clearance and expansion of school grounds at existing schools	Economic displacement and loss of livelihoods: Expansion of school boundaries may affect informal traders, market vendors, and farmers operating within or adjacent to school boundaries, resulting in temporary or permanent loss of income. Impacts will occur at a subset of urban and peri-urban sites where informal economic activity is concentrated near school gates — not across the full portfolio. Where impacts occur, they are largely temporary and reversible with appropriate compensation and livelihood support measures. Women, who constitute the majority of informal traders operating near secondary schools in Ghana, may be disproportionately affected.	Possible	Moderate	Moderate	Identify and document all economically affected persons through a census and socioeconomic survey prior to site clearance or expansion works. Provide compensation for loss of crops, trees, structures, and business income at full replacement cost prior to clearance, consistent with the RPF and ESS5. Maintain access to livelihoods and business premises throughout construction through phased scheduling, alternative pedestrian access routes, and advance notice of access restrictions. Include livelihood restoration measures in site-specific RPs for persons whose livelihoods are permanently impacted, providing income restoration assistance and, where appropriate, support for relocation to alternative trading sites. Monitor livelihood restoration outcomes through the project's M&E framework and GRM.
Engagement of civil works contractors and subcontractors across more than	Labor influx and associated community risks: The engagement of construction contractors and workers across a large number of geographically dispersed school sites may introduce some	Possible	Moderate	Moderate	Require all contractors to prepare and implement Labor Management Plans (LMPs) as part of their C-ESMPs, covering labor sourcing, worker accommodation standards, Codes of Conduct, and

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
200 school sites nationwide	external workers from outside host communities. However, school construction works are dispersed across small sites with short contract durations and relatively modest labor requirements, significantly limiting in-migration volumes compared to large infrastructure projects. Risks of community tension, communicable disease transmission, and pressure on local services are real but manageable given the limited scale of labor influx at individual sites. GBV/SEA/SH aspects of labor influx are addressed separately below.				OHS requirements, consistent with the project's LMP. Prioritize recruitment of local unskilled and semi-skilled workers from project communities to reduce in-migration. Establish clearly defined worker accommodation standards where external workers are housed, including adequate sanitation, potable water, and prohibition of alcohol consumption on school premises. Conduct mandatory pre-deployment training for all workers on Codes of Conduct, GBV/SEA/SH prevention, child protection, and HIV/AIDS and communicable disease prevention. Coordinate with local health authorities and GBV service providers to ensure referral pathways are operational in each project area before civil works commence.
Construction activities in active secondary school environments with adolescent learners, boarding facilities, and expanding digital connectivity under Component 2	GBV/SEA/SH risks: The conduct of construction activities within active secondary school environments — where adolescent learners, including girls and students with special educational needs, are present during civil works — combined with the residential nature of boarding schools accommodating approximately 75 percent of public secondary school students, labor influx of external contractors, weak institutional safeguarding capacity at school level, and the expansion of internet connectivity without adequate digital safeguarding measures, creates a Substantial risk of gender-based violence, sexual exploitation and abuse, and sexual harassment (GBV/SEA/SH). Adolescent girls are particularly vulnerable, and existing GBV reporting and response systems across Ghana's secondary schools are variable, frequently informal, and undocumented. The project's own ESRS formally rates SEA/SH risk as Substantial.	Likely	Major	Substantial	Prepare, disclose, and implement a comprehensive GBV/SEA/SH Action Plan prior to project effectiveness, developed in coordination with the Ministry of Gender, Children and Social Protection (MoGCSP), reflecting the Substantial SEA/SH risk rating and the specific vulnerabilities of adolescent learners in active secondary school environments. Include mandatory GBV/SEA/SH zero-tolerance clauses in all civil works contracts and worker Codes of Conduct. Establish and operationalize survivor-centred, confidential GBV/SEA/SH reporting and response mechanisms at all project school sites, with referral pathways to MoGCSP services, DOVVSU, psychosocial support providers, and medical services, before civil works commence. Train school counsellors, GES district focal points, and PTT GBV Specialist in GBV/SEA/SH prevention, survivor-centred support, and referral procedures. Enforce strict access control protocols restricting contractor and worker access to student areas, boarding facilities, and school grounds outside defined working hours. Implement digital safeguarding measures for all schools receiving internet connectivity under Component 2. Apply the World Bank's Good Practice Notes on Addressing

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
					GBV/SEA/SH in Human Development Projects, and Projects with Major Civil Works.
Construction sites and supply chains engaging contractors and subcontractors across all regions	Child labor risks: Construction activities may introduce the risk of inadvertent use of underage workers in civil works or material supply chains — particularly in artisanal quarrying, brick-making, and sand winning operations that supply construction materials in rural areas. Ghana has a relatively robust child labor legal and institutional framework, including the Children's Act 1998 and active Department of Social Welfare presence, which reduces the likelihood of widespread child labor. However, given that project construction sites are located within or adjacent to active school environments, any instance of child labor would constitute a serious child protection and reputational risk requiring active monitoring and prevention.	Possible	Moderate	Moderate	Include explicit prohibition of child labor in all civil works contracts and subcontracts, consistent with the Children's Act, 1998 (Act 560) and ILO Conventions 138 and 182. Establish and enforce a minimum age requirement of 18 years for all workers engaged in civil works under the project, documented through mandatory age verification using national ID or birth certificate at time of engagement. Conduct regular site inspections by PTT E&S Specialists and district focal points to verify worker ages and assess compliance with child labor prohibitions in both direct civil works and material supply chains. Train all site supervisors to identify and report indicators of child labor. Establish a confidential reporting mechanism for workers and community members to report suspected child labor. Where underage workers are identified, immediately remove them from the site and notify the Department of Social Welfare and relevant child protection authorities.
Engagement of construction contractors across all civil works sites	Forced labor risks: Workers — particularly migrant workers from outside host communities or from other regions — may be vulnerable to debt bondage, withholding of wages or identity documents, restriction of movement, or other forms of forced labor, particularly in remote or rural school construction settings where oversight is limited. Forced labor indicators are uncommon in Ghana's construction sector, but the risk cannot be entirely excluded for migrant workers in remote locations.	Unlikely	Major	Moderate	Prohibit all forms of forced and compulsory labor in all civil works contracts, subcontracts, and supplier agreements, consistent with the Labour Act, 2003 (Act 651) and ILO Convention 29 on Forced Labour. Include forced labor prevention provisions in the project's LMP. Train PTT E&S Specialists and site supervisors to identify and report indicators of forced labor, including confiscation of identity documents, restriction of workers' movement as a mitigation measure against GBV/SEA/SH risk. Establish accessible, anonymous worker grievance reporting channels through the project GRM, with assured non-retaliation protections for reporting workers. Conduct periodic labor audits of contractors and subcontractors, with particular attention to sub-contracting arrangements and supply chains for quarried materials.

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
School site selection, enrollment redistribution campaigns, and project benefit distribution across all regions	Social exclusion and discrimination: The project's large-scale, multi-site nature creates risks of perceived or actual exclusion for communities, schools, and student groups not selected for project benefits. Students with disabilities may face exclusion if inclusive design standards are inadequately implemented. Girls from culturally conservative communities may face persistent barriers to accessing improved STEM and TVET programs even after infrastructure investments. Communities in regions without Category A schools — including the Savannah, North-East, and Oti regions — and in remote rural districts risk being marginalized if project targeting criteria are not transparently communicated and equitably applied.	Possible	Moderate	Moderate	Implement an inclusive SEP with targeted engagement strategies for women, girls, persons with disabilities, youth, and communities in remote and underserved districts, including use of local languages, community radio, accessible meeting formats, and trusted intermediaries. Communicate school selection criteria, project objectives, and benefit distribution decisions transparently and in accessible formats to all stakeholder groups, including communities not selected for project investments. Apply non-discrimination provisions in recruitment for construction and maintenance employment, with minimum targets for employment of women and persons with disabilities from host communities. Enforce inclusive design standards at all newly constructed and rehabilitated schools, with verification by NaSIA pre-commissioning inspections. Ensure GRM channels are accessible to persons with disabilities and those with limited formal literacy. Monitor and report on social inclusion outcomes through the project's disaggregated M&E indicators.
Excavation, site clearance, and construction works at all school construction, rehabilitation, and E-Block completion sites	Loss of cultural heritage and chance finds: Excavation and site clearance activities at school construction and rehabilitation sites across Ghana may uncover previously unknown archaeological sites, artifacts, burial grounds, sacred objects, or other cultural heritage assets. Ghana's rich cultural heritage, widespread community shrines, ancestral sites, and sacred groves — many of which are not formally documented or mapped — heighten this risk across all project site types. Older school structures earmarked for rehabilitation or partial demolition may themselves possess historical or architectural significance. The risk is localized and potentially irreversible if heritage assets are disturbed or destroyed without proper management.	Possible	Major	Substantial	Develop and include standardized Chance Finds Procedures in the ESMF and require their incorporation into all site-specific ESMPs and civil works contracts. Train all construction workers, site supervisors, and PTT E&S Specialists on chance find identification and reporting obligations before commencement of works. In the event of a discovery, immediately suspend all works in the vicinity of the find, secure the site perimeter, and notify the Ghana Museums and Monuments Board (GMMB) and the PTT Environmental Specialist within 24 hours. Do not resume works in the area of a chance find until the GMMB has conducted a site assessment and provided written clearance. Conduct community consultations prior to commencement of works at each site to identify any known cultural heritage assets, sacred sites, shrines, or burial grounds in the vicinity. Assess

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
					older school structures earmarked for significant rehabilitation or demolition for architectural or historical significance prior to commencement of works, in consultation with the GMMB.
School site selection processes, land acquisition, community consultations, and enrollment redistribution across all regions	Social tensions, insecurity, and conflicts: School site selection decisions, land acquisition processes, perceived inequity in employment opportunities, and contractor-community interactions can generate social tensions and conflicts within and between communities, particularly where compensation disputes are unresolved or where school selection criteria are perceived as non-transparent or politically influenced. In northern Ghana, where documented inter-community tensions over land and resources exist, construction activities that disturb land boundaries or introduce external workers into sensitive community contexts could exacerbate existing divisions. The risk is real but manageable through a robust GRM and transparent community engagement.	Possible	Moderate	Moderate	Implement the project's SEP to ensure systematic, inclusive, and transparent community consultation and information disclosure throughout all stages of project preparation, site selection, and implementation. Communicate site selection criteria, land acquisition processes, compensation entitlements, and project timelines clearly and in accessible formats and local languages before decisions are finalized. Establish and operationalize the project's multi-channel GRM prior to commencement of any civil works, with accessible intake channels including IT-enabled grievance management, community suggestion boxes, toll-free telephone lines, and in-person reporting at district education offices. Engage traditional authorities, district assemblies, PTAs, and SMCs as trusted local partners in community engagement and conflict prevention. Coordinate with local police and security authorities for construction site security management, consistent with the WBG's Guidance Note on the Use of Security Personnel. Monitor and document all community complaints and their resolution through the GRM.
Construction activities at all civil works sites across all 16 regions	Occupational Health and Safety (OHS) risks to workers: Construction of new schools, rehabilitation of existing schools, and completion of E-Blocks involve significant OHS risks for construction workers, including injuries from heavy machinery and falling objects, falls from height during roofing and upper-floor works, exposure to construction dust, noise, asbestos, and hazardous chemicals, heat stress during outdoor works in northern Ghana, structural collapse risks at E-Block sites abandoned since 2017, and inadequate worksite sanitation. Previous construction projects in Ghana have	Likely	Major	Substantial	Require all contractors to prepare and implement site-specific OHS Management Plans as part of their C-ESMPs, consistent with the Labour Act, 2003 (Act 651), the Factories, Offices and Shops Act, 1970 (Act 328), and the WBG General EHS Guidelines. Provide all workers with appropriate PPE — including hard hats, safety boots, high-visibility vests, gloves, ear protection, and respiratory protection — at no cost to workers, and enforce mandatory PPE use throughout the construction period. Conduct mandatory OHS induction training for all workers before site deployment. Appoint a qualified Safety Officer at each major construction site. Maintain

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
	recorded significant OHS incidents due to weak contractor management and inadequate site supervision. The risk is elevated across a large portfolio of over 200 sites with variable contractor OHS capacity.				first aid kits, trained first aiders, and documented emergency response procedures at all construction sites. Conduct structural integrity assessments of all E-Block sites before mobilizing workers. Ensure all contractors maintain valid Workmen's Compensation insurance coverage for all site workers. Report all OHS incidents, near-misses, and fatalities to the PTT Environmental Specialist and the World Bank within 24 hours using standardized incident reporting forms.
Construction activities at all civil works sites within active school environments	Construction hazards affecting students, teachers, and community members: Construction activities within active secondary school environments create safety risks for students, teachers, school staff, and visiting community members from moving machinery, falling objects, unsecured construction materials, open excavations, and construction vehicle movements within school premises. These risks are manageable and temporary, confined to the construction period. Standard child-safe construction measures — including perimeter fencing, access controls, and traffic management — effectively reduce risk to acceptable levels. The risk is elevated at boarding schools where students remain on campus outside school hours but does not reach Major severity where adequate site management is in place.	Likely	Moderate	Moderate	Fully fence and clearly demarcate all active construction zones with robust, opaque hoarding of adequate height to physically separate construction areas from all occupied school buildings, playgrounds, dormitories, and student pedestrian routes before any civil works commence. Establish and rigorously enforce strict access control procedures prohibiting entry of students and unauthorized persons into construction zones at all times, including outside school hours and on weekends. Implement child-safe construction practices, including securing all tools, equipment, materials, and open excavations at the end of each working day. Prepare and test site-specific emergency response and evacuation procedures in coordination with school management before works commence. Conduct pre-construction safety awareness sessions with school management, teachers, boarding house supervisors, and students on construction zone boundaries, safety rules, and emergency procedures. Follow WBG General EHS Guidelines on community health and safety and child-safe construction practices.
Rollout of digital learning platforms and internet connectivity across beneficiary schools under Component 2	Digital safeguarding risks — harmful online content and peer-to-peer digital GBV/SEA/SH: The expansion of internet connectivity and deployment of digital learning tools in secondary and TVET schools without adequate digital literacy training, content safeguarding measures, supervision protocols, and online harm reporting	Possible	Moderate	Moderate	Develop and implement a Digital Safeguarding Framework as part of the GBV/SEA/SH Action Plan, specifying minimum standards for content filtering, student online safety training, teacher supervision protocols, and incident reporting mechanisms for all schools receiving internet connectivity under Component 2. Integrate digital literacy and online

Activity	Potential Risk / Impact	Likelihood	Severity	Risk Rating	Standard Mitigation Measures
	mechanisms may expose students — particularly adolescent girls — to harmful online content, cyberbullying, online grooming, and peer-to-peer sexual exploitation facilitated through digital platforms. However, digital safeguarding incidents will not automatically materialize simply because connectivity is expanded — their likelihood depends on the absence of content filtering, supervision, and digital literacy training, all of which the project will implement. Risk is of moderate severity and manageable with appropriate measures.				safety modules into the student digital skills curriculum developed under Subcomponent 2.1. Train teachers and school counsellors in digital safeguarding responsibilities, online harm identification, and referral procedures before digital learning tools are deployed. Apply lessons and safeguards from the Ministry of Education's ongoing GETFund-supported free tablet initiative in designing digital safeguarding measures for this project. Establish clear, accessible, and anonymous reporting mechanisms for students to report online harms, linked to the project's broader GRM and GBV/SEA/SH survivor support pathways.
Collection, storage, and use of student performance data, school-level information, and EMIS data under Component 3	Data privacy and exclusion risks: Collection, storage, and use of student performance data and personal information through learning assessments and EMIS systems carries risk of privacy violations, data misuse, or unauthorized access. The risk is of minor severity: data collected under national education EMIS systems is less sensitive than financial or health data, Ghana's data protection legislation provides an adequate legal framework, and the risk of significant harm to individual students from data misuse is low. Exclusion of certain student groups — including those in remote schools or with disabilities — from assessment coverage may limit the utility of evidence for equity-focused planning.	Possible	Minor	Low	Develop data governance protocols for all learning assessment and EMIS activities under Component 3, specifying data collection, storage, access, and use procedures consistent with Ghana's data protection legislation and World Bank data privacy standards. Ensure all data collected is disaggregated by gender, region, school type, disability status, and vulnerability category to enable equity-focused analysis, while protecting individual student privacy through anonymization of personal identifiers. Design assessment instruments and EMIS data collection tools to be inclusive and accessible to students with disabilities and those in remote schools with limited digital infrastructure. Train school administrators and MoE, GES, and SRIM staff on data privacy, informed consent, ethical data use, and secure data storage before data collection activities commence. Implement appropriate cybersecurity measures for all digital EMIS and assessment platforms.

5.3. Risks and Mitigation Measures Specific to Disadvantaged and Vulnerable Groups

Secondary education in Ghana is not equitably accessible to all. Structural inequalities rooted in gender, geography, disability, socioeconomic status, and ethnicity mean that certain groups of students, caregivers, and community members face disproportionately higher barriers to accessing quality secondary education — and are simultaneously more vulnerable to the adverse social and environmental impacts associated with the project's civil works, labor, and institutional activities. The World Bank's Environmental and Social Standard 1 (ESS1) requires that disadvantaged and vulnerable individuals and groups be identified, that project impacts on them be specifically assessed, and that mitigation measures be tailored to address their particular circumstances.

For the purposes of this ESMF, the following groups are identified as disadvantaged or vulnerable in the context of the STARR-J project, based on the socioeconomic baseline analysis presented in Section 4, the project's Environmental and Social Review Summary (ESRS), and the specific characteristics of project activities:

- Adolescent girls, including those in boarding schools
- Persons with disabilities (PwDs)
- Children and youth from low-income and economically marginalized households
- Communities in deprived, remote, and underserved regions (particularly the Savannah, North-East, Oti, and Upper West regions)
- Informal traders and women engaged in petty trade near school sites
- Ethnic and linguistic minorities
- Students with special educational needs
- Orphans and children from female-headed or child-headed households
- Pregnant girls and young mothers

Each group is discussed below, with identified project-specific risks and corresponding tailored mitigation measures.

Adolescent Girls and Female Students in Boarding Schools

Ghana's secondary school system is characterized by some female dropout, particularly at the senior high school level, driven by early marriage, teenage pregnancy, domestic labor burdens, distance to school, financial constraints, and safety concerns along school commuting routes. Approximately 75 percent of public secondary school students are enrolled in boarding schools, where adolescent girls live in close residential proximity to peers, school staff, and — during the project's construction phase — external workers. This context creates specific and heightened vulnerabilities.

The conduct of civil works within active boarding school environments introduces a direct GBV/SEA/SH risk for female students, arising from unequal power dynamics between adult male construction workers and adolescent girls, inadequate supervision of contractor activities outside working hours, and the limited capacity of existing school-level safeguarding structures to prevent, identify, and respond to incidents. The expansion of internet connectivity under Component 2, while essential for improving learning outcomes, further introduces risks of online harassment, cyberbullying, online grooming, and non-consensual sharing of intimate images, to which adolescent girls are disproportionately exposed.

Beyond physical safety, girls face systemic barriers to benefiting equitably from the project's STEM and TVET curriculum improvements under Component 2. Cultural norms in several regions — particularly in northern Ghana — continue to discourage girls from pursuing science, technology, engineering, and mathematics subjects, and from remaining in school beyond basic education. Without deliberate gender-

responsive design in school construction (adequate and secure female sanitation facilities, gender-segregated boarding arrangements, well-lit pathways) and in curriculum delivery (female role models, mentorship, bias-free teaching materials), the project risks reproducing existing gender gaps even as it expands access.

Tailored Mitigation Measures

The project will implement a comprehensive GBV/SEA/SH Action Plan prior to project effectiveness, developed with reference to the World Bank's Good Practice Note on SEA/SH and in coordination with the Ministry of Gender, Children and Social Protection (MoGCSP). The Action Plan will include mandatory zero-tolerance codes of conduct for all civil works contractors; strict access control protocols prohibiting contractor and worker access to dormitory areas, female boarding facilities, and student recreational areas at all times outside defined working hours; survivor-centred, confidential GBV/SEA/SH complaint mechanisms with dedicated female-friendly intake points; and referral pathways to DOVVSU, psychosocial support services, legal aid, and medical care. A Digital Safeguarding Framework will be developed as part of the GBV/SEA/SH Action Plan for all schools receiving internet connectivity under Component 2, incorporating content filtering, online safety training for students, and teacher supervision protocols. All new and rehabilitated school infrastructure will incorporate gender-responsive design standards, including adequate numbers of gender-segregated, lockable sanitation facilities meeting Ghana Education Service (GES) and UNICEF/WHO WASH-in-schools standards; secure, well-lit female dormitory facilities with controlled access; safe and lit pedestrian pathways within school premises; and appropriate private spaces for girls experiencing menstruation. The project will track gender-disaggregated enrollment, retention, and STEM/TVET subject uptake indicators through the M&E framework and report on these in biannual progress reports to the World Bank.

Persons with Disabilities

Ghana's Persons with Disability Act, 2006 (Act 715) and the Education Act, 2008 (Act 778) mandate inclusive education and barrier-free access to public facilities. However, physical access to secondary schools in Ghana remains severely limited for persons with physical, sensory, and cognitive disabilities. The 2021 Population and Housing Census reports that approximately 3 percent of Ghana's population lives with a disability, with significantly higher rates in the northern regions. Many existing secondary school buildings — including the E-Blocks constructed between 2013 and 2015 — were designed and built without adequate provisions for physical accessibility, including ramps, accessible sanitation facilities, wide doorways, tactile guide paths, and accessible signage.

Students with disabilities risk being excluded from project benefits if: (i) newly constructed and rehabilitated school infrastructure does not incorporate universal design principles; (ii) new STEM laboratories, digital learning centers, and ICT equipment are not accessible to students with visual, hearing, or physical impairments; (iii) project consultations, community meetings, and GRM channels are not designed to accommodate persons with mobility, sensory, or cognitive limitations; and (iv) construction activities create additional temporary physical barriers around school sites without providing accessible alternatives.

Tailored Mitigation Measures

All new school construction, E-Block completion, and school rehabilitation activities will incorporate universal design and accessibility standards from the outset of engineering design, consistent with Act 715, Ghana's National Building Regulations, and the WBG's Universal Design for Learning principles. Minimum accessibility standards will include ramps and level access at all building entrances; accessible, gender-segregated sanitation facilities on all occupied floors; wide doorways and corridors

accommodating wheelchair users and accessible furniture and laboratory equipment in STEM and TVET facilities.

Compliance with accessibility standards will be verified by the National Inspectorate Board (NaSIA) as part of pre-commissioning school inspections before any new infrastructure is commissioned for use. ICT equipment and digital learning platforms procured under Component 2 will be assessed for compatibility with assistive technologies — including screen readers, text-to-speech software, and adjustable interfaces — before procurement. Project consultations and GRM channels will be designed to be fully accessible, including provision of sign language interpretation at community meetings where hearing-impaired persons are present, use of accessible formats for written project information, and inclusion of community-based organizations serving PwDs as formal consultation channels. The project's SEP will include specific provisions for targeted outreach to organizations representing PwDs at national, regional, and district levels. Disaggregated enrollment data by disability status will be collected and reported through the EMIS under Component 3.

Children and Youth from Low-Income and Economically Marginalized Households

Despite the Government of Ghana's Free Senior High School (Free SHS) policy introduced in 2017, economic barriers continue to limit secondary school participation for children from the poorest households. Indirect costs — including uniforms, learning materials, transport, and examination fees — remain significant relative to household incomes in the lowest wealth quintiles, particularly in rural areas. Children from low-income households are more likely to be engaged in domestic labor, agricultural work, or informal trading in lieu of school attendance, and are more vulnerable to dropping out during periods of household economic stress.

The project's civil works activities introduce a specific risk for children from economically marginalized households: the presence of construction activities near schools may expose these children — particularly boys — to opportunities for informal employment in construction-adjacent activities such as fetching water, carrying materials, or aggregate crushing, creating a pathway to child labor. Additionally, if project targeting criteria are not transparently applied and communicated, communities that are already marginalized by poverty may perceive project investments as benefiting wealthier or more politically connected communities, generating grievances and social exclusion.

Tailored Mitigation Measures

Civil works contracts will include an explicit minimum age requirement of 18 years for all workers engaged on project construction sites, with mandatory identity verification at the point of engagement. Regular unannounced site inspections by PTT Environmental and Social Specialists will include specific checks for the presence of minors on or around active construction sites. Awareness-raising sessions conducted with school management, parent-teacher associations (PTAs), and governing boards (SMCs) before works commence will address the risks of informal child labor at construction sites and the legal and contractual prohibitions that apply. The project's communication campaigns under Subcomponent 1.5 — targeting enrollment redistribution and secondary school participation — will be designed with specific messaging for low-income households on available financial support mechanisms, Free SHS entitlements, and the project's targeted investments in underserved communities. The GRM will maintain accessible intake channels in all project communities, with specific outreach to low-income and geographically isolated households to ensure that grievances related to perceived exclusion from project benefits are captured and resolved in a timely manner.

Communities in Deprived, Remote, and Underserved Regions

Ghana's educational development indicators reveal persistent regional disparities. The Savannah, North-East, Upper West, Oti, and Bono East regions consistently record the lowest secondary school enrollment rates, the highest rates of out-of-school children, the greatest shortfalls in qualified teachers, and the most severe deficits in school infrastructure. These regions are also characterized by higher levels of poverty, lower rates of formal land documentation, weaker local government institutional capacity, and more limited access to GBV support services, legal aid, and environmental management institutions.

Communities in these regions face a dual risk: they may receive a disproportionately lower share of project benefits if infrastructure investments are concentrated in more accessible or better-served areas; and they may face greater difficulty in accessing project information, participating meaningfully in consultations, and using GRM channels due to geographic remoteness, language barriers, and limited digital connectivity. Land acquisition processes in these regions — where customary tenure is dominant, land boundaries are disputed, and legacy compensation cases from the E-Block program remain unresolved — are particularly complex and require careful management to avoid deepening existing grievances and social tensions.

Tailored Mitigation Measures

The project's geographic targeting criteria, as described in Section 2.3, explicitly prioritize the Savannah, North-East, Upper West, and Oti regions for new school construction investments, reflecting the Project Development Objective's focus on equitable access. The SEP will include targeted outreach strategies for remote and underserved communities, including the use of community radio in local languages, engagement of district assemblies and traditional authorities as trusted communication intermediaries, and mobile consultation teams that travel to communities where transportation constraints prevent attendance at centralized meetings. The RPF will include specific provisions for managing customary land tenure complexities, including engagement of traditional land custodians, stool lands administrators, and the Lands Commission in all land acquisition processes in customary tenure areas. The project's capacity building activities under Component 3 will include targeted support for GES district directorates in the Savannah, North-East, Upper West, and Oti regions, strengthening their capacity to manage ESMF compliance, community consultations, and GRM operations at the local level. EMIS data collected under Component 3 will be disaggregated by region and district to enable evidence-based tracking of whether project investments are reducing rather than widening regional disparities.

Informal Traders and Women Engaged in Petty Trade Near School Sites

In Ghana, the areas immediately surrounding secondary school gates and access roads are frequently characterized by a concentration of informal economic activity, including food vendors, petty traders, water sellers, and small market stalls — the majority of whom are women. These traders depend on school proximity for their customer base and derive a significant share of their household income from students, teachers, and school visitors. Construction activities involving perimeter fencing, access road works, temporary school closures, and changes to school entry points risk disrupting or eliminating access to these trading locations, resulting in temporary or permanent loss of income. Where school boundary expansions involve encroachment on occupied trading spaces, economic displacement requiring compensation under ESS5 may occur.

Tailored Mitigation Measures

Pre-construction socioeconomic surveys and censuses conducted at each project school site will specifically identify and document all informal traders and women-owned micro-enterprises operating

within or immediately adjacent to school boundaries and access routes, including seasonal and part-time vendors. Survey findings will inform site-specific RP preparation where economic displacement is confirmed. Compensation for loss of business income, trading structures, and inventory will be provided at full replacement cost prior to commencement of any works that restrict trader access, consistent with the project's RF and ESS5. Civil works scheduling and site access management will seek to maintain pedestrian access to existing trading locations throughout the construction period wherever feasible. Livelihood restoration support — including provision of temporary alternative trading locations, access to microfinance services, and referral to Ghana's livelihood support programs — will be available to traders who suffer significant or prolonged income loss. The GRM will be actively promoted among informal trader communities at each school site, with female-friendly intake points and locally accessible channels, given that many informal traders have limited formal literacy and digital access.

Ethnic and Linguistic Minorities

Ghana is a highly diverse country with more than 100 ethnic groups and numerous distinct languages and dialects. In the northern regions in particular, communities speaking Dagbani, Gonja, Konkomba, Bimoba, Chokosi, and other minority languages may have limited proficiency in English — the medium of instruction in secondary schools and the dominant language of government communication. Ethnic and linguistic minorities face barriers to accessing project information, participating in consultations, and using GRM channels where these are conducted exclusively in English or in dominant regional languages. They may also face discrimination in access to project employment opportunities, particularly at construction sites where contractors may preferentially recruit workers from dominant ethnic groups.

Tailored Mitigation Measures

The project's SEP will require that all community consultations, public information disclosure, and GRM communications be conducted in the dominant local language of each project community, supplemented by culturally appropriate visual communication materials where literacy rates are low. Community radio programs in relevant local languages — including Dagbani, Gonja, Twi, Ewe, and others as appropriate to regional project sites — will be used as a primary communication channel in minority language communities. GRM intake points will include oral reporting channels accessible to community members with limited formal literacy, and GRM staff at district level will be required to have proficiency in the dominant local languages of their operational area. Non-discrimination provisions in civil works employment contracts will explicitly prohibit ethnic discrimination in worker recruitment, and the PTT Social Specialist will monitor employment data for evidence of ethnic exclusion in hiring. The project's consultation records will document the ethnic and linguistic composition of consultation participants to verify the inclusiveness of engagement processes.

Pregnant Girls and Young Mothers

Teenage pregnancy remains one of the leading causes of school dropout for girls in Ghana, with the Ghana Demographic and Health Survey (2022) reporting that approximately 14 percent of women aged 15–19 had begun childbearing. While Ghana's Re-entry Policy (2016) entitles pregnant girls and young mothers to remain in or return to school after childbearing, implementation of this policy across Ghana's secondary schools is inconsistent. Pregnant girls and young mothers face stigma, discrimination from peers and some school administrators, physical barriers in school environments not designed for pregnant or nursing women, and increased economic vulnerability. The project's enrollment redistribution and school construction activities could inadvertently perpetuate exclusion if re-entry policy compliance is not actively monitored and if new school designs do not accommodate the needs of pregnant and nursing students.

Tailored Mitigation Measures

The project's communications and awareness campaigns under Subcomponent 1.5 will include specific messaging on the Re-entry Policy for pregnant girls and young mothers, targeting students, parents, school administrators, teachers, and community leaders. New school construction and rehabilitation designs will incorporate private spaces that can accommodate breastfeeding mothers and pregnant students, such as health corners or counselling rooms accessible to pregnant and nursing students. Training provided to teachers and school counsellors under Component 2 will include modules on non-discriminatory treatment of pregnant girls and young mothers and on implementation of the Re-entry Policy. The project's disaggregated M&E indicators will track re-enrollment and retention rates for young mothers at project schools as a measure of inclusive policy implementation. GRM channels will be accessible and confidential for pregnant girls and young mothers wishing to report discrimination or exclusion.

5.4. Planning and Design Considerations for Avoidance of Environmental and Social Risks and Impacts

Avoiding and minimizing environmental and social risks at the earliest possible stage of subproject planning and design is the most cost-effective and impactful approach to environmental and social risk management. For the STARR-J project, where the exact school construction sites, E-Block completion locations, and rehabilitation targets will be identified and confirmed during implementation through the site selection and screening framework described in Section 5.4.1, the integration of environmental and social considerations into planning and design processes — before civil works contracts are awarded — is both a regulatory requirement under the World Bank's Environmental and Social Framework and a practical necessity for reducing implementation delays, cost overruns, community conflicts, and reputational risks. The following measures will be applied systematically during subproject planning and design across all project components.

5.4.1 Exclusion Standards, Site Selection Criteria, and Environmental and Social Screening

The selection of sites for new school construction, E-Block completion, and major infrastructure expansion is the single most consequential planning decision for the project's environmental and social risk profile. A poorly selected site — one located in a flood-prone zone, on contested customary land, adjacent to a protected area, or in proximity to a sensitive community — can generate impacts that are difficult and costly to mitigate regardless of the quality of subsequent design and construction management. The following site selection criteria and exclusion standards will be applied during the identification and screening of all proposed subproject sites.[1]

Environmental Exclusion Criteria

No subproject site will be approved where the proposed location falls within or in direct adjacency to any of the following:

- Nationally designated protected areas, including wildlife sanctuaries, game reserves, and Ramsar wetland sites, as designated under the Wildlife Conservation Regulations, 1971 (L.I. 685).
- Forest reserves gazetted under the Forest Protection Decree, 1974 (NRCD 243) and managed by the Forestry Commission.

[1] During subproject identification, ensure subproject eligibility by referring to the Exclusion List in Table 6-2 below. No subproject activity may proceed if it triggers any item on the Exclusion List.

- Globally or nationally recognized Key Biodiversity Areas (KBAs) as identified in the World Database of Protected Areas and the Forestry Commission's spatial biodiversity datasets.
- Riparian buffer zones prescribing minimum setback distances of 100 metres from Class 1 water bodies, 50 metres from Class 2 water bodies, and 30 metres from Class 3 water bodies, consistent with the Water Resources Commission's Riparian Buffer Zone Policy, 2014.
- Documented flood-prone areas or low-lying positions with demonstrated susceptibility to seasonal inundation, based on GMet and HSD flood hazard mapping.
- Areas of geotechnical instability, including steep slopes with gradients exceeding 15 percent where slope stability risks cannot be adequately managed through engineering measures.

Social and Land Exclusion Criteria

No subproject site will be approved where:

- The proposed site is subject to active land disputes, unresolved boundary conflicts, or ongoing litigation that has not been fully resolved with documentary evidence before site approval.
- The site involves displacement of existing residential structures or established community facilities — including markets, clinics, or places of worship — where alternative sites of comparable quality are available.
- The site contains documented cultural heritage assets, including community shrines, sacred groves, ancestral burial grounds, or sites of historical or archaeological significance, as identified by the GMMB or through community consultations.
- The site requires acquisition of customary land where the free, prior, and informed consent of the relevant traditional land custodians, Stool, Skin, or family land authority has not been obtained and documented in writing before site approval is granted.

Preference Criteria for Site Selection

Among available candidate sites meeting the exclusion criteria above, the following positive selection criteria will be applied in order of preference:

- Existing government-owned land within or immediately adjacent to an existing school footprint with adequate expansion space and no outstanding land claims.
- Previously disturbed or degraded land with no significant ecological, agricultural, or cultural value.
- Sites with existing road access, water supply infrastructure, and electricity or solar energy connectivity, minimizing the need for new ancillary infrastructure investment.
- Sites accessible to the target student population within a reasonable commuting distance, or with available boarding capacity, to maximize access and equity outcomes.
- Sites in the Savannah, North-East, Oti, and Upper West regions, consistent with the project's geographic targeting priorities for equitable access expansion.

All site selection decisions will be formally documented using the ESMF Environmental and Social Screening Checklist in **Annex 2**. Completed checklists will be reviewed by the PTT Environmental and Social Specialists and submitted to the World Bank for No Objection before any site is formally approved for subproject investment.

Environmental and Social Screening

All candidate school construction sites, E-Block completion locations, and schools proposed for rehabilitation or upgrading will be subject to a structured environmental and social screening process

before site selection is finalized and engineering designs are commissioned.[2] The screening process will use a standardized Environmental and Social Screening Checklist — included as **Annex 2** to this ESMF — to rapidly assess each candidate subproject site against key environmental and social sensitivity parameters, including:

- Proximity to protected areas, forest reserves, Key Biodiversity Areas (KBAs), Ramsar wetland sites, and riparian buffer zones designated under the Water Resources Commission's Riparian Buffer Zone Policy, 2014.
- Presence of critical habitats, ecologically sensitive ecosystems, sacred groves, and wildlife corridors within or adjacent to the proposed construction footprint.
- Presence of known cultural heritage sites, community shrines, ancestral burial grounds, and archaeological sites within or immediately adjacent to the proposed site, as identified through desktop review using the Ghana Museums and Monuments Board (GMMB) heritage register and community consultations.
- Extent of anticipated land acquisition, physical displacement, and economic displacement, including the presence of households, businesses, or informal traders within the proposed construction footprint or school boundary expansion area.
- Land tenure status of the proposed site, including whether the land is government-owned, stool/skin land, family land, or subject to active disputes or unresolved legacy compensation claims from the original 2013–2015 E-Block program.
- Presence of disadvantaged and vulnerable groups — including adolescent girls in boarding schools, persons with disabilities, female-headed households, informal traders, and residents of remote communities — within the zone of influence of proposed subproject activities.
- Proximity to sensitive community receptors including occupied classrooms, dormitories, health facilities, water sources, and residential areas, particularly relevant for rehabilitation and E-Block completion activities at active school sites.
- Flood risk, slope instability, geotechnical conditions, and climate-related hazards at the proposed site, based on Ghana Meteorological Agency (GMet) and Hydrological Services Department (HSD) hazard data and regional topographic mapping.
- Presence of asbestos-containing materials or other hazardous substances in existing structures proposed for rehabilitation or partial demolition.

Screening outcomes will determine the level of environmental and social assessment required for each subproject — ranging from application of Environmental Codes of Practice (ECOPs) for low-risk rehabilitation activities to preparation of full site-specific Environmental and Social Management Plans (ESMPs) and Resettlement Plans (RPs) for higher-risk new construction sites — consistent with a proportionate, risk-based approach. Subproject sites presenting unacceptable risks that cannot be adequately mitigated — including sites requiring massive displacement, significant impacts on critical habitats, or located within designated protected areas — will be excluded from the project in accordance with the negative list established in this ESMF.

5.4.2 Consideration of Alternatives

Where initial site screening identifies significant environmental or social concerns with a proposed location, the project will systematically consider and evaluate reasonable alternatives before proceeding

[2] a needs assessment would be conducted for each candidate school before E&S screening, to ascertain (1) what specific additional facilities are required (for upgrades) or (2) what facilities are to be rehabilitated. Clarity on these 2 will then inform the E&S screening.

to design. The assessment of alternatives is a core requirement of ESS1 and the EPA's Environmental Assessment Regulations, 1999 (L.I. 1652). Alternatives assessment will consider:

- **Alternative sites:** Where a proposed school construction site presents significant land acquisition, biodiversity, or cultural heritage concerns, at least two alternative site options will be identified and screened before a final site selection decision is made. The comparative assessment of alternatives will be documented in the site-specific environmental and social screening report, including a clear explanation of the basis on which the preferred site was selected. Where no acceptable alternative is available in a given district and the proposed site presents manageable risks, the project will proceed with enhanced environmental and social assessment and a site-specific ESMP addressing identified risks.
- **Alternative design configurations:** Where site constraints — including topographic, hydrological, or land tenure conditions — make the standard school footprint unsuitable, alternative structural designs will be considered during engineering design, including multi-storey building configurations to reduce the land footprint, staggered building placement to preserve existing mature trees and avoid disruption of natural drainage, and modified building orientations to maximize natural ventilation and minimize solar heat gain.
- **Alternative construction methodologies:** Selected sites where works present significant disturbance risks, alternative construction methods will be considered — such as prefabricated structural elements to reduce construction time and associated noise and dust impacts at active school sites, or trenchless installation for digital fiber optic cabling under watercourses instead of open-cut trenching.
- **Alternative technologies for digital infrastructure:** The rollout of digital learning infrastructure under Component 2 will consider alternative connectivity technologies — including satellite-based internet connectivity for schools in areas without fiber optic or mobile network coverage — to reduce the physical footprint of infrastructure works in ecologically or socially sensitive locations.
- **Phased construction scheduling:** Construction scheduling will be designed to avoid peak school examination periods and peak agricultural seasons wherever feasible, minimizing disruption to school operations, sensitive fauna, and farming communities in project areas.

5.4.3 Climate-Resilient School Design

All new school construction and major rehabilitation designs will incorporate climate resilience measures from the outset, consistent with the World Bank's Climate-Smart Education Infrastructure guidance, Ghana's National Climate Change Policy (2014), and the project's Paris Alignment commitments. Specific design provisions include:

- Upgraded stormwater drainage systems, including adequately sized drains, culverts, and cross-drainage structures designed to accommodate projected increases in rainfall intensity under Ghana's climate change scenarios.
- Building foundations elevated above the estimated 1-in-100-year flood level at sites in flood-susceptible locations, based on HSD hydrological analysis incorporating climate change projections.
- Roof designs reinforced to withstand high-wind events projected under climate change scenarios, particularly in the northern savannah regions where wind speeds during storm events are elevated.
- Generous roof overhangs, shading devices, and natural ventilation provisions to manage heat stress in occupied school buildings, particularly in northern Ghana where mean maximum temperatures are projected to increase significantly over the project's infrastructure lifetime.

- Solar photovoltaic systems as a standard design component at all new school construction sites, reducing dependence on the electricity grid and improving resilience to power supply disruptions.
- Rainwater harvesting systems as a standard design feature at all new schools and major rehabilitations, reducing dependence on municipal or borehole water supply and improving water security in the project's operational phase.
- Water-efficient fixtures and low-water sanitation options at schools in water-scarce northern regions, designed for the projected reduction in groundwater recharge under climate change.
- Landscaping designs incorporating indigenous shade trees and vegetative ground cover to reduce heat island effects, manage stormwater, and stabilize exposed soils around new school buildings.

5.4.4 Integrating Road Safety and Accessibility into School Design

Safety and universal accessibility will be integrated into all school construction and rehabilitation designs from the earliest design stage, consistent with Ghana's Persons with Disability Act, 2006 (Act 715), the National Building Regulations, and the WBG's Universal Design for Learning principles. Design-stage provisions include:

- Clearly demarcated and segregated pedestrian access routes connecting school gates, classroom blocks, dormitories, WASH facilities, STEM laboratories, and dining facilities, with adequate lighting along all internal pathways.
- Universal accessibility features at all buildings, including ramps and level access at all entrances, wide doorways and corridors accommodating wheelchair users, accessible and gender-segregated sanitation facilities on all occupied floors, and tactile guide paths for visually impaired students.
- Traffic management provisions at school site access points, including speed-control measures, pedestrian crossing facilities, and sight-line clearance for vehicles entering and exiting school gates, consistent with the National Road Safety Authority (NRSA) school zone safety guidelines.
- Secure perimeter fencing with clearly defined, controlled entry points to protect students and staff from external traffic and unauthorized access during both construction and operation.
- Compliance with NaSIA's infrastructure standards verification as a mandatory condition before any newly constructed or rehabilitated school building is commissioned for use.

5.4.5 Minimizing the Footprint of Civil Works

A core principle of the project's design approach is to limit the environmental and social footprint of civil works to the minimum necessary to achieve educational infrastructure objectives. Specific measures include:

- Rehabilitating and expanding existing school buildings within their established footprints and site boundaries wherever feasible, avoiding the need for new land acquisition or vegetation clearance beyond the existing school boundary.
- Limiting vegetation clearance strictly to the minimum area required for school construction, retaining mature trees, existing landscaping, and natural drainage features wherever possible, and incorporating them into final school site designs.
- Siting construction camps, material stockpiles, and equipment laydown areas on previously disturbed land within or adjacent to school sites wherever feasible, avoiding clearance of natural vegetation for temporary construction facilities.
- Siting borrow pits on degraded or previously disturbed land, away from ecologically sensitive areas, riparian buffer zones, agricultural land, and community assets, with borrow pit locations subject to screening and approval under the ESMF before extraction commences.

- Locating concrete batching areas and material processing facilities at sufficient distance from occupied classrooms, dormitories, and neighboring residences to minimize dust, noise, and vibration impacts during construction.

5.4.6 Waste Management Planning at Design Stage

Effective waste management begins at the design stage, not after construction waste has been generated. The following provisions will be integrated into subproject designs before civil works contracts are tendered:

- All site engineering designs will include designated areas within the site boundary for temporary on-site segregation and storage of construction waste, sized appropriately for the expected waste volumes and duration of works at each site.
- Designs will minimize construction material usage, other resources usage and waste generation by specifying modular, pre-cut building components wherever feasible, reducing off-cuts, packaging waste, and demolition debris.
- Civil works contracts will include mandatory Waste Management Plan requirements, contractor responsibilities for licensed waste disposal, and explicit prohibitions on on-site burning, burial, or uncontrolled dumping of any construction waste.
- All new and rehabilitated school building designs will incorporate operational solid waste collection infrastructure — including covered, segregated waste collection points accessible to service vehicles — designed to serve the school's anticipated enrollment and boarding population over the building's full service life.
- All designs will incorporate appropriate rainwater harvesting (where feasible), wastewater treatment and disposal arrangements — including septic tank and soakaway systems or waste stabilization ponds — compliant with the EPA's Effluent Limitation Regulations, 2024 (L.I. 2278), for schools without municipal sewer connections, which will apply to the majority of rural and peri-urban project sites.
- An E-waste Management Plan will be developed prior to procurement of ICT equipment under Component 2, specifying collection, temporary storage, transportation, and disposal procedures for all decommissioned equipment through EPA-registered e-waste recyclers, with refurbishment and reuse prioritized before disposal.

5.4.7 Integration of Environmental and Social Requirements into Technical Designs and Bidding Documents

Environmental and social requirements will be systematically embedded into technical design specifications, Bills of Quantities (BOQs), and bidding documents for all civil works contracts, ensuring that E&S management obligations are clearly defined, costed, and enforceable from the point of contract award. Specific provisions include:

- Inclusion of Environmental Codes of Practice (ECOPs) as a mandatory annex to all civil works contracts, establishing minimum E&S performance standards for all construction activities regardless of subproject classification.
- Inclusion of site-specific ESMP requirements, OHS Management Plan requirements, Waste Management Plan requirements, Traffic Management Plan requirements, and Chance Finds Procedure requirements as mandatory contract deliverables, with defined timelines for submission and approval before site mobilization.
- Inclusion of mandatory GBV/SEA/SH zero-tolerance clauses, worker Codes of Conduct, child labor prohibition provisions, and worker GRM requirements in all civil works contracts.

- Inclusion of asbestos survey requirements and Asbestos Management Plan provisions in all contracts involving rehabilitation of older school buildings, with asbestos removal restricted to EPA-certified specialist contractors.
- Specification of minimum local labor recruitment targets in bidding documents, consistent with the project's LMP, to reduce labor influx and maximize community economic benefits from project construction activities.
- Inclusion of borrow pit management plan requirements in contracts where borrow material extraction is anticipated, with borrow pit rehabilitation obligations and inspection and sign-off procedures before contractor demobilization.
- Clear delineation of contractor reporting obligations on E&S performance, OHS incidents, child labor incidents, GBV/SEA/SH incidents, and GRM activity in monthly progress reports submitted to the construction supervision consultant and PTT.

By embedding these requirements in contracts before works are awarded, the project ensures that contractors have planned and budgeted for E&S management from mobilization, substantially reducing the risk of non-compliance, implementation disputes, and cost claims during construction.

5.4.8 Emergency Preparedness and Response Planning

Civil works at active school sites and new construction in remote areas of Ghana carry inherent risks of accidents, environmental emergencies including fuel spills, and community health emergencies. Emergency preparedness provisions will be integrated into project design and contractor requirements before civil works commence, including:

- Mandatory preparation of site-specific Emergency Response Plans by all contractors prior to commencement of works at each site, covering procedures for construction accidents, fuel and chemical spills, fire emergencies, structural incidents at E-Block sites, and medical emergencies requiring evacuation.
- Provision of first aid facilities, trained first aiders, and emergency communication equipment at all active construction sites, with documented procedures for medical evacuation to the nearest health facility.
- Incorporation of Ghana Fire Service design standards into all new and rehabilitated school building designs, including clearly marked fire escape routes, emergency exits, fire suppression equipment, and lightning protection systems on multi-storey and ICT-equipped buildings.
- Preparation of operational emergency evacuation plans for each school campus — covering both the construction period and the building's operational life — in coordination with school management and the Ghana National Fire Service district office, before civil works commence.
- Establishment of clear notification and escalation procedures for all environmental and social incidents, including reporting to the PTT within 24 hours and to the World Bank within 48 hours for serious incidents, using standardized incident reporting forms.
- Coordination with local health authorities, NADMO district offices, and emergency services in each project district to ensure that construction-related and climate-related emergencies can be rapidly escalated to appropriate response agencies, particularly at remote school sites in the Savannah, North-East, and Upper West regions where emergency response capacity is most limited.

6. Procedures and Implementation Arrangements

6.1. Environmental and Social Risk Management Procedures

The environmental and social risk management procedures for the STARR-J project will be implemented through the procedural framework set out in Table 6.1 below. This framework provides a clear, time-bound, and role-specific roadmap to manage environmental and social risks and impacts across all project components and subproject activities in Ghana. It aligns national permitting requirements under the Environmental Protection Act, 2025 (Act 1123) and the Environmental Assessment Regulations, 1999 (L.I. 1652) with the World Bank's Environmental and Social Framework (ESF), embeds inclusive stakeholder engagement and robust grievance mechanisms consistent with the project's Stakeholder Engagement Plan (SEP), and ensures that contractors and supervising entities have the tools, training, and accountability needed to deliver outcomes consistent with good international industry practice and the World Bank's Environmental, Health, and Safety (EHS) Guidelines.

Table 6-1: Project Cycle and E&S Management Procedures

Project Stage	E&S Stage	E&S Management Procedures
a. Assessment and Analysis: Subproject identification — including identification of school construction sites, E-Block completion locations, rehabilitation and upgrading targets, and digital infrastructure rollout schools	Screening	- During subproject identification, ensure subproject eligibility by referring to the Exclusion List in Table 6-2 below. No subproject activity may proceed if it triggers any item on the Exclusion List. - For all proposed subproject activities — including new school construction, E-Block completion, school rehabilitation, school upgrading, and digital infrastructure rollout — use the Environmental and Social Screening Checklist in Annex 1 to identify and assess potential environmental and social risks and impacts, determine the sensitivity of the proposed site, and identify the appropriate level of environmental and social assessment and mitigation required. - Identify all documentation, permits, and clearances required under Ghana's environmental and permitting regulations, including EPA Environmental Permits under L.I. 1652, Water Use Permits from the Water Resources Commission (WRC), and any cultural heritage clearances required from the Ghana Museums and Monuments Board (GMMB). - Conduct a land tenure assessment for each proposed site, documenting ownership status, existing users and occupants, unresolved legacy land claims from the 2013–2015 E-Block program, and the status of any required customary land consent processes. - Conduct a pre-construction asbestos desktop assessment for all schools proposed for rehabilitation or partial demolition, identifying the likely construction period of existing structures and flagging sites requiring a full pre-construction asbestos survey. - Draft and share with the World Bank a screening report recommending the relevant E&S instrument(s) to be prepared for each specific subproject or intervention, including the proposed classification (ECOP-only, ESMP, ESIA, RP, or combinations thereof). - Following the World Bank's advice or concurrence on the proposed E&S instruments, prepare Terms of Reference (TOR) for required assessments and plans and share with the World Bank for review and clearance before assessment work commences.
b. Formulation and Planning: Planning for subproject activities, including site-specific assessments,	Planning	- Based on the agreed E&S instruments and TOR confirmed between the World Bank and the Ministry of Education (MoE) / PTT, prepare all required environmental and social assessments

Project Stage	E&S Stage	E&S Management Procedures
human and budgetary resources, and monitoring measures		and management plans for each subproject. - For subproject activities requiring any of the following instruments: (a) Environmental and Social Impact Assessment (ESIA); (b) Environmental and Social Management Plan (ESMP); (c) Resettlement Plan (RP); (d) Livelihood Restoration Plan (LRP); (e) Biodiversity Management Plan (BMP); (f) Asbestos Management Plan (AMP); (g) Traffic Management Plan (TMP); prepare and share copies with the World Bank for prior review and No Objection before initiating any bidding processes or launching subproject activities. - Ensure that the contents of site-specific ESMPs, RPs, and other management plans are shared with relevant stakeholders — including affected communities, traditional authorities, district assemblies, governing boards, and parent-teacher associations (PTAs) — in an accessible manner and in appropriate local languages, and that meaningful consultations are held with affected communities in accordance with the project's SEP before plans are finalized. - Complete all documentation, permits, and regulatory clearances required under Ghana's Environmental Assessment Regulations, 1999 (L.I. 1652), the Water Resources Commission Act, 1996 (Act 522), the Minerals Commission Act, 1993 (Act 450) (for borrow pit operations), and other applicable legislation before civil works contracts are signed. - Conduct mandatory pre-construction asbestos surveys at all school rehabilitation and E-Block completion sites where the desktop assessment indicates likely presence of asbestos-containing materials (ACMs), carried out by EPA-certified environmental practitioners, before contract signing at affected sites. - Train all PTT Environmental, Social, and GBV Specialists, GES district E&S focal points, and construction supervision consultants on the relevant E&S procedures, instruments, and reporting requirements before subproject implementation commences in each region. - Incorporate all relevant environmental and social procedures, plans, and requirements — including ECOPs, site-specific ESMP requirements, OHS Management Plan requirements, Waste Management Plan requirements, Chance Finds Procedures, GBV/SEA/SH clauses, Codes of Conduct, and worker GRM requirements — into contractor bidding documents and civil works contracts before tendering. - Ensure that all civil works contractors and subcontractors are trained on applicable E&S procedures, plans, and their contractual E&S obligations before site mobilization at each subproject location.
c. Implementation and Monitoring: Implementation support and continuous monitoring across all active subproject sites	Implementation	- Ensure implementation of all approved E&S management plans — including site-specific ESMPs, C-ESMPs, RAPs, AMPs, TMPs, OHS Management Plans, and Waste Management Plans — through regular site visits by PTT Environmental and Social Specialists. - Conduct unannounced site inspections at active civil works sites to verify contractor compliance with E&S requirements, including PPE use, waste management practices, dust and noise control measures, site fencing and access control, worker code of conduct compliance, and GRM accessibility. - Monitor and track all grievances and community feedback received through the project's multi-channel Grievance Redress Mechanism (GRM), ensuring timely acknowledgement,

Project Stage	E&S Stage	E&S Management Procedures
		investigation, and resolution in accordance with the GRM procedures. Maintain disaggregated grievance logs accessible to the PTT and the World Bank. - Monitor GBV/SEA/SH incident reports and referral pathway functionality through the dedicated GBV/SEA/SH GRM entry points, in coordination with the PTT GBV Specialist and designated GBV service providers in each project region, ensuring survivor-centred confidential response in all cases. - Monitor compliance with child labor prohibitions and forced labor prevention provisions at all active construction sites and in material supply chains, through regular site inspections, worker age verification checks, and supply chain audits by PTT E&S Specialists. - Track land acquisition and resettlement implementation progress — including compensation payment status, livelihood restoration milestones, and outstanding land disputes — against approved RAP implementation schedules, and report to the World Bank in biannual progress reports. - Monitor E-waste collection, storage, and disposal activities for all decommissioned ICT equipment under Component 2, verifying chain-of-custody documentation from collection through to EPA-registered disposal or recycling facilities. - Continue awareness-raising and training for PTT staff, GES district focal points, school management, teachers, construction supervisors, contractors, and communities throughout the implementation period, including refresher training on GBV/SEA/SH prevention, child protection, and digital safeguarding as new school cohorts are brought into the project. - Report all serious E&S incidents — including OHS fatalities and serious injuries, GBV/SEA/SH incidents, child labor findings, environmental contamination events, and significant community conflicts — to the World Bank within 48 hours of the PTT's knowledge, using standardized incident reporting forms. - Prepare and submit biannual E&S progress reports to the World Bank, covering E&S management performance across all active subprojects, GRM activity and resolution statistics, RAP implementation progress, monitoring indicator results, and any corrective actions required.
d. Review and Evaluation: Qualitative, quantitative, and participatory assessment of E&S management outcomes	Completion	- Upon completion of civil works at each subproject site, conduct a final E&S completion assessment to verify that all ESMP, RP, AMP, and other E&S management plan requirements have been fully implemented, documented, and closed out before the site is handed over to school management. - Verify that all physical sites — including construction camps, borrow pit locations, material stockpile areas, temporary access routes, and disturbed areas outside the permanent construction footprint — have been properly restored, revegetated, and rehabilitated to a condition consistent with or better than the pre-construction baseline, before contractor demobilization is approved and performance bonds are released. - Verify that all required EPA environmental permits, WRC Water Use Permits, GMMB cultural heritage clearances, and other regulatory approvals have been formally closed out or transferred to school management as appropriate. - Conduct a final RAP completion assessment for all subproject sites where resettlement was required, verifying through community-level monitoring and participatory assessment that all

Project Stage	E&S Stage	E&S Management Procedures
		project-affected persons have received their agreed compensation and livelihood restoration support, and that no outstanding compensation obligations remain. - Confirm through NaSIA pre-commissioning inspection that all new and rehabilitated school buildings meet universal accessibility standards, gender-responsive design requirements, WASH facility standards, and fire safety and emergency preparedness requirements before being commissioned for use. - Document any potential legacy issues — including unresolved grievances, outstanding compensation claims, residual land disputes, or incomplete site restoration — and alert the World Bank before final completion certification is issued for each subproject site. - At project closure, prepare a final E&S completion report covering the full implementation period, documenting E&S management outcomes across all subprojects, lessons learned, outstanding legacy issues, and recommendations for future operations-phase E&S management by MoE, GES and CTVET.

a. Subproject E&S Screening and Statutory Registration

Step 1: The Environmental and Social Specialists of the Project Technical Team (PTT), housed within the Ministry of Education (MoE), will screen all proposed subproject activities — including new school construction, E-Block completion, school rehabilitation and upgrading, and digital learning infrastructure rollout — to ensure that they fall within the boundaries of the project's eligible activities and do not constitute activities listed on the E&S Exclusion List in Table 6-2 below.

Screening will be conducted using the standardized Environmental and Social Screening Checklist provided in Annex 2 to this ESMF. The screening checklist will be completed for each proposed subproject site through a combination of: desktop review of available spatial, environmental, and social data; field verification visits conducted jointly by the PTT Environmental and Social Specialists and the relevant GES regional and district directorate focal points; and initial community consultations with school governing boards, parent-teacher associations (PTAs), traditional authorities, and community members in the vicinity of each proposed site.

The PTT Environmental and Social Specialists will review each completed screening checklist, assign a risk classification, and determine the appropriate E&S management instrument(s) required for the subproject. Screening outcomes and instrument recommendations will be documented in a site-specific screening report, reviewed and signed off by the PTT Coordinator, and submitted to the World Bank for concurrence before the proposed site is formally approved for STARR-J investment or before engineering design is commissioned. No subproject site may proceed to the planning and design stage without a completed, PTT-approved screening checklist and World Bank concurrence on the proposed E&S instruments.

Table 6-2: Exclusion List for the Project

#	Excluded Activity or Site Condition	Applicable Standard / Legal Basis
1	Production, procurement, supply, or use of weapons of any kind, including mines, guns, ammunition, explosives, or any military equipment	WB Investment Financing Policy
2	Support for the production, trade, or distribution of hazardous goods, including alcohol, tobacco, radioactive materials, and controlled narcotic or psychotropic substances	WB Investment Financing Policy; Narcotic Drugs and

		Psychotropic Substances (Control) Act, 2023 (Act 1093)
3	Any construction activity within a nationally designated protected area, wildlife sanctuary, game reserve, or Ramsar wetland site, as defined under Ghana's Wildlife Conservation Regulations, 1971 (L.I. 685) and the Ramsar Convention, or within any internationally recognized priority area for biodiversity conservation	ESS6; Wildlife Conservation Regulations, 1971 (L.I. 685)
4	Any activity with the potential to cause significant loss or degradation of critical natural habitats — whether directly or indirectly — or that would lead to significant adverse impacts on natural habitats, including forest reserves, sacred groves, riparian buffer zones, wetlands, and Key Biodiversity Areas (KBAs), where no technically and financially feasible mitigation option exists	ESS6; Forest Protection Decree, 1974 (NRCD 243); Riparian Buffer Zone Policy, 2014
5	Any construction activity within a gazetted forest reserve managed by the Forestry Commission of Ghana, or any activity that would involve the conversion or clearance of primary forest for any purpose	ESS6; Forest Protection Decree, 1974 (NRCD 243)
6	Any activity involving extensive harvesting, extraction, or commercial sale and trade of forest resources — including timber, bamboo, charcoal, non-timber forest products, or wildlife — for large-scale commercial purposes	ESS6; Timber Resources Management Act, 1997 (Act 547)
7	Any activity involving the conversion of forestland into agricultural land or any logging activity in primary or high conservation value forest	ESS6; Forest and Wildlife Policy, 2012
8	Purchase, procurement, storage, application, or use of pesticides, insecticides, herbicides, or other dangerous agrochemicals that are banned or restricted under Ghanaian national law or classified as Extremely Hazardous (Class IA) or Highly Hazardous (Class IB) under the World Health Organization (WHO) Recommended Classification of Pesticides by Hazard	ESS3; Pesticides Control and Management Act, 1996 (Act 528)
9	Construction of any new dam or major hydraulic structure, or rehabilitation of an existing dam involving structural or operational changes; or any school water supply or WASH subproject that depends on the storage and operation of an existing dam or a dam under construction for its water supply	ESS4; Dam Safety Policy
10	Any activity that involves the use, diversion, pollution, or extraction of international waterways shared between Ghana and neighboring countries, including the Volta River system, without prior notification and agreement procedures consistent with ESS4	ESS4; Helsinki Rules on the Uses of the Waters of International Rivers
11	Any activity that would damage, destroy, alter, or directly affect physical cultural heritage assets — including ancestral burial grounds, community shrines, sacred groves, historical monuments, archaeological sites, churches, mosques, traditional stools and skins, or other structures of cultural, spiritual, or historical significance — without Ghana Museums and Monuments Board (GMMB) clearance and an ESS8-compliant Cultural Heritage Management Plan	ESS8; Historical Monuments Act, 1969 (Act 361); Museums and Monuments Act, 1969 (Act 362)
12	Any activity that may cause, facilitate, or lead to forced labor, child labor exploitation, child abuse, or human trafficking; or any activity that employs or engages persons under the age of 18 years in construction or related hazardous activities; or any activity that employs children between the minimum working age of 15 years and 18 years in work that is likely to be hazardous, that interferes with the child's education, or that is harmful to the child's health, physical, mental, spiritual, moral, or social development, consistent with the Children's Act, 1998 (Act 560) and ILO Conventions 138 and 182	ESS2; Children's Act, 1998 (Act 560); Labour Act, 2003 (Act 651); ILO Conventions 138 and 182
13	Any activity to be implemented on land with disputed ownership, unresolved boundary conflicts, contested customary tenure rights, or pending litigation over land ownership or use rights that has not been fully and formally resolved — with documentary evidence — before the proposed site is approved for STARR-J investment	ESS5; Land Act, 2020 (Act 1036)
14	Any activity that will cause the physical relocation or displacement of households, communities, or established community facilities — including markets, health facilities, places of worship, or water points — where the Borrower has not prepared, disclosed, consulted upon, and received World Bank No Objection to a site-specific Resettlement Plan (RP) before civil works commence, or that requires the use of	ESS5; Land Act, 2020 (Act 1036);

	eminent domain under Ghana's compulsory acquisition powers without full compliance with ESS5 and the Land Act, 2020 (Act 1036)	
15	Any activity with significant and complex environmental and social risks and impacts that require a full Environmental and Social Impact Assessment (ESIA) under Ghana's Environmental Protection (Environmental Assessment) Regulations, 2025 (L.I. 2504) and ESS1, where such an ESIA has not been prepared, disclosed, consulted upon, approved by the EPA, and received World Bank No Objection before the civil works contract at the affected site is signed	ESS1; Environmental Protection (Environmental Assessment) Regulations, 2025 (L.I. 2504)
16	Any activity involving the use, disturbance, removal, or disposal of asbestos-containing materials (ACMs) — including asbestos cement roofing sheets, ceiling boards, pipe insulation, and floor tiles in older school buildings — without a prior pre-construction asbestos survey conducted by an EPA-certified specialist and a site-specific Asbestos Management Plan approved by the PTT Environmental Specialist before civil works commence	ESS2; ESS3; Environmental Protection Act, 2025 (Act 1123)
17	Any activity that would require Free, Prior, and Informed Consent (FPIC) of Indigenous Peoples or Sub-Saharan African Historically Underserved Traditional Local Communities, as defined in ESS7, where such FPIC has not been obtained and documented before the activity proceeds. Note: ESS7 has been assessed as Not Currently Relevant for the STARR-J project at appraisal; however, if subproject-level activities are identified during implementation that trigger ESS7, this exclusion applies and the PTT must immediately notify the World Bank	ESS7
18	Any procurement of ICT equipment, digital learning platforms, or internet connectivity solutions that do not comply with Ghana's Data Protection Act, 2012 (Act 843), the cybersecurity requirements of the Cybersecurity Authority established under the Cybersecurity Act, 2020 (Act 1038), or the World Bank's applicable data privacy and information security standards	ESS1; Data Protection Act, 2012 (Act 843); Cybersecurity Act, 2020 (Act 1038)
19	Any activity to be implemented by a contractor, subcontractor, or supplier that has been debarred, sanctioned, or declared ineligible by the World Bank Group, or that is subject to United Nations Security Council sanctions	WB Procurement Regulations; WB Sanctions Framework

In parallel with the environmental and social screening process, the PTT Environmental Specialist will identify all statutory registrations, regulatory notifications, and permitting requirements applicable to each proposed subproject under Ghana's national environmental, land, and sectoral legislation. The following statutory processes will be initiated concurrently with screening to avoid implementation delays:

EPA Registration and Environmental Permitting: All proposed new school construction activities on greenfield sites, E-Block completion activities, and major rehabilitation works that meet the thresholds for environmental assessment under Schedule 1 of the Environmental Protection (Environmental Assessment) Regulations, 2025 (L.I. 2504) will be registered with the EPA as requiring an Environmental Impact Assessment (EIA) or a Preliminary Environmental Assessment (PEA), as determined by the EPA's screening decision. The PTT Environmental Specialist will submit the prescribed Registration Form to the EPA's relevant regional office within 30 days of the subproject site being identified and before any engineering design is commissioned. EPA registration will be tracked in the PTT's permit tracking register and reported to the World Bank as part of biannual progress reporting.

Lands Commission Notification: For all proposed subproject sites requiring new land acquisition — whether on government land, stool land, skin land, or family land — the PTT Social Specialist will initiate formal engagement with the Lands Commission and the relevant customary land authority before site approval is confirmed, consistent with the Land Act, 2020 (Act 1036). Formal land access documentation — including executed land transfer instruments, long-term leases, or documented consent agreements

from the appropriate customary authority — will be obtained and filed in the PTT's project records before any civil works contract is signed at the affected site.

Water Resources Commission (WRC) Registration: For any subproject activity involving significant abstraction of water from rivers, streams, boreholes, or other water sources for construction purposes, the PTT Environmental Specialist will obtain a Water Use Permit from the WRC before civil works commence, consistent with the Water Resources Commission Act, 1996 (Act 522).

Minerals Commission Notification: Where borrow pit operations for laterite, gravel, or aggregate extraction are planned in support of civil works activities, the PTT Environmental Specialist will ensure that all required approvals from the Minerals Commission and EPA are obtained before borrow pit extraction commences, consistent with the Minerals and Mining Act, 2006 (Act 703) and the Environmental Protection (Environmental Assessment) Regulations, 2025 (L.I. 2504).

All statutory registrations and permit applications will be tracked in the PTT's centralized permit tracking register, maintained by the PTT Environmental Specialist and updated monthly. The register will record the date of application, the regulatory authority, the permit type, the application status, the date of permit issuance, any permit conditions applicable to subproject implementation, and the date of permit closeout or transfer at completion. The permit tracking register will be made available to the World Bank on request and summarized in biannual E&S progress reports.

Step 2: Environmental and Social Risk Classification and EPA Registration

The PTT Environmental and Social Specialists, within the Ministry of Education (MoE), will use the Environmental and Social Screening Form in Annex 1 to identify the specific environmental and social risks associated with each proposed subproject activity — including new school construction, E-Block completion, school rehabilitation and upgrading, and digital learning infrastructure rollout under Components 1 and 2 — and will assign an overall Environmental and Social Risk Category (ESRC) to each subproject. The ESRC will be based on a four-tier scale: Low, Moderate, Substantial, and High, consistent with the World Bank ESF risk classification approach. Since the overall Environmental and Social Risk Category for the STARR-J project has been determined to be **Substantial**, subproject activities classified as High risk during the screening process are not eligible for financing under this project. Any proposed subproject activity whose screening assessment yields a High risk classification — indicating potentially significant, widespread, diverse, or irreversible adverse environmental or social impacts that cannot be adequately assessed and managed within the scope of this ESMF — will be excluded from STARR-J financing and referred to the MoE and the World Bank for consideration under alternative financing arrangements with a higher-risk management framework. The PTT Environmental and Social Specialists will document the basis for any High risk classification and the rationale for exclusion in the relevant Screening Report, and will notify the World Bank of the exclusion decision. Where there is uncertainty about whether a proposed subproject meets the threshold for High risk classification, the PTT will consult with the World Bank before a final determination is made.

In applying the risk classification criteria, the PTT Environmental and Social Specialists will consider: the nature, scale, location, sensitivity, and reversibility of potential environmental and social impacts; the proximity of the proposed site to protected areas, Key Biodiversity Areas (KBAs), forest reserves, sacred groves, riparian buffer zones, and other ecologically sensitive features; the extent of anticipated land acquisition, physical displacement, and economic displacement; the presence of disadvantaged and vulnerable groups — including adolescent girls in boarding schools, persons with disabilities, and residents of remote communities — within the zone of influence; the GBV/SEA/SH risk profile of the proposed

construction environment; cumulative impacts where multiple subprojects are located in the same district or community; and the institutional capacity of the PTT and contractors to manage identified risks.

Where the screening and classification process determines that statutory environmental assessment registration is required under the Environmental Protection (Environmental Assessment) Regulations, 2025 (L.I. 2504) — including for all new school construction on greenfield sites and for major civil works exceeding the applicable thresholds in Schedule 1 of L.I. 2504 — the PTT Environmental Specialist will register the undertaking with the Environmental Protection Authority (EPA) within 30 calendar days of the subproject site being identified and before any engineering design is commissioned. EPA registration status will be tracked in the PTT's centralized permit register, updated monthly, and reported to the World Bank in biannual progress reports.

Step 3: Preparation and Submission of the Screening Report

The PTT Environmental and Social Specialists will prepare a Screening Report for each proposed subproject activity and share it with the World Bank for review and concurrence before the site is formally approved for STARR-J investment or before engineering design is commissioned. The Screening Report will clearly set out the potential environmental and social risks and impacts associated with the proposed activities or subproject, including an assessment of their likelihood, magnitude, reversibility, and significance, and will include a proposal and recommendation of the relevant E&S instrument(s) or document(s) that should be prepared to assess and mitigate the identified potential risks and impacts.

The Screening Report will be structured to include: a description of the proposed subproject, its location, scale, and implementation arrangements; a summary of the key environmental and social baseline conditions at the site, drawing on desktop data and field verification; a description of all potential environmental and social risks and impacts identified through the screening process; the assigned overall ESRC with a clear explanation of the classification rationale; a recommendation on the relevant site-specific E&S instrument(s) required, with proposed preparation timelines; an identification of all statutory permits, regulatory registrations, and clearances required under Ghanaian legislation and their current status; and a recommendation on whether World Bank prior review will be required for the site-specific instruments. The PTT Coordinator will review and sign off every Screening Report before it is submitted to the World Bank.

Step 4: World Bank Review of the Screening Report and Advice on E&S Instruments

The World Bank will review each Screening Report submitted by the PTT and advise the MoE on the relevant and proportionate site-specific E&S instruments that should be prepared to mitigate the identified risks and impacts. The World Bank's advice will confirm or revise the proposed ESRC and instrument recommendations, provide indicative timelines for instrument preparation, consultation, disclosure, and approval, and advise on whether national frameworks — including L.I. 2504 and the Land Act, 2020 (Act 1036) — will be applied alongside or in lieu of World Bank ESF instruments for specific aspects of assessment, where the national framework meets ESF requirements.

b. Subproject Formulation and Planning — Environmental and Social Planning

Proposed STARR-J subprojects must satisfy the following minimum eligibility criteria before proceeding to the instrument preparation stage: alignment with the PDO, confirming that the subproject demonstrably contributes to expanding access to and improving the quality and relevance of secondary education in Ghana; compliance with applicable Ghanaian laws and World Bank Environmental and Social Standards, demonstrating that the subproject can be implemented in a manner consistent with this ESMF; and technical feasibility and sustainability, confirming that the design aligns with national school infrastructure standards, incorporates climate resilience and universal accessibility features, and demonstrates operational and maintenance viability over the building's service life.

Subproject selection will additionally consider: need and equity — the magnitude of educational service gaps, pro-poor targeting, and gender and disability considerations, with priority given to subprojects in the Savannah, North-East, Oti, and Upper West regions where access deficits are greatest; technical soundness — alignment with national GES infrastructure standards, climate resilience features, and operational and maintenance viability; environmental and social risk level — the feasibility of mitigation measures and cumulative impact considerations in the context of other ongoing project activities in the district; cost-effectiveness and lifecycle value — capital costs, operational and maintenance costs, energy efficiency, and durability; and community support — documented evidence of meaningful consultation, social license to proceed, and GRM readiness.

Step 5: Preparation and Submission of Terms of Reference

Upon receipt of the World Bank's advice on the Screening Report — confirming the ESRC and the required E&S instrument(s) — the PTT Environmental and Social Specialists will prepare Terms of Reference (TOR) to guide the preparation of each relevant site-specific E&S instrument. TORs will be prepared for all instruments requiring World Bank prior review.

Each TOR will specify: the scope and objectives of the assessment or plan; the required content and structure of the instrument, consistent with ESF requirements and applicable Ghanaian regulations; the qualifications and experience required of the consultants or specialists who will prepare the instrument; the stakeholder consultation requirements to be fulfilled during instrument preparation, consistent with the project's SEP; the timeline for preparation, consultation, disclosure, and submission for World Bank review; language and format requirements for the instrument and its non-technical summary; and the budget estimate for instrument preparation. The PTT Coordinator will review and endorse every TOR before it is submitted to the World Bank for review and No Objection. No site-specific E&S assessment or planning work may commence before the relevant TOR has received World Bank No Objection.

Step 6: Preparation of Site-Specific E&S Instruments

Following the World Bank's No Objection on the TOR, the PTT Environmental and Social Specialists will prepare the relevant E&S instrument(s) using competent PTT staff or qualified independent consultants, whose experience and professional qualifications must meet the standards specified in the approved TOR. For all Substantial subprojects, projects that require RPs, ESIAs, and Asbestos Management Plans (AMPs), independent consultants with demonstrated experience in World Bank ESF instrument preparation in the Ghanaian context will be engaged.

Each site-specific E&S instrument will adequately identify the potential environmental and social risks and impacts of the proposed subproject, characterize and evaluate them with appropriate detail and specificity, and prescribe mitigation measures that are specific, actionable, proportionate, and technically and financially feasible. The Screening Form in Annex 1 identifies the full range of mitigation measures and specialized management plans that may be relevant for specific subproject activities — including ECOPs, ESMPs, C-ESMPs, LMPs, AMPs, RPs, TMPs, OHS Management Plans, and GBV/SEA/SH Action Plan site implementation arrangements — and each site-specific instrument will cross-reference all relevant companion plans to ensure coherence across the full suite of management documents applicable to each subproject.

The preparation of all site-specific E&S instruments must include meaningful stakeholder consultations with all relevant stakeholders — including affected communities, school governing boards, PTAs, traditional authorities, district assemblies, GES district directorates, relevant government agencies, and disadvantaged and vulnerable groups including women, persons with disabilities, and youth. Consultations will be conducted in the dominant local language of the project community, documented with signed attendance lists and minutes, and the outcomes of consultations — including concerns raised

and how they have been addressed in the instrument — will be reflected in the final instrument and included as an annex.

Step 7: Submission of Final E&S Instruments for World Bank Review and EPA Permitting

The PTT Environmental and Social Specialists will share the final draft E&S instrument(s) with the World Bank for review and clearance. For subprojects subject to the requirements of the Environmental Protection (Environmental Assessment) Regulations, 2025 (L.I. 2504), the relevant instrument — typically an ESIA — will be submitted to the EPA concurrently with submission to the World Bank, to avoid sequential review delays. The PTT will address all review comments received from the World Bank and the EPA on the submitted instrument, prepare a response matrix documenting how each comment has been addressed, and resubmit the revised instrument for further review where required. Revised instruments will clearly mark all changes made in response to review comments. The review and revision cycle will continue until the World Bank and EPA are satisfied that all comments have been satisfactorily resolved.

Step 8: World Bank No Objection and In-Country Disclosure

The World Bank will issue a formal No Objection to the final approved E&S instrument once all review comments have been satisfactorily addressed. Following World Bank No Objection, the PTT will disclose the final approved instrument(s) through the following channels before any related civil works contracts are signed or subproject activities commence on the ground:

- Publication on the MoE's official website in English, with non-technical summaries translated into the dominant local language(s) of affected communities and available for download.
- Physical copies placed at the offices of the relevant Metropolitan, Municipal, and District Assembly (MMDA), GES regional and district directorates, and school management offices at each subproject site, accessible to all community members during normal working hours.
- Copies shared with community libraries and local civil society organizations operating in the project area where feasible.
- Publication on the EPA's website for all instruments requiring EPA review, in compliance with L.I. 2504 disclosure requirements.
- Community-level disclosure meetings conducted in the dominant local language of each affected community, presenting the key findings and mitigation measures of the instrument in an accessible format and allowing community members to raise questions and concerns.
- Publication on the World Bank's external website through the PTT's submission of the final cleared instrument to the World Bank for external disclosure.

Disclosure records — including dates and channels of disclosure, attendance lists and minutes of community disclosure meetings, and confirmation of website publication — will be maintained in the PTT's project files and reported in biannual progress reports.

Step 9: Integration of E&S Requirements into Bidding Documents and Works Contracts

Once the relevant E&S instrument(s) have been cleared by the World Bank, disclosed in-country through the channels described in Step 8, and any required EPA Environmental Permit has been obtained, the PTT will integrate the applicable E&S requirements into bidding documents and civil works contracts for the relevant subproject. No related works, activities, or subprojects may commence on the ground until all of the following conditions have been satisfied: (i) the relevant E&S instrument(s) have received World Bank No Objection; (ii) in-country disclosure has been completed through all required channels; (iii) the EPA Environmental Permit, where applicable, has been issued; and (iv) all compensation obligations under any approved RP have been fully paid and independently verified.

Integration of E&S requirements into bidding documents and contracts will include: inclusion of the applicable ECOPs as a mandatory annex to all civil works contracts, binding on the prime contractor and all subcontractors; inclusion of the approved site-specific ESMP or ESMP Checklist as a mandatory contract document, with explicit requirements for the contractor to prepare, submit, and obtain approval for a C-ESMP before site mobilization; inclusion of mandatory GBV/SEA/SH zero-tolerance clauses, worker Code of Conduct requirements, child labor prohibition provisions, and worker GRM establishment requirements as enforceable contract conditions; incorporation of all applicable EPA Environmental Permit conditions as mandatory contract requirements; specification of E&S reporting obligations in the contract, including the format, content, and submission frequency of monthly E&S compliance reports; and inclusion of appropriate non-compliance sanctions — including the right of the PTT to suspend payment certificates for persistent E&S non-compliance — as enforceable contract conditions. Financial provisions for E&S management — including priced Bill of Quantities items for ESMP implementation, dust suppression, waste management, OHS facilities, site restoration, and GRM operations — will be included in civil works contracts to ensure that E&S management is adequately funded from the contract budget from the outset.

Step 10: Training of PTT, CTVET, TVET and GES Staff Before Subproject Implementation

Before subproject activities commence in each region and district, the PTT Environmental, Social, and GBV Specialists will provide structured training to all MoE and GES staff who will be working on subproject activities — including PTT specialists, GES regional and district E&S focal points, construction supervision consultants, and MoE regional coordinators — covering the environmental and social management plans and procedures relevant to their specific roles and responsibilities.

Training will cover, as relevant to each trainee's functions: the ESMF structure, objectives, and subproject screening and classification procedures; the content and implementation requirements of approved site-specific ESMPs and management plans; OHS monitoring procedures and incident identification and reporting requirements; GBV/SEA/SH prevention, identification, and survivor-centred referral procedures; child protection and child labor identification and reporting obligations; Chance Finds Procedures and cultural heritage protection requirements; GRM operations, intake procedures, escalation protocols, and GBV/SEA/SH-specific intake pathways; and monitoring data collection, recording, and reporting requirements. Signed training attendance registers will be maintained in the PTT's project files, and refresher training will be provided annually and whenever significant new subproject activities are initiated or substantive updates are made to E&S instruments or procedures.

Step 11: Contractor Training and Cascading Awareness to Subcontractors, Vendors, and Communities

Once civil works contractors are selected and before site mobilization at each subproject location, the PTT Environmental and Social Specialists — with support from the construction supervision consultant — will ensure that all selected contractors, subcontractors, and vendors understand and incorporate the applicable environmental and social mitigation measures into their C-ESMPs and day-to-day site management practices.

The PTT will conduct mandatory pre-mobilization E&S induction training for the site management teams of all selected civil works contractors before any works commence, covering: the contractor's contractual E&S obligations; OHS requirements and PPE standards; GBV/SEA/SH zero-tolerance requirements and Code of Conduct obligations; child labor and forced labor prohibitions and worker age verification procedures; Waste Management Plan requirements; Traffic Management Plan requirements; Chance Finds Procedures; and the project's GRM channels. No contractor will be authorized to mobilize on site before completing pre-mobilization E&S induction training, and training attendance will be documented with signed attendance registers submitted to the PTT.

The PTT will require all prime contractors to cascade equivalent E&S training to their subcontractors, material suppliers, and vendors before those entities commence any work connected with the project, and to document cascading training delivery in their monthly E&S compliance reports. The construction supervision consultant will verify cascading training compliance during routine site inspections.

Before civil works commence at each project school site, the PTT and GES district E&S focal point will conduct a pre-construction community awareness session with school management, teachers, boarding house supervisors, governing boards, PTAs, and community representatives, covering the nature and schedule of planned works, construction zone safety rules, GBV/SEA/SH prevention and reporting mechanisms, digital safeguarding measures, and GRM channels. Awareness sessions will be conducted in the dominant local language and documented with attendance records and minutes.

The PTT will additionally ensure that school management teams, GES district directorates, and MoE regional offices — as the entities responsible for the ongoing operation and maintenance of completed school infrastructure — receive targeted awareness and training on operations-phase E&S management responsibilities before each completed subproject is handed over, covering building maintenance, WASH hygiene management, digital safeguarding monitoring, and GBV/SEA/SH prevention at the school level.

c. Environmental and Social Implementation and Monitoring

Step 12: Regular Monitoring Visits During Implementation

During implementation, the PTT Environmental and Social Specialists will conduct regular monitoring visits to all active subproject sites to verify contractor compliance with approved C-ESMPs, OHS Management Plans, Waste Management Plans, and other applicable E&S management documents, and to assess the effectiveness of implemented mitigation measures. The construction supervision consultant — appointed under the project's procurement plan and reporting to the PTT — will be the primary day-to-day E&S oversight entity at active civil works sites, conducting weekly site walkthroughs and submitting monthly E&S compliance reports to the PTT covering construction progress, E&S compliance status, GRM activity, OHS incidents, and any non-compliance findings with recommended corrective actions.

The PTT Environmental and Social Specialists will conduct independent oversight visits to active construction sites at the following minimum frequency: monthly visits to all Moderate and Substantial risk sites during active construction; quarterly visits during finishing and commissioning phases; and responsive visits within five working days of any serious incident report, escalated GRM complaint, or community conflict notification. CTVET and GES regional and district E&S focal points will support decentralized community-level monitoring at all active project sites in their areas, including GRM intake and first-level response, community consultation facilitation, and monthly reporting of community-level concerns to the PTT.

Given the large number of geographically dispersed school sites across all 16 regions and 261 districts, the PTT will supplement physical site visits with remote sensing and mobile data collection tools. CTVET and GES district focal points and construction supervision consultant site inspectors will use mobile data collection applications to submit georeferenced site inspection reports, photographs, and monitoring observations in real time, enabling the PTT to maintain an up-to-date, centralized view of E&S compliance across the full project portfolio. Satellite imagery will be used for periodic verification of site conditions at remote locations between physical visits, particularly for verification of site restoration, borrow pit rehabilitation, and vegetation clearance extents. Where non-compliance is identified through any monitoring channel, the construction supervision consultant will issue a written Non-Compliance Notice to the contractor within 48 hours of the finding, specifying required corrective actions and a remediation deadline proportionate to the severity of the non-compliance. Contractors who fail to remediate within

the specified deadline will be subject to escalating sanctions, including suspension of interim payment certificates and, for persistent egregious non-compliance, contract termination.

Step 13: Integration of E&S Monitoring into Regular Project Monitoring

The PTT Environmental and Social Specialists will ensure that all E&S monitoring activities are fully integrated into the project's overall implementation monitoring and evaluation framework. E&S monitoring will systematically cover all risks identified in this ESMF and in approved site-specific instruments, including: environmental monitoring covering dust and air quality, noise levels, erosion and sediment control effectiveness, construction waste management and licensed disposal compliance, water quality near construction sites adjacent to water bodies, and site restoration progress; social monitoring covering land acquisition and compensation payment status, livelihood restoration progress, labor influx and community impact indicators, GBV/SEA/SH incident reporting and referral pathway functionality, child and forced labor compliance, and inclusiveness of community consultations; OHS monitoring covering incident counts, types, and corrective actions, PPE compliance, and emergency response plan testing; and grievance monitoring covering GRM performance statistics disaggregated by complaint type, subproject, region, and gender of complainant.

Monitoring data will be collected using standardized forms and templates.

Step 14: Monitoring Reporting to the World Bank

The PTT Environmental and Social Specialists will prepare consolidated biannual E&S monitoring reports covering all active subprojects across all regions and submit them to the World Bank as part of the project's regular Progress Implementation Reports (PIRs), in accordance with the timelines specified in the Environmental and Social Commitment Plan (ESCP). At a minimum, biannual E&S monitoring reports will include:

(i) Overall implementation of E&S risk management instruments and measures: A subproject-level summary of E&S instrument preparation, disclosure, and approval status; ESMP and C-ESMP implementation compliance ratings; and any outstanding instrument preparation or approval requirements.

(ii) Environmental and social issues arising from project activities: A description of any significant environmental or social issues identified during the reporting period — including non-compliance findings, contamination events, and social conflicts — with a detailed account of remediation actions taken or planned, including responsible parties and timelines.

(iii) Occupational Health and Safety performance: A summary of all OHS incidents, near-misses, lost-time injuries, and fatalities during the reporting period, disaggregated by subproject type, region, and contractor, and a description of corrective actions taken.

(iv) Community health and safety: A summary of community health and safety incidents, construction-related accidents affecting community members, and traffic safety events, with corrective actions taken.

(v) Stakeholder engagement updates: A summary of stakeholder engagement activities — including community consultations, disclosure meetings, and awareness-raising sessions — conducted during the reporting period, consistent with the SEP and disaggregated by gender and community location.

(vi) Public notification and communications: A summary of public information disclosure activities, community notification of upcoming construction activities, and media or communications engagements related to the project.

(vii) Progress on implementation and completion of project works: A summary of physical implementation progress across all active subproject sites, including percentage completion by subproject type and region and any implementation delays with explanations.

(viii) Grievance Redress Mechanism summary: A full GRM performance summary covering total grievances received, acknowledged, resolved, escalated, and remaining open at the end of the reporting period, disaggregated by complaint type, subproject, region, and gender of complainant, with average response and resolution times and a description of corrective actions taken for systemic or unresolved issues.

District-level and regional-level monitoring reports — prepared by CTVET and GES district E&S focal points and regional coordinators respectively — will be submitted to the PTT on a monthly basis and will serve as the primary source data for consolidated biannual reports. Throughout the implementation period, the PTT will continue to provide E&S training and awareness-raising to PTT staff, CTVET/GES focal points, construction supervision consultants, contractors, school management, and communities, consistent with the training program described in Steps 10 and 11 and the training needs identified in Section 6.4 below. The PTT will also track all grievances and beneficiary feedback received through the project's GRM throughout implementation, using grievance trends as a monitoring tool for assessing the effectiveness of E&S mitigation measures and the adequacy of community engagement.

Step 15: Serious Incident Notification to the World Bank

If the PTT becomes aware of a serious incident in connection with any STARR-J subproject activity — whether involving project workers, community members, students, teachers, or the environment — that may have significant adverse effects on the environment, affected communities, the public, or workers, the PTT Coordinator will notify the World Bank within 48 hours of the PTT becoming aware of the incident, regardless of whether it occurs during working hours or outside normal business hours.

The following categories of events are automatically classified as serious incidents requiring immediate 48-hour notification: any fatality of a project worker, community member, student, teacher, or any other person directly or indirectly caused by project activities; any serious injury to a worker, community member, student, or other person arising from civil works activities, including injuries requiring hospitalization; any confirmed or credibly alleged GBV/SEA/SH incident involving project workers and community members or students, reported through any channel; any confirmed or suspected case of forced labor or child labor identified at a civil works site or in a project supply chain; any violent community protest, organized community opposition, or significant conflict arising from project activities; any significant environmental contamination event — including major fuel spills or water source contamination — arising from civil works; any disturbance or destruction of a cultural heritage asset discovered during civil works where Chance Finds Procedures were not followed; any serious digital safeguarding incident involving harm to a student connected to project-funded digital infrastructure; and any kidnapping, serious security incident, or use of force by security personnel engaged under the project.

The 48-hour notification will be made using the standardized Incident Notification Form and will describe the nature, date, location, and circumstances of the incident; the persons and environmental resources affected; the immediate response actions taken; and the next steps planned for investigation and remediation. A full incident investigation report and corrective action plan will be submitted to the World Bank within 14 calendar days of the initial notification.

d. Review and Evaluation — Environmental and Social Completion

Step 16: Completion Assessment, Site Restoration, and Final Reporting

Upon completion of civil works at each STARR-J subproject site, the PTT Environmental and Social Specialists will conduct a structured E&S completion assessment before practical completion certification

is issued and before contractor demobilization and performance bond release are approved. The completion assessment will verify full compliance with all applicable E&S management requirements and document any outstanding issues requiring resolution before the subproject is formally closed.

For civil works subprojects, the PTT will monitor and verify site restoration and landscaping at all affected areas — including construction camps, borrow pit locations, material stockpile areas, temporary access routes, and all areas disturbed outside the permanent school construction footprint — to ensure that restoration activities are completed to an appropriate and acceptable standard before contracts are closed. The sites must be restored to at least the same environmental condition and standard that existed prior to the commencement of works, using pre-construction baseline photographs and survey data as the reference standard. The PTT Environmental Specialist will not endorse practical completion at any site until physical site restoration has been verified in writing.

The PTT will additionally verify: through documentary evidence, that all mitigation measures in the approved ESMP and C-ESMP have been fully implemented and documented; through community-level individual interviews, that all RP-eligible affected persons have received their full agreed compensation and livelihood restoration support and that no outstanding obligations remain; that all EPA Environmental Permit conditions have been complied with and all post-construction regulatory requirements have been fulfilled; and that all newly constructed and rehabilitated school buildings have passed the National Schools Inspectorate Authority (NaSIA) Board pre-commissioning safety, quality, and accessibility inspection before being commissioned for educational use.

Any pending issues identified during the completion assessment — including unresolved grievances, outstanding land disputes, incomplete site restoration, or unmet RP commitments — must be fully resolved before a subproject is considered completed and certified as such. Where resolution requires additional time beyond the contractor demobilization date, a time-bound remediation plan with clearly defined responsible parties will be agreed with the World Bank before practical completion certification is issued. The PTT will prepare a site-level E&S Completion Report for each subproject site describing the final status of compliance with all E&S risk management measures and submit it to the World Bank.

At overall project closure, the PTT will prepare a comprehensive Final Project-Level E&S Completion Report covering the full implementation period, documenting E&S management performance across all subprojects, monitoring indicator results against targets, GRM statistics, RP implementation outcomes, OHS performance, GBV/SEA/SH prevention and response outcomes, e-waste management results, key lessons learned, and a summary of any outstanding legacy issues requiring operational-phase follow-up by MoE and GES after project closure. The Final E&S Completion Report will be submitted to the World Bank within six months of the project closing date.

Contingency Emergency Response Component

Should a natural disaster, climate-related emergency, public health emergency, or other crisis affecting Ghana's secondary education system arise during the project implementation period, the MoE and the World Bank will jointly assess the feasibility and appropriateness of restructuring the project to activate a CERC component, consistent with the World Bank's Investment Project Financing Policy.

In the event that a CERC component is activated through formal project restructuring, the CERC Manual to be prepared by the PTT will include a full description of the environmental and social risk assessment and management arrangements applicable to CERC-financed activities. Depending on the nature and scale of the activities to be financed under the CERC, this may include either a standalone CERC ESMF or an Addendum to this ESMF, tailored to the specific subproject activities eligible for CERC financing. If such additional documentation or revision to existing documentation is required, the PTT will prepare, consult

upon, adopt, and disclose the relevant instruments in accordance with the CERC Manual and the World Bank's ESF requirements, and will implement the E&S measures and actions specified therein throughout the period of CERC activation.

6.2. Implementation Arrangements

The effective implementation of this ESMF depends on a clearly defined institutional structure with unambiguous roles, responsibilities, reporting lines, and accountability mechanisms at national, regional, district, school, and contractor levels. The Ministry of Education (MoE) is the Borrower's designated implementing agency for the STARR-J project and bears overall responsibility for ensuring that all project activities are implemented in compliance with this ESMF, the project's Environmental and Social Commitment Plan (ESCP), the World Bank's Environmental and Social Standards (ESSs), and applicable Ghanaian environmental and social legislation.

The institutional framework for ESMF implementation draws on MoE's existing organizational structure — including the Ghana Education Service (GES), the National Schools Inspectorate Authority (NaSIA), the Science, Technology and Mathematics Education (STME) directorate, and the Technical and Vocational Education and Training (TVET) Service — while establishing dedicated project-level environmental, social, and GBV risk management capacity through the Project Technical Team (PTT). Implementation responsibilities are distributed across four principal levels: the national level (MoE and PTT), the regional level (TVETS and GES regional directorates), the district level (GES district directorates and district assemblies), and the contractor and supervision consultant level. Each level's roles, responsibilities, and reporting obligations are described below and summarized in Table 6-3.

A capacity assessment conducted during project preparation identified significant gaps in environmental and social management capacity across MoE, TVET Service and GES at all levels. At the national level, the MoE does not currently have a dedicated Environmental or Social Specialist within its permanent establishment, and E&S oversight responsibilities are currently distributed across three designated staff members who cover these roles alongside their primary functions. This arrangement is recognized as insufficient for a project with a Substantial overall ESRC, a large and geographically dispersed construction portfolio across 200+ school sites, a Substantial GBV/SEA/SH risk rating, and complex land tenure and resettlement risks associated with the E-Block legacy program and new schools construction.

At the regional and district levels, TVET Service and GES directorates have no dedicated E&S capacity and limited familiarity with World Bank ESF requirements, subproject screening procedures, ESMP preparation and monitoring, or GRM management. Construction supervision capacity — while present within the CTVET and MoE's infrastructure directorates — has historically focused on technical quality rather than E&S compliance monitoring.

In response to these identified capacity gaps, the following institutional strengthening measures have been incorporated into the project design and are reflected as commitments in the ESCP: the MoE will recruit full-time, dedicated Environmental, Social, and GBV Specialists for the PTT within three months of project effectiveness; regional and district TVET/GES E&S focal points will be designated within 3 months of project effectiveness in all 16 regions and trained before construction activities commence; and a construction supervision consultant with demonstrated E&S monitoring experience will be engaged before civil works contracts are signed. Additional capacity building measures are detailed in Section 6-4 of this ESMF.

Table 6-3: Implementation Arrangements

Level / Responsible Party	Roles and Responsibilities	Reporting Line
National Level — MoE / PTT Coordinator	Overall project implementation oversight and accountability; coordination with World Bank on ESMF compliance; endorsement of Screening Reports and E&S instruments before World Bank submission; approval of contractor mobilization; escalation of serious incidents to World Bank within 48 hours; submission of biannual E&S progress reports.	Reports to MoE Project Director and World Bank
National Level — PTT Environmental Specialist	Lead environmental screening and ESRC classification; EPA registration and permit management; TOR preparation and environmental instrument oversight; contractor environmental compliance monitoring (monthly site visits); Chance Finds coordination with GMMB; environmental monitoring and reporting; environmental training delivery.	Reports to PTT Coordinator; coordinates with EPA, Forestry Commission, WRC, GMMB
National Level — PTT Social Specialist	Lead social screening including land tenure assessments; RP oversight; GRM management and centralized grievance tracking; community consultation coordination per SEP; child labor and forced labor compliance monitoring; social monitoring and reporting; RP completion verification.	Reports to PTT Coordinator; coordinates with Lands Commission, MMDA, Department of Social Welfare
National Level — PTT GBV Specialist	GBV/SEA/SH Action Plan implementation oversight; referral pathway mapping and operationalization; Digital Safeguarding Framework monitoring; gender-disaggregated M&E; Code of Conduct training oversight; coordination with DOVVSU, MoGCSP, and GBV service providers.	Reports to PTT Coordinator; coordinates with MoGCSP, DOVVSU, GBV service providers
Regional Level — GES and TVET Regional Directorates / Regional E&S Focal Points	Regional coordination of subproject site identification and screening support; regional oversight of contractor E&S compliance; coordination of community consultations and GBV/SEA/SH referral pathways; consolidation of district-level monthly monitoring reports; monthly reporting to PTT; escalation of serious incidents within 24 hours.	Reports to GES Regional Director and PTT Environmental and Social Specialists
District Level — GES and TVET District Directorates / District E&S Focal Points	Support site screening and land tenure assessments; operate district-level GRM intake channels; conduct monthly civil works site monitoring visits; facilitate pre-construction community awareness sessions; prepare monthly district E&S monitoring reports; coordinate with MMDAs on permits and instrument disclosure; escalate GBV/SEA/SH complaints within 24 hours.	Reports to GES and TVET District Director, GES and TVET Regional E&S Focal Point, and PTT specialists
District Level — MMDAs	Issue local building permits and planning approvals; host community-level GRM intake points; file disclosed E&S instruments for community access; participate in community consultations on site selection and land acquisition.	Reports to District Assembly and coordinates with GES and TVET District Directorate and PTT
School Level — School Management,	Enforce contractor access controls at school site; maintain construction zone perimeter fencing integrity;	Reports to GES and TVET District Directorate

Governing Boards, and PTAs	participate in pre-construction awareness sessions; receive and refer student and community complaints; monitor digital safeguarding compliance; coordinate with school counsellors on GBV/SEA/SH prevention and referral.	
Construction Supervision Consultant	Day-to-day E&S oversight of all civil works; review and approval of C-ESMPs before mobilization; weekly site walkthroughs; issuance of Non-Compliance Notices; monthly E&S compliance reporting to PTT; certification of site restoration at practical completion; coordination on Chance Finds; 24-hour serious incident reporting to PTT.	Reports to PTT Coordinator
Civil Works Contractors and Subcontractors	Prepare and implement C-ESMPs, OHS Management Plans, Waste Management Plans, and TMPs; enforce Code of Conduct and GBV/SEA/SH zero-tolerance; conduct pre-mobilization E&S induction training for all workers; implement site fencing, access control, dust suppression, and waste management measures; cascade E&S requirements to subcontractors and suppliers; maintain site OHS and grievance registers; report serious incidents to construction supervision consultant and PTT within 24 hours.	Reports to Construction Supervision Consultant on E&S compliance; contractually accountable to MoE/PTT

6.3. National permitting and compliance pathway

The project will meet national requirements by:

- Completing screening, scoping, public consultations, and environmental assessment steps set by the national environmental authority, and obtaining environmental permits/clearances prior to works;
- Securing construction and sectoral permits, licenses, and authorizations (e.g., waste transport/disposal, water abstraction/discharge, protected area consents);
- Including ESHS requirements and ESMP provisions in bidding documents and contracts and ensuring contractors' compliance, training, and reporting;
- Conducting compliance monitoring and reporting to national authorities and the World Bank on a regular basis

6.4. Proposed Training and Capacity Building

Successful implementation of the STARR-J project will depend, among other factors, on the effective implementation of the environmental and social risk management measures outlined in this ESMF, the Stakeholder Engagement Plan (SEP), the Labor Management Plan (LMP), and the GBV/SEA/SH Action Plan. Training and capacity building are therefore essential prerequisites for effective ESMF implementation, not optional add-ons.

Training will be delivered through a combination of the following modalities, selected based on the audience, topic complexity, and geographic context:

- **Formal classroom training** for PTT specialists, construction supervision consultants, and TVET/GES regional focal points, covering technical ESF requirements, instrument preparation, and monitoring methodology.

- **On-the-job coaching and mentoring** by World Bank E&S specialists during implementation support missions, providing site-specific guidance to PTT and TVET/GES focal points on emerging E&S management challenges.
- **World Bank e-learning modules** on ESF application, OHS management, GBV/SEA/SH prevention, and stakeholder engagement, available to PTT staff and construction supervision consultants throughout implementation.
- **Pre-mobilization induction sessions** for contractor site management teams and workers, delivered by PTT specialists and construction supervision consultants at each subproject site before civil works commence.
- **Toolbox talks** delivered by contractor site supervisors to construction workers on a weekly basis during civil works, covering site-specific OHS risks, Code of Conduct reminders, waste management procedures, and GRM channels.
- **Community awareness sessions** facilitated by TVET/GES district focal points and PTT specialists at each project school before construction commences, using visual materials, local language presentations, community radio, and participatory discussion formats.
- **Refresher training** provided annually to all levels, and whenever significant new subproject activities are initiated, whenever monitoring reveals systematic non-compliance, or whenever substantive updates are made to E&S instruments or procedures.

Training delivery will be documented with signed attendance registers, pre- and post-training knowledge assessments where practicable, and training records maintained in the PTT's project files. Training completion rates and coverage by level, region, and audience category will be reported in biannual E&S monitoring reports to the World Bank.

Table 6-4: Proposed Training and Capacity Building Approach

Level	Responsible Party	Audience	Topics and Themes Covered	Timing	Frequency
National Level	World Bank E&S Specialists (during preparation and implementation support missions)	PTT Environmental Specialist, PTT Social Specialist, PTT GBV Specialist, PTT Coordinator, MoE Project Director	- Overview of the World Bank Environmental and Social Framework (ESF) and applicable Environmental and Social Standards (ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, ESS10) - ESMF structure, objectives, and subproject screening and ESRC classification procedures - Preparation and quality assurance of site-specific E&S instruments (ESMPs, ESIAs, RPs, AMPs, TMPs) - TOR preparation and World Bank prior review and No Objection procedures - Environmental and social monitoring methodology, monitoring indicator tracking, and non-compliance management - Incident identification, classification, and 48-hour serious incident reporting to the World Bank - GBV/SEA/SH Action Plan implementation, survivor-centred response principles, and referral pathway operationalization - Digital Safeguarding Framework requirements and monitoring under Component 2 - Application of the LMP, including worker Code of Conduct, child labor and forced labor prevention, and worker GRM - Application of the SEP and the project GRM, including GBV/SEA/SH-specific entry points	Before project effectiveness (within 1 month of PTT specialist recruitment); before each implementation support mission	Induction training at effectiveness; refresher and on-the-job coaching at each implementation support mission (minimum twice per year)

Level	Responsible Party	Audience	Topics and Themes Covered	Timing	Frequency
			- RP preparation, implementation monitoring, and RP completion verification - Chance Finds Procedures and cultural heritage protection under ESS8 - EPA permitting pathway under L.I. 2504 and national regulatory compliance monitoring - Preparation of biannual E&S monitoring reports and ESCP compliance reporting to the World Bank		
National Level	PTT Environmental, Social, and GBV Specialists	Construction supervision consultants (national firm level); MoE infrastructure directorate staff involved in project oversight	- ESMF structure and instrument requirements applicable to civil works supervision - C-ESMP review and approval procedures and minimum content standards - E&S site inspection methodology, monitoring checklist completion, and photographic documentation - Non-Compliance Notice issuance and escalation procedures - OHS Management Plan monitoring, incident classification, and contractor incident reporting requirements - GBV/SEA/SH zero-tolerance monitoring, Code of Conduct verification, and confidential complaint escalation - Child labor identification indicators and site inspection protocols	Before construction supervision consultants are deployed to active civil works sites	Induction before deployment; refresher annually and as new subproject types are initiated

Level	Responsible Party	Audience	Topics and Themes Covered	Timing	Frequency
			- Chance Finds Procedure and immediate suspension and notification requirements - Waste Management Plan compliance verification, including e-waste disposal chain-of-custody documentation - Site restoration verification and practical completion E&S sign-off procedures - Monthly E&S compliance reporting requirements, format, and submission procedures		
Regional Level	PTT Environmental, Social, and GBV Specialists	TVET/GES Regional Directors; designated Regional E&S Focal Points in all 16 regions	- ESMF structure, objectives, and regional coordination responsibilities - Subproject screening checklist completion and ESRC classification procedures - Land tenure assessment procedures and customary land engagement protocols - Community consultation facilitation in local languages, consistent with the SEP - GBV/SEA/SH referral pathway mapping, DOVVSU engagement, and MoGCSP coordination - GRM operations at regional level: intake, first-level response, escalation procedures, and grievance log maintenance - Regional E&S monitoring visit conduct: observation checklists, photographic documentation, and monthly reporting to PTT - Digital safeguarding monitoring responsibilities for schools receiving	Before construction activities commence in each region	Induction before regional activities start; refresher annually and as new districts are brought into project activities

Level	Responsible Party	Audience	Topics and Themes Covered	Timing	Frequency
			internet connectivity under Component 2 - Coordination with EPA regional offices, Forestry Commission, WRC, and GMMB on site-specific permits and clearances - OHS incident escalation and serious incident 24-hour notification to PTT - Pre-construction community awareness session facilitation		
District Level	TVET/GES Regional E&S Focal Points (with PTT specialist support)	TVET/GES District Directors; designated District E&S Focal Points in all project districts; MMDA environmental and planning officers	- ESMF exclusion list review and subproject eligibility verification procedures - Screening Form completion for proposed subproject sites and submission to regional/national level - Land tenure assessment and census support procedures for sites requiring RAP preparation - GRM intake operations at district level: complaint registration, acknowledgement within 5 working days, first-level resolution, and escalation of GBV/SEA/SH complaints within 24 hours - Pre-construction community awareness session facilitation: content, format, local language delivery, and documentation requirements - Monthly E&S monitoring visit conduct at active civil works sites: inspection checklist completion, OHS observation, contractor access control verification, and community health and safety assessment	Before construction activities commence in each district	Induction before district activities start; refresher annually

Level	Responsible Party	Audience	Topics and Themes Covered	Timing	Frequency
			- Monthly district E&S monitoring report preparation and submission to regional focal point - Digital safeguarding monitoring at beneficiary schools: content filter verification, online safety training delivery confirmation, and online harm incident reporting - Coordination with MMDAs on building permit issuance and filing of disclosed E&S instruments at MMDA offices - Child protection awareness: child labor identification indicators, child-safe construction principles, and referral to Department of Social Welfare		
Contractor / Site Level	PTT Environmental and Social Specialists and Construction Supervision Consultants	Prime contractor site management teams and safety officers; all construction workers and laborers at each project site; subcontractor supervisors	- STARR-J ESMF overview and the contractor's contractual E&S obligations under the civil works contract - Site-specific ESMP and C-ESMP requirements: mitigation measures, monitoring obligations, and reporting duties - Occupational Health and Safety (OHS): site-specific hazards and risk controls; mandatory PPE use and enforcement; emergency response procedures; first aid; working safely near students and community members - Worker Code of Conduct: zero-tolerance for GBV/SEA/SH; prohibition of alcohol and substance use on school premises; prohibition of access to student dormitories and	Before any worker is deployed to a civil works site (pre-mobilization induction); weekly toolbox talks during construction	Pre-mobilization induction mandatory for all workers before site access; weekly toolbox talks throughout construction; refresher for all new workers joining the site

Level	Responsible Party	Audience	Topics and Themes Covered	Timing	Frequency
			school grounds outside working hours; non-discrimination and respectful conduct toward community members - GBV/SEA/SH prevention: definitions, examples, reporting obligations, and the project's confidential GBV/SEA/SH complaint channels - Child protection: minimum age of 18 for all civil works workers; child labor identification and reporting obligations; prohibition of all forms of hazardous work by persons under 18; referral to Department of Social Welfare - Forced labor prevention: indicators of forced labor, workers' rights, and anonymous reporting channels - Waste management: on-site waste segregation procedures; prohibition of open burning and uncontrolled dumping; licensed disposal requirements; e-waste handling under Component 2 - Dust and noise control: daily watering schedules; speed limits on unpaved access roads; scheduling of high-noise activities; complaints management - Chance Finds Procedure: how to recognize a potential heritage find; immediate work suspension and site securing obligations; 24-hour notification to site supervisor and PTT		

Level	Responsible Party	Audience	Topics and Themes Covered	Timing	Frequency
			- Asbestos awareness: how to identify potential ACMs in older school buildings; prohibition of disturbance by non-certified workers; reporting to site supervisor - Worker GRM: how to submit a workplace grievance; non-retaliation protections; escalation channels - HIV/AIDS and communicable disease prevention: basic prevention information, access to health services		
School / Community Level	TVET/GES District E&S Focal Points and PTT GBV Specialist (with GES Regional Focal Point support)	School headteachers and management teams; boarding house supervisors; school counsellors; Governing Board members; PTA members; neighboring community members; parents	- Nature and schedule of planned construction activities at the school and what to expect during the construction period - Construction zone safety rules: designated exclusion zones; perimeter fencing and why it must not be breached; safe pedestrian routes around the construction area - Emergency procedures: what to do in the event of a construction accident at the school; emergency contacts; evacuation assembly points - GBV/SEA/SH prevention: community awareness of GBV/SEA/SH risks associated with contractor presence in school environments; what constitutes prohibited behavior; how and where to report incidents confidentially, including female-friendly intake points; the project's zero-tolerance	Before civil works commence at each project school site (pre-construction awareness session); before digital learning tools are deployed at each Component 2 school	Pre-construction awareness session before works; digital safeguarding awareness before ICT rollout; follow-up community engagement sessions during implementation

Level	Responsible Party	Audience	Topics and Themes Covered	Timing	Frequency
			policy and how complaints are handled - Child protection: child-safe construction principles; prohibition of children on construction sites; how to report suspected child labor to the GES district focal point and Department of Social Welfare - Digital safeguarding (for schools receiving connectivity under Component 2): responsible internet use; content filtering; personal data privacy; how to recognize and report online harassment, grooming, and cyberbullying; who to contact if a student experiences online harm - Grievance Redress Mechanism: how to submit a complaint about project activities; available intake channels (suggestion boxes, toll-free line, GES district office, in-person); response timeframes; non-retaliation protections; anonymous complaint options - Land acquisition and compensation (at sites involving displacement): entitlements under the RF; the cut-off date; how the compensation process works; how to raise concerns about valuation or payment through the GRM - Re-entry policy for pregnant girls and young mothers: rights under the MoE Re-entry Policy; non-discrimination obligations of school		

Level	Responsible Party	Audience	Topics and Themes Covered	Timing	Frequency
			management; how to report discrimination through the GRM		
Operations Phase — School Management and GES/TVET	PTT Environmental, Social, and GBV Specialists (before handover)	School headteachers and management teams; GES district directors and E&S focal points; MoE regional coordinators	- Operations-phase E&S management responsibilities following handover of completed school infrastructure - WASH facility hygiene management and maintenance obligations - Safe solid waste management and disposal arrangements for school operations - Digital safeguarding monitoring responsibilities: content filter maintenance, student online safety supervision, and online harm incident escalation - GBV/SEA/SH prevention at the school level in the operational phase: school counsellor roles, DOVVSU referral pathways, and incident documentation - Re-entry Policy implementation: obligations of school management toward pregnant girls and young mothers; non-discrimination monitoring - GRM operations in the operational phase: how to continue receiving and resolving community complaints after project handover, and escalation contacts within GES and MoE	Before each completed subproject is handed over to school management for operational use	Before handover of each completed school; no periodic refresher required unless new staff are appointed

6.5. Estimated Budget

The costs of implementing the environmental and social risk management measures outlined in this ESMF are mainstreamed into the overall STARR-J project budget. ESMF implementation costs fall into two broad categories: costs embedded within civil works contracts and component budgets, and dedicated E&S management costs that are budgeted separately under project management and technical assistance allocations.

Costs embedded in civil works contracts and component budgets include the implementation of site-specific ESMPs and C-ESMPs by contractors (priced as Bill of Quantities items within individual civil works contracts); dust suppression, noise management, waste management, site fencing and access control, and OHS facilities at construction sites; site restoration and revegetation upon completion of civil works; borrow pit rehabilitation and licensed disposal under Component 2. These costs are the contractual responsibility of civil works contractors and are financed through the civil works contract sums under Component 1, with contract-specific ESMP implementation costs estimated to range from 1.5 to 3.0 percent of the civil works contract value depending on subproject risk classification and site complexity.

Dedicated E&S management costs — covered under the project management budget within Component 3 (Strengthen Systems and M&E) and through specific technical assistance allocations — include the recurrent and one-off costs described in Table 6-5 below. These costs cover the staffing, training, instruments, monitoring, supervision, and compliance activities that are the direct responsibility of the PTT and GES, rather than of civil works contractors.

The ESMF budget is closely related to the SEP budget, as many activities — including community consultation facilitation, stakeholder awareness campaigns, GRM operations, grievance management software, and printing of disclosure and awareness materials — serve both ESMF and SEP implementation purposes.

All ESMF budget estimates presented below are indicative, based on current market rates in Ghana and comparable World Bank-financed education sector projects in West Africa. Actual costs will be confirmed during project implementation as site-specific instruments are prepared and procurement processes are completed. ESMF budget adequacy will be reviewed annually by the PTT and the World Bank during implementation support missions, and budget adjustments will be made through the project's financial management system where required.

Table 6-5: ESMF Implementation Budget

#	Activity / Cost Item	Description and Basis for Estimate	Estimated Cost (USD)
A. TRAINING AND CAPACITY BUILDING			
1	National-level PTT induction training	Two-day induction workshop for PTT Environmental, Social, and GBV Specialists on World Bank ESF, ESMF procedures, RP preparation, GBV/SEA/SH Action Plan, and Digital Safeguarding Framework. Facilitated by World Bank E&S specialists during preparation support missions. Venue, materials, and logistics.	15,000
2	Annual PTT refresher training and World Bank implementation support missions	Participation of PTT specialists in two World Bank implementation support missions per year over 4 years, including preparation of mission briefing materials and follow-up action plan implementation. Travel and logistics costs for PTT staff.	40,000
3	Construction supervision consultant E&S induction	Two-day training for construction supervision consultant team on C-ESMP review, site inspection methodology, OHS monitoring, non-compliance management, and E&S reporting. Facilitated by PTT specialists.	10,000
4	Regional E&S focal point training (16 regions)	Two-day regional training workshops — one per region — for designated Regional E&S Focal Points covering ESMF screening procedures, community consultation facilitation, GBV/SEA/SH referral pathways, and monthly monitoring reporting. Facilitated by PTT specialists. Includes venue, travel, accommodation, and materials for 16 regional workshops. Estimated at USD 5,000 per regional workshop × 16 regions = USD 80,000.	80,000
5	District E&S focal point training (active districts)	One-day district-level training sessions for designated District E&S Focal Points in all districts with active project sites, covering GRM operations, screening checklist completion, monthly monitoring visits, and pre-construction awareness facilitation. Cascaded from regional focal points with PTT specialist support. Estimated for 130 active districts at an average of USD 500 per session including venue, travel, materials, and refreshments.	65,000
6	Contractor pre-mobilization E&S induction training	Pre-mobilization E&S induction for contractor site management teams at each subproject location, covering OHS, Code of Conduct, GBV/SEA/SH prevention, child protection, waste management, Chance Finds, and worker GRM. Facilitated by PTT specialists and construction supervision consultant. Estimated for 230 subproject mobilization events at USD 500 per event including venue, materials, and logistics. Contractor labor time costs borne by contractors. 230 × USD 500 = USD 115,000.	115,000
7	GBV/SEA/SH and digital safeguarding training for school counsellors and teachers	Targeted training for school counsellors and teachers at all beneficiary schools on GBV/SEA/SH prevention, survivor-centred referral, and digital safeguarding responsibilities. Facilitated by PTT GBV Specialist with specialist GBV facilitators. Estimated for 8 regional training events at an average cost of USD 7,500 per event including venue, specialist facilitator fees, materials, and travel. 8 × USD 7,500 = USD 60,000.	60,000

#	Activity / Cost Item	Description and Basis for Estimate	Estimated Cost (USD)
8	Training materials development and printing	Development and printing of training manuals, visual aids, illustrated community awareness posters, and ESMF quick-reference guides in English and key local languages (Twi, Dagbani, Ewe, Ga, and Hausa). Includes translation, graphic design, and printing costs.	30,000
9	Annual refresher training (all levels, Years 2–4)	Annual refresher training sessions for PTT staff, regional and district focal points, construction supervision consultants, and school management teams throughout the implementation period, covering updated E&S procedures, lessons learned from monitoring, and revised instrument requirements. Estimated at USD 15,000 per year × 3 years (Years 2, 3, and 4).	45,000
Sub-total A: Training and Capacity Building			**460,000**
B. E&S INSTRUMENT PREPARATION			
10	Preparation of site-specific ESMPs	Preparation of approximately 80 site-specific ESMPs for Moderate risk subprojects (new construction, major rehabilitation, and E-Block completion sites) by PTT specialists and/or engaged environmental consultants. Average cost of USD 3,500 per ESMP including field assessment, stakeholder consultation, and report preparation. 80 × USD 3,500 = USD 280,000.	280,000
11	Preparation of Environmental and Social Impact Assessments (ESIAs)	Preparation of full ESIAs for up to 13 new school construction sites classified as Substantial risk requiring ESIA under L.I. 2504 and ESS1, by qualified independent environmental and social consultants. Average cost of USD 25,000 per ESIA including field surveys, biodiversity screening, socioeconomic baseline, public consultations, and EPA review support. 13 × USD 25,000 = USD 325,000.	325,000
12	Pre-construction asbestos surveys	Pre-construction asbestos surveys conducted by EPA-certified environmental practitioners at all 150 school rehabilitation sites and 17 E-Block completion sites (167 sites total). Estimated at USD 800 per site survey including desktop review, field inspection, laboratory analysis, and survey report. 167 × USD 800 = USD 133,600.	133,600
13	Preparation of Asbestos Management Plans (AMPs)	Preparation of site-specific AMPs for all rehabilitation and E-Block sites where asbestos-containing materials are confirmed by pre-construction survey. Estimated for up to 50 sites at an average cost of USD 1,500 per AMP. 50 × USD 1,500 = USD 75,000.	75,000
14	Preparation of Traffic Management Plans (TMPs)	Preparation of site-specific TMPs for all urban and peri-urban school construction sites with significant construction vehicle movements, estimated for approximately 60 sites at USD 1,200 per TMP. 60 × USD 1,200 = USD 72,000.	72,000
15	Cultural heritage desktop review and GMMB consultations	Desktop cultural heritage review and formal GMMB consultation for all new construction sites, estimated for 30 sites at USD 500 per site review including desktop data compilation and GMMB correspondence management. 30 × USD 500 = USD 15,000.	15,000
Sub-total B: E&S Instrument Preparation			**900,600**

#	Activity / Cost Item	Description and Basis for Estimate	Estimated Cost (USD)
C. REGULATORY PERMITS AND CLEARANCES			
16	EPA Environmental Permit fees	EPA registration and permitting fees for all subprojects requiring environmental assessment under L.I. 2504. Estimated for 30 sites requiring EPA Environmental Permits at an average fee of USD 1,500 per permit including registration, PEA or EIA review, and permit issuance fees. 30 × USD 1,500 = USD 45,000.	45,000
17	MMDA building permit fees	Local authority building permit fees for all new school construction and major rehabilitation works, estimated for 180 sites at an average of USD 300 per permit. 180 × USD 300 = USD 54,000.	54,000
Sub-total C: Regulatory Permits and Clearances			**99,000**
D. MONITORING, SUPERVISION, AND REPORTING			
18	Travel and accommodation for PTT specialist site visits	Travel, accommodation, and per diem costs for PTT Environmental, Social, and GBV Specialists conducting regular monitoring visits to active civil works sites across all 16 regions. Estimated at USD 800 per visit per specialist, 3 specialists, 48 site visits per specialist per year (average 4 per month), over 4 years. 3 × 48 × 4 × USD 800 = USD 460,800.	460,800
19	Mobile data collection software and GIS monitoring platform	Annual license and maintenance costs for a mobile data collection application (e.g., Kobo Toolbox or ODK) and a GIS-based project monitoring platform for E&S monitoring data collection, georeferenced site inspection reporting, and centralized grievance log management. Estimated at USD 10,000 per year × 4 years = USD 40,000.	40,000
20	IT-enabled GRM platform (software and maintenance)	Procurement, setup, annual maintenance, and technical support for the project's IT-enabled grievance management platform, including toll-free GRM telephone line operational costs, mobile-based complaint submission system, and centralized grievance database management over the 4-year implementation period. Estimated at USD 15,000 setup cost + USD 11,250 per year maintenance over 4 years.	60,000
21	Biannual E&S progress report preparation	Costs associated with preparation, quality assurance, translation, and submission of biannual E&S monitoring reports to the World Bank over the 4-year implementation period (8 reports total), including data compilation, analysis, and report production. Estimated at USD 5,000 per report × 8 reports = USD 40,000.	40,000
Sub-total D: Monitoring, Supervision, and Reporting			**600,800**
E. GBV/SEA/SH AND COMMUNITY AWARENESS			
22	GBV/SEA/SH referral pathway mapping and service provider engagement	Mapping of GBV service providers — including DOVVSU offices, MoGCSP social welfare offices, psychosocial support providers, and legal aid services — in each of Ghana's 16 project regions, development of referral pathway directories, and formal engagement agreements with service providers before civil works commence.	30,000
23	GBV/SEA/SH community awareness campaigns	Community-level GBV/SEA/SH awareness campaigns at all project school sites before and during civil works, using community meetings, community radio, posters, and	69,000

#	Activity / Cost Item	Description and Basis for Estimate	Estimated Cost (USD)
		school assemblies. Facilitated by GES district focal points and specialist GBV facilitators. Estimated for 230 school sites at USD 300 per site awareness campaign. 230 × USD 300 = USD 69,000.	
24	Printing of community disclosure and awareness materials	Design, translation, and printing of community-facing ESMF disclosure materials, GRM awareness posters, construction safety notices, land acquisition and compensation entitlement leaflets, and digital safeguarding awareness materials in English and local languages for all project communities.	25,000
25	Pre-construction community awareness sessions (all school sites)	Facilitation of pre-construction community awareness sessions at each of the approximately 230 active construction school sites, covering construction safety, GBV/SEA/SH prevention, digital safeguarding, GRM access, and land compensation processes. Includes venue, refreshments, local language facilitation, materials, and documentation. Estimated at USD 400 per session. 230 × USD 400 = USD 92,000.	92,000
26	Community radio awareness campaigns	Airtime and production costs for community radio awareness campaigns in local languages covering GBV/SEA/SH prevention, child protection, digital safeguarding, and GRM access, broadcast in project communities across all 16 regions throughout the implementation period.	30,000
Sub-total E: GBV/SEA/SH and Community Awareness			**246,000**
F. CONTINGENCY			
27	Contingency (10% of Sub-totals A–E)	Provision for unforeseen E&S management costs arising from project scope changes, additional site-specific assessments, emergency response activities, additional community engagement requirements, or currency fluctuations. 10% × USD 2,306,400 = USD 230,640.	230,640
Sub-total F: Contingency			**230,640**
TOTAL ESTIMATED ESMF IMPLEMENTATION BUDGET			**USD 2,537,040**

7. Stakeholder Engagement, Disclosure, and Consultations

A separate Stakeholder Engagement Plan (SEP) has been prepared for the STARR-J project, based on the World Bank's Environmental and Social Standard 10 (ESS10) on Stakeholder Engagement and Information Disclosure. The SEP sets out the strategy, schedule, resources, and responsibilities for stakeholder identification, engagement, information disclosure, and grievance redress throughout the project cycle.

This ESMF, as well as the SEP and the Environmental and Social Commitment Plan (ESCP) prepared for this project, have been disclosed in draft for stakeholder consultations on the websites of affiliated agencies of the Ministry of Education, including the Centre for National Distance Learning and Open Schools (CENDLOS): https://cendlos.gov.gh/moestarrj and the National Schools Inspectorate Authority (NaSIA): https://www.nasia.gov.gh/. Both NaSIA and CENDLOS are implementing agencies on the STARR-J Project. Disclosure will also be made on the World Bank's external website (following the MoE disclosure). Physical copies have been made available at the offices of the MoE in Accra, the TVET and GES headquarters, and the TVET and GES regional directorates in all 16 administrative regions of Ghana.

Table 7-1: Key Highlights from Stakeholder Engagements

Stakeholder	Key Concern / Issue	How the Project Mitigates the Concern
Communities near proposed new school construction sites (across multiple regions)	Concerns about land acquisition, compensation adequacy, and lack of transparency in how proposed school sites were selected, particularly communities with unresolved legacy land disputes from the 2013–2015 E-Block program	The project has prepared a Resettlement Framework (RF) establishing transparent entitlement standards and site-specific RAP preparation requirements before civil works commence. Site selection criteria are documented and will be disclosed to all communities. A robust multi-channel GRM has been established to receive and resolve land and compensation complaints. Legacy E-Block land disputes will be assessed and resolved before E-Block completion works commence at affected sites.
Female students and women's groups at boarding secondary schools	Concerns about safety and harassment risks during the construction period, particularly the presence of male construction workers in and around boarding school dormitories and school grounds outside working hours	The project's GBV/SEA/SH Action Plan — prepared prior to effectiveness — is anticipated to include mandatory access control protocols restricting contractor and worker access to dormitory areas and student spaces at all times outside defined working hours; zero-tolerance Code of Conduct provisions in all civil works contracts; survivor-centred, confidential GBV/SEA/SH GRM entry points; and referral pathways to DOVVSU and MoGCSP services. School-specific GBV/SEA/SH awareness sessions will be conducted before construction commences at each boarding school.
Parents and PTAs at proposed new school construction sites in northern Ghana	Concerns that new schools may not be located in the communities with the greatest need, and that wealthier or more politically connected communities may be	The project's geographic targeting criteria explicitly prioritize the Savannah, North-East, Oti, and Upper West regions for new school construction based on documented enrollment deficit data. Site selection criteria — including school catchment area analysis, distance to

Stakeholder	Key Concern / Issue	How the Project Mitigates the Concern
	favored in school placement decisions	nearest school, and enrollment pressure indicators — will be publicly disclosed and communicated to all communities through the SEP. GES regional directorates will facilitate community-level consultations on school placement decisions in each region before sites are finalized.
Persons with disabilities and disability rights organizations (Ghana Federation of Disability Organizations)	Concern that new and rehabilitated school infrastructure will not meet universal accessibility standards, repeating the inaccessibility of existing school buildings; concern that students with disabilities are excluded from STEM and digital learning programs	All new construction and significant rehabilitation works under the project will incorporate universal design standards — including ramps, accessible sanitation facilities, wide doorways, tactile guide paths, and accessible ICT equipment — as mandatory engineering specifications. NaSIA pre-commissioning inspections will verify accessibility compliance before any building is commissioned. ICT procurement specifications will require compatibility with assistive technologies for students with visual and hearing impairments.
Informal traders and market vendors near school gates	Concern about temporary and permanent loss of trading income and displacement from established trading locations due to school boundary expansion and construction access road works	The project's RF requires pre-construction census surveys of all economically affected traders before works commence, with compensation at full replacement cost for loss of structures, crops, and business income prior to any clearance. Civil works scheduling will seek to maintain pedestrian access to trading locations throughout construction. Livelihood restoration support will be available to traders suffering significant or prolonged income loss.
School head tutors and TVET/GES district directors	Concern about disruption to teaching and learning during rehabilitation and construction activities at active school sites, particularly during examination periods	All civil works contracts will include provisions prohibiting high-noise and vibratory construction activities during school examination periods. Site perimeter fencing and access control will be mandatory from the first day of mobilization. Construction scheduling will be designed to minimize disruption to school operations, and school management will be consulted on construction scheduling before each site is mobilized.
TVET and GES regional and district directors (Savannah, North-East, Oti, Upper West)	Concern about the capacity of TVET and GES district directorates in remote northern regions to manage E&S monitoring, GRM operations, and community engagement across dispersed school sites with limited transportation and communication infrastructure	The project's capacity building program in Section 6.4 includes targeted training and operational support for TVET and GES regional and district E&S focal points in all 16 regions, with emphasis on northern regions. Mobile data collection tools will be provided to district focal points to enable remote monitoring reporting. Community radio will be used as the primary community communication channel in areas with limited internet connectivity.

Stakeholder	Key Concern / Issue	How the Project Mitigates the Concern
Traditional authorities and community leaders (customary land areas)	Concern about whether customary land rights will be adequately recognized in school site acquisition processes, and whether stool and skin land custodians will be formally engaged before land is transferred to the government	The project's RF requires formal engagement of traditional land custodians, stool and skin land administrators, and family heads in all customary land acquisition processes, with documented free, prior, and informed consent before any land transfer is executed. The Lands Commission will be engaged to verify land tenure status and manage formal transfer instruments at all acquisition sites. No civil works will commence at any site until land access is formally and documentarily secured.
NGOs working on child protection (Plan International, CAMFED, ActionAid)	Concern about child labor risks at construction sites and supply chains, and about inadequate digital safeguarding measures for adolescent students accessing internet connectivity under Component 2	All civil works contracts include an explicit minimum age of 18 for all workers, with mandatory identity verification at point of engagement. Regular unannounced site inspections by PTT E&S Specialists will include specific child labor checks. A Digital Safeguarding Framework will be developed before Component 2 digital infrastructure is deployed, specifying content filtering standards, online safety training for students, teacher supervision protocols, and confidential online harm reporting mechanisms.
TVET instructors and vocational training providers	Concern that TVET curriculum reform and instructor training under Component 2 may not adequately reflect local industry needs, particularly in construction, agribusiness, and hospitality sectors relevant to northern Ghana's economy	The project's TVET curriculum reform process will be guided by a structured industry engagement mechanism under Subcomponent 2.2, involving private sector employers, industry associations, and TVET graduates in curriculum validation. TVET instructor training will be co-designed with industry partners to ensure relevance to local labor market needs. Gender-responsive TVET curriculum design will be a specific requirement to encourage girls' participation in non-traditional vocational fields.
Community members in remote districts (Savannah, Upper West, North-East regions)	Concern that project information and consultation processes are conducted only in English and in formal settings that exclude community members with limited formal education and those who cannot travel to district centers	The project's SEP commits to conducting all community consultations in the dominant local language of each project community, using community radio, community meetings at accessible local venues, and trusted community intermediaries. Visual communication materials will be used in communities with high rates of functional illiteracy. Female-specific consultation sessions will be conducted in communities where mixed-gender formats inhibit women's participation.
School counsellors and teacher associations	Concern about the adequacy of support for the Re-entry Policy for pregnant girls and young mothers, and about school counsellors' capacity to manage GBV/SEA/SH disclosures safely and confidentially	The project's GBV/SEA/SH Action Plan includes targeted training for school counsellors on survivor-centred disclosure management, confidentiality obligations, and DOVVSU referral procedures. Re-entry Policy communications under Subcomponent 1.5 will target school

Stakeholder	Key Concern / Issue	How the Project Mitigates the Concern
		administrators, teachers, and communities. New school infrastructure designs will include private counselling rooms and facilities accessible to pregnant and nursing students.

ANNEXES

Annex 1
Detailed Description of Project Components

Component 1: Increasing Equitable Access to Secondary Education

This component targets the elimination of the double-track system and safeguards against its return through a sequenced, two-horizon strategy. In the near term, rehabilitation and strategic upgrading of existing schools — combined with CSSPS reform, teacher deployment and demand communications supported under Component 3 — will create a more balanced distribution of student demand, enabling double-track schools to convert to single-track. Over the longer term, new school construction is deliberately sited and sized to absorb projected enrollment growth through 2040, ensuring that the capacity created by the project is sufficient to sustain single-shift schooling as Ghana's youth population continues to rise. Beneficiary schools will include a mix of SHS, Senior High Technical Schools (SHTS), and Technical and Vocational Institutes (TVIs), with all integrated (special needs) secondary schools specifically targeted. School selections will be detailed in the Project Implementation Manual (PIM). It finances the following activities:

- *Subcomponent 1.1 — Rehabilitate and upgrade existing secondary schools:* This subcomponent finances two categories of interrelated civil works:

(i) *Rehabilitation of 150 schools with limited infrastructure.* This activity improves baseline conditions across a broader set of schools, primarily Category C schools. Rehabilitation covers a range of small-scale facility improvements, including classroom expansion, workshop and laboratory modernization, ICT infrastructure modernization, additional furniture, and new or upgraded WASH facilities. Schools have been selected through a needs-based ranking that combines population data, demand indicators, and a poverty index, with regional distribution applied to ensure geographically balanced coverage across the bottom-ranked schools; and

(ii) *Strategic upgrading of 50 schools (30 schools from Category C to B; 20 schools from Category B to A).* Schools are selected based on four criteria: (a) location in high-demand catchment areas as evidenced by population data and CSSPS school choice and placement data; (b) sufficient physical footprint to support expansion; (c) demonstrated head teacher leadership; and (d) community support. Schools selected for rehabilitation are excluded from this stream. The upgrade package goes beyond standard rehabilitation to include additional science laboratories, ICT infrastructure, libraries, gender-appropriate sanitation facilities, sports facilities, and mixed-use workshop facilities with changing areas and equipment access for female students. Staff and student housing will also be provided, alongside targeted teacher deployment — together comprising the full package of inputs required to meet the higher category standard and attract students and families who currently bypass these schools. Programs will be prioritized in STEM, climate-smart agriculture, and agribusiness, aligned to local labor market needs.

- *Subcomponent 1.2 — Construction and complete new secondary schools:* This subcomponent serves a dual purpose: it addresses the most acute supply gaps in the system by expanding secondary school capacity in communities and districts that are currently unserved or severely underserved, and it provides the long-term enrollment buffer needed to protect single-track gains beyond the project period. New schools are sited and scaled based on projected secondary-age population growth, with construction prioritized in districts where the 15–17-year-old cohort is expected to exceed 8,000 by 2040.

(i) *Construction of seven new schools in underserved districts and population-dense peri-urban areas.* This activity expands secondary school capacity through two streams of investment. The first constructs new public secondary schools in districts that do not currently have a public secondary school or are highly congested, removing travel distance as a barrier to enrollment — with particular benefit to girls and students from low-income households. The second constructs community day secondary schools in high-density peri-urban areas projected to face significant demand pressure by 2040, with priority given to technical secondary schools where a general SHS already exists. Each new school will add at least 1,200 seats with capacity for expansion, fully equipped to support quality teaching and learning, with facilities and programs aligned to priority trades and local labor market needs.[3] Two of the newly constructed schools will be modeled as special schools to serve students with disabilities, and all new schools will be designed to support fully inclusive education.

(ii) *Completion of three E-block schools.* This activity unlocks stranded public investment by completing the construction of three community day secondary schools initiated under the 2013–2015 E-Block program, which left some E-Blocks uncompleted.[4] Completing these E-Blocks represents a cost-effective and fast route to adding functional secondary school capacity — providing approximately 1,200 additional seats per school — in communities that have long awaited local access. Completion will include full furnishing, equipment, and commissioning for operation. To increase their attractiveness, completed E-blocks will offer programs aligned to local employment opportunities.

All infrastructure interventions financed under Component 1 will adhere to gender-sensitive design standards. These standards include the provision of separate, lockable sanitation facilities for girls and boys, with menstrual hygiene management facilities in girls' latrines. The standards will also include dedicated changing areas in TVET workshops, adequate lighting in common areas and latrines, perimeter fencing, and dedicated safe spaces for girls to support their wellbeing and safety on campus. School construction, rehabilitation, and upgrades will prioritize districts with the lowest female enrollment rates, as identified through Education Management Information System (EMIS) data, to reduce physical barriers to girls' enrollment and retention.

All infrastructure interventions under Component 1 will integrate climate mitigation and adaptation measures. Rehabilitation works will reduce Greenhouse Gas (GHG) emissions by applying national energy performance standards, including energy-efficient equipment, solar power systems, and low-emission materials. A School Infrastructure Resilience Scan will assess hazard susceptibility — including floods and heatwaves — across existing schools and potential new sites, informing resilience measures such as improved drainage, slope protection, heat-resistant materials, and rainwater harvesting. Safety and evacuation plans will be tailored to reduce local climate risks, and schools will be designed to serve as emergency shelters where appropriate. New construction and E-block completions will additionally incorporate optimized siting, passive design, and energy assessments from the design stage to minimize projected GHG emissions and allow future retrofits. The PIM will provide further details.

Component 2: Improve Quality and Relevance of Programs in Secondary Schools

This component strengthens secondary education in Ghana by addressing quality and relevance as two mutually reinforcing dimensions for providing the building blocks of skills for jobs. Improving the quality

[3] This figure is based on early design parameters developed during project preparation.

[4] The government awarded 124 out of the planned 200 E-Blocks. By 2026, about 60 of the E-Blocks have been completed and are operational, including 23 completed under the IDA funded SEIP (2014-2021)

of instruction — through better-trained teachers, improved teaching and learning materials (TLMs), and digital skills — only delivers its full value when what is being taught connects to credible pathways beyond school. Equally, labor market relevance without strong instructional quality will produce graduates who may be pointed in the right direction but poorly equipped for the world of work.

- *Subcomponent 2.1 — Strengthen the quality of teaching and learning in Secondary Schools:* This subcomponent targets the full range of Ghana's secondary institutions — SHS, SHTS, and TVIs — with a focus on instructional quality and the preparation of students for tertiary education and skilled employment.

(i) *Teacher professional development.* The dominant mode of instruction in secondary education remains teacher-led and theory-heavy, not yet aligned with the active, inquiry-based approach embedded in the new competency-based curriculum. The project will support structured professional development for all teachers and instructors across SHS, SHTS, and TVIs to close this gap, with a focus on two areas: learner-centered pedagogy and practical-based instruction, including hands-on and investigative approaches to science and technical subjects. Teachers and instructors will receive awareness-raising and basic training on climate change fundamentals to strengthen their ability to recognize and respond to climate threats.[5] They will also be trained in emergency response, building safety, and evacuation procedures to better prepare schools for climate-related and other context-specific disasters. Gender-responsive instructional strategies will be integrated across both areas. TVI instructors will additionally receive Competency-Based Training (CBT) methodology training, structured industry immersion, and preparation to teach non-traditional trades. AI-assisted tools for lesson planning and content delivery will be made available to teachers.

(ii) *Teaching and learning materials.* The project will support the development and distribution of updated TLMs, including digitized textbooks, for selected core and elective subjects across secondary education, delivered through a borrow-and-return model. The Centre for National Distance Learning and Open Schooling (CENDLOS) will upgrade the iBox and iCampus platforms with content aligned to the revised curricula, incorporating green skills and climate change materials, and making quality digital resources available across all schools. The Ghana Library Authority will establish multipurpose school libraries stocked with inclusive and open-access resources.

(iii) *Mainstreaming digital skills in the curriculum.* The project will support the development of a digital skills curriculum for students across SHS, SHTS, and TVIs, covering foundational digital literacy and applied technology use across subjects. All students will be required to take courses on digital skills, with teacher training in the delivery of this curriculum integrated into the broader Teacher Professional Development (TPD) program to ensure instructional capacity keeps pace with curriculum rollout.

(iv) *Support for at-risk students (dropout prevention, inclusion, and gender equity).* The project will support targeted school-based interventions to improve retention, completion, and transition to tertiary education or skilled employment, including remedial learning programs, mentoring, and career guidance. Existing school counselors will receive training in GBV prevention, career guidance delivery, and mentoring to strengthen the quality of these services. To support the inclusion of students with disabilities, grants will be provided to integrated schools to improve accessibility and

[5] Including science, causes, impacts, local risk exposure, adaptation solutions such as NBS.

learning conditions. Schools will organize Women in STEM activities, bringing female professionals from STEM and TVET sectors to serve as role models, engage directly with students, and support girls' enrollment and completion in STEM and TVET programs.

- *Subcomponent 2.2 — Build Labour Market Relevance in Secondary Education*: This subcomponent strengthens labor market relevance across all SHS, SHTS, and TVIs through program rationalization, employability skills, and entrepreneurship education, while piloting a deeper employer partnership model — covering instructor immersion, work-based learning, and structured industry engagement — in approximately 10 percent of SHTS and TVIs. The pilot is designed as a learning investment: if the employer partnership model demonstrates results, TVET Service and CTVET have the institutional platform to scale it beyond the project period. All partnership activities are anchored in the infrastructure investments under Component 1, which provides the upgraded workshops, laboratories, and equipment required to deliver industry-aligned training.

(i) *Program alignment and skills for employability.* The project will finance labor market assessments to map skills demand across local and regional economies, identifying priority sectors and value chains where secondary and TVET graduates can find productive employment. Findings will feed into a formally governed program rationalization process — convened through TVET Service and CTVET — through which institutions review their current program offerings against demand signals and national certification frameworks. Decisions on additions, adjustments, and phased changes to program mix will be published. Priority sectors include green skills, renewable energy (RE), digital skills, climate-smart agriculture and agribusiness, sustainable tourism, health, and value-added manufacturing. Where program rationalization leads to shifts in the subjects and trades being taught, teacher professional development under Subcomponent 2.1 will be sequenced to equip instructors accordingly, ensuring that changes in program offerings are matched by the pedagogical capacity to deliver them. Across all institution types, the project will embed entrepreneurship, soft skills, and financial literacy education, equipping students with foundational skills for employment and self-employment beyond secondary school.

(ii) *Industry partnerships, instructor immersion, and work-based learning*. In pilot SHTS and TVIs, the project will establish formal partnership structures with local private sector actors — including Small and Medium-sized Enterprises (SMEs), industry associations, and sector skills bodies — convened and brokered through TVET Service and CTVET as the institutional platform for matching pilot schools with employers in districts where specific industries and value chains agglomerate. These partnerships serve three linked purposes. First, they anchor instructor development: teachers in pilot institutions will be placed with local SMEs and industry bodies for defined periods, enabling them to update technical skills, experience current workplace practices, and build sustained employer relationships that outlast the project. Second, they structure student work-based learning: placements covering internships, work simulations, apprenticeships, and real-world workplace exposure will be organized through partnership agreements, with the project financing the coordination infrastructure and quality monitoring systems that make placements functional and equitable — with deliberate attention to female students' access to opportunities in non-traditional trades. Third, they formalize practitioner instruction: guest teaching by industry practitioners will be embedded in program delivery rather than treated as occasional or ad hoc.

Component 3: Strengthen the Secondary Education Data Ecosystems and Evidence

This component focuses on the system-level activities essential for sustaining the access and quality gains supported under Components 1 and 2. It combines investments in data and evidence systems, communications, demand generation and behavior change, and project management and monitoring, recognizing that infrastructure and quality improvements alone will not deliver results without informed decision-making, shifts in household and community behavior, and robust systems for tracking and sustaining progress.

- *Subcomponent 3.1 — Strengthen the secondary education data ecosystem and evidence base:* This subcomponent will strengthen the systems and institutional capacity needed for evidence-informed planning and decision-making in secondary education, across two interrelated workstreams.

(i) *Strengthening data systems.* The project will upgrade and consolidate sector education data into a central sector EMIS, integrating data from the GES Management Information System (MIS) and the TVET MIS. Agency-level data systems will be strengthened to feed into this central infrastructure — TVET Service collecting data from TVIs and GES collecting data from SHS and SHTS. The project will support the completion and integration of the unique student identification system — established under the Free SHS program — into the sector EMIS, providing the foundation for reliable tracking of individual learners across institutions and over time, cohort analysis, and dropout monitoring. The sector EMIS will incorporate national learning assessment data to track learner performance across the secondary system. A structured data access framework will govern who can view and interact with data. Teachers, school heads, CSOs, and other stakeholders will access information relevant to their role, while MoE retains master access across all data sources. The project will also develop a Geographic Information System-based school mapping platform to support geographic planning and evidence-based policy making in secondary education.

(ii) *Strengthen the evidence base.* Building on the education evidence lab (GEEDLab) established under the ongoing, World Bank-supported Ghana Accountability for Learning Outcomes Project (GALOP; P165557), the project will expand the evidence lab's research agenda to encompass secondary education, including gender-disaggregated analysis of barriers to STEM and TVET enrollment, pathways after secondary education, skills demand by industry, factors affecting student program choice, among other priority research questions. Findings will be made available to policymakers and practitioners to deepen the evidence base for decision-making across the system and to inform adaptive management decisions as implementation progresses.

- *Subcomponent 3.2 — Mobilize Demand and Strengthen Community Engagement*: This subcomponent addresses the behavioral and social dimensions of secondary education access and equity, recognizing that physical investments and system reforms are necessary but not sufficient for change. Shifting student demand, challenging entrenched gender norms, and making schools safer and more inclusive requires sustained, deliberate engagement with households, communities, and schools themselves. This subcomponent works on two levels: at the system and community level, through centrally designed and locally delivered communications campaigns; and at the school level, through structured interventions to prevent gender-based violence (GBV) and promote behavior change.

(i) Communications and demand generation campaigns. This activity will support centrally designed and district-delivered campaigns with the specific objective of ensuring equitable enrollment across all schools. Campaign content will span infrastructure improvements — including new construction, rehabilitations, and upgrades to laboratories, workshops, sanitation facilities, and dormitories — as well as testimonials from students and alumni, parents, teachers, school leaders, and communities, reflecting current progress and future ambitions. Dedicated attention will be paid to messaging that

addresses gender norms affecting girls' school choice and program selection in STEM and TVET pathways, especially in high-poverty districts. Campaigns will leverage the school mapping platform and the CSSPS placement process for targeted outreach. A mix of communication tools will be deployed — including radio, social media, community outreach, and school-level events — to reach students, parents, and broader communities, with campaign targets for reach and coverage to be established in the PIM. The project will build on community engagement structures under GALOP to share information about secondary school interventions. Campaign reach and effectiveness will be monitored through enrollment, school choice, and program choice data, with feedback loops to adjust messaging as implementation progresses.

(ii) *GBV awareness, mitigation, and behavior change.* School-related GBV remains a significant barrier to girls' education across Sub-Saharan Africa, contributing to dropout, absenteeism, and disengagement from STEM and TVET pathways. Ghana's secondary schools are not immune to these challenges and addressing the behavioral and social dimensions of school safety requires deliberate, sustained interventions alongside physical and pedagogical investments. The project will develop a structured GBV referral pathway, establishing clear protocols for how cases are identified, reported, and escalated, from the school level through to relevant external support services and authorities. The project will support the establishment of structured boys' and girls' clubs in secondary schools, providing peer-led programming on GBV awareness, self-agency, and confidence-building, facilitated by trained school counselors. Building on activities under Subcomponent 2.1 — including counselor training and Women in STEM events — these interventions work collectively to shift gender norms and strengthen girls' confidence and program choice. School management committees and parent-teacher associations will be engaged to reinforce community-level accountability for safe school environments. Together, these interventions complement the gender-responsive infrastructure investments under *Subcomponent* 1.1 and the safe learning environment training under Subcomponent 2.1, ensuring physical, pedagogical, and behavioral dimensions of school safety are addressed in a mutually reinforcing way.

- *Subcomponent 3.3 — Embed* project *monitoring, evaluation, and institutional sustainability.* This subcomponent supports the project management, monitoring, and institutional systems needed to ensure that investments under the project are implemented effectively, results are tracked rigorously, and gains are sustained beyond the project period.

(i) *Project management.* The project will finance the operational costs of the Project Technical Team (PTT) within MoE, including staffing, coordination, and compliance with World Bank requirements across fiduciary, procurement, financial management, and Environmental and Social (E&S) dimensions. A sector-wide digital Grievance Redress Mechanism (GRM) will be established as a condition of effectiveness. Key specialists — including gender, GBV, social development, and environment specialists — will be recruited to support E&S compliance throughout implementation. The project will support a GBV mapping of service providers across the country, conducted with relevant local CSOs, to inform the development and implementation of a GBV action plan. GRM and GBV training will be provided to teachers, school leaders, regional officials, and counselors, covering GBV identification, reporting mechanisms, response protocols, and referral pathways.

(ii) *Monitoring, evaluation, and systems strengthening.* The project will support systematic collection, analysis, and use of project data to track progress toward the PDO, intermediate indicators, and sector indicators. This includes regular supervision of implementation at school, district, and regional levels; third-party verification of infrastructure works and results; and periodic assessments of project

outcomes including enrollment, learning, and school quality standards. Early-warning tracking systems will be established to flag deviations — particularly around demand redistribution and double-track elimination targets — enabling timely adaptive management decisions. An independent verification agent (IVA) will be financed to verify the achievement of PBCs. The project will also invest in strengthening the institutional foundations for sustainable secondary education improvement, including targeted support for school leadership development — equipping head teachers and school management committees with the tools, skills, and data they need to manage for results — as well as investments in regional-level supervision capacity and GES and TVET institutional systems for ongoing oversight and accountability.

Component 4: Contingency Emergency Response Component — CERC

This component provides a mechanism to rapidly reallocate project funds in the event of an eligible crisis or emergency during project implementation, in accordance with World Bank CERC procedures.

Annex 2
Environmental and Social Screening Form (Template)

Project Name	
Name of person undertaking the screening exercise	
Designation:	
Address (Email, Phone number)	
Date of site visit	
GPS coordinates of the site (if applicable)	

A. Description of Activity

Nature/Type of Activity	
Describe the Scope of Activity:	
Estimated land area to be taken by sub-project in acres/ha	
Any existing property to be affected, and by how much (total or partial demolition)	
Will construction involve move of earth, changes in land cover	
State the Region where the activity will be implemented:	
State the name of town and Metropolitan/Municipal/District Assemblies (MMDAs) where the activity will be implemented:	
Proposed Date of Commencement of work:	
Expected Completion date and estimated cost	
Indicate if Technical Drawing is required:	

B. Site Characteristics [complete this section if applicable]

#	Site Characteristics	
1	Adjoining Land Uses or Land Cover	
2	South	
3	North	
4	East	
5	West	
6	Proximity to a natural habitat (in meters) e.g. wetland, river/stream, wetlands, forest reserves, protected areas etc.	

7	Proximity to residence or any community resource or facility (in meters)	
8	Proximity to a road (in meters)	
9	Are there outstanding land disputes on the land? (Yes/No)	
10	What is the status of the land holding required by the project (customary, lease, community lands, etc.)?	

C. Risks Identification

If implemented, would the activity Potentially	Yes	No	If Yes, give a brief description	If Yes indicate frequency of occurrence			
				Very Rarely	Rarely	Occasionally	Very Frequently
Air Quality and Noise							
Cause air pollution? • generation of dust • generation of smoke • generate fumes? • generate emissions • Create objectionable odor affecting people?							
Expose workers or the public to substantial air pollution?							
Cause noise pollution							
Expose persons to excessive vibration and noise?							
Biological Resources and Natural Resources							
Occur in legally protected/nature reserve or Environmentally Sensitive Areas or a legally defined buffer zone; (forest reserves, national parks, Ramsar sites and wetlands, wildlife habitat areas, steep slopes, riparian areas, upland forests, vulnerable aquifers, biosphere reserves, World Heritage Sites, prime agricultural lands?							
Be located within 100m from a protected/nature reserve or Environmentally Sensitive Areas?							
Have effect on neighboring protected/nature reserve or Environmentally Sensitive Areas (forest reserves, national parks, Ramsar sites and wetlands, wildlife habitat							

If implemented, would the activity Potentially	Yes	No	If Yes, give a brief description	If Yes indicate frequency of occurrence			
				Very Rarely	Rarely	Occasionally	Very Frequently
areas, steep slopes, riparian areas, upland forests, vulnerable aquifers and prime agricultural lands?							
Have effect on flora (vegetation or plants)?							
Have effect on fauna (animals, wildlife)?							
Interfere with the movement of any wildlife species or organisms?							
Lead to the clearing of forestlands and woodlands?							
Cause disturbance in natural habitats?							
Lead to modification of natural habitats?							
Drain wetlands, or be sited on floodplains?							
Lead to road construction or rehabilitation, or otherwise facilitate access to fragile areas (natural woodlands, wetlands, erosion-prone areas)?							
Cause disruption of wildlife migratory routes?							
Harvest wetland plant materials or utilize sediments of bodies of water?							
Involve the harvesting of timber resources?							
Involve the harvesting of non-timber resources?							
Promote in-forest bee keeping?							
Lead to increased hunting or the collection of animals or plant materials?							
Increase the risks to endangered or threatened species?							
Accelerate erosion by water or wind?							
Reduce soil fertility and/or permeability?							
Involve removing renewable natural resources such as forest products?							
Involve the extraction of non-renewable natural resources?							

If implemented, would the activity Potentially	Yes	No	If Yes, give a brief description	If Yes indicate frequency of occurrence			
				Very Rarely	Rarely	Occasionally	Very Frequently
Affect dry season grazing areas and/or lead to restricted access to a common resource?							
Water Quality and Hydrology							
Occur within 100m distance from the nearest water body or drainage channel?							
Involve water extraction or abstraction from rivers, lakes, groundwater							
Have effect on potable water supplies to communities?							
Potentially contaminate surface water and groundwater supplies? • by generating liquid waste? • by generating liquid with human or animal waste? • by generating liquid with pH outside 6-9 range? • by generating liquid with an oily substance? • by generating liquid with a chemical substance? • by generating liquid with odor/smell?							
Lead to changes in the drainage pattern of the area, resulting in erosion or siltation?							
Lead to increase in surface run-off, which could result in flooding on or off-site?							
Increase runoff, which could exceed the capacity of existing stormwater drainage?							
Increase potential for flooding?							
Potentially pollute or contaminate surface water?							
Potentially pollute or contaminate groundwater resources?							
Affect existing stream flow, reduce seasonal availability of water resources?							
Agricultural and Forestry Production							

If implemented, would the activity Potentially	Yes	No	If Yes, give a brief description	If Yes indicate frequency of occurrence			
				Very Rarely	Rarely	Occasionally	Very Frequently
Affect existing or traditional agricultural production systems by reducing seed availability or reallocating land for other purposes?							
Lead to forest plantation harvesting without replanting, the burning of pastureland, or a reduction in fallow periods?							
Affect existing food storage capacities by reducing food inventories or encouraging the incidence of pests?							
Affect domestic livestock by reducing grazing areas or creating conditions where livestock disease problems could be exacerbated?							
Involve the use of insecticides, herbicides, and/or other pesticides?							
Hazardous Waste and Materials - Will the activity							
Lead to the generation of hazardous waste such as: • Solvent-based paints, • Pesticides and other agro chemicals, • Batteries (for example car, mobile phone or regular household batteries etc.) • Motor oils (Petrol, kerosene, lubricants for vehicles), • Cleaning and polishing chemicals, • Pharmaceuticals (all medicines), • Electronic waste (unwanted computer equipment – monitors, keyboards, laptops, CD, disc drives, phones, batteries, solar panels, meters, Laser and printer							

If implemented, would the activity Potentially	Yes	No	If Yes, give a brief description	If Yes indicate frequency of occurrence			
				Very Rarely	Rarely	Occasionally	Very Frequently
inkjet cartridges, Fluorescent tubes and compact fluorescent globes (CFLs)) • Medical waste? • Other hazardous waste							
Lead to the transportation of hazardous waste?							
Lead to the recycling of hazardous waste?							
Lead to the storage and disposal of hazardous waste?							
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement							
Require changes to existing land tenure system?							
Require acquisition of land (public or private, temporarily, or permanently) for its development?							
Potentially cause or aggravate land-use conflicts?							
Restrict land rights or land use rights?							
Restrict access to natural resources that cause a community or groups within a community to lose access to resource usage where they have traditional or customary tenure, or recognizable usage rights?							
Lead to the physical displacement? Physical displacement occurs when individuals or communities are fully or partially no longer able to occupy an area and must relocate to a new location due to project activity.							
Lead to economic displacement? Economic displacement occurs when individuals or communities are fully or partially restricted in their access to land or resources that are important to their							

If implemented, would the activity Potentially	Yes	No	If Yes, give a brief description	If Yes indicate frequency of occurrence			
				Very Rarely	Rarely	Occasionally	Very Frequently
livelihoods and economic well-being							
Cause a disruption on Power or other utility supply?							
Affect livelihood opportunities of people?							
Labor and Working Conditions							
Involve the use of direct workers? Direct workers are people employed or engaged directly by the Borrower (including the project proponent and the project implementing agencies) to work specifically in relation to the project.							
Involve the use of community workers? Community workers are people employed or engaged in providing community labor.							
Involve the use of contracted workers? contracted workers are people employed or engaged through third parties to perform work related to core functions of the project, regardless of the location.							
Involve the use of primary supply workers? Primary supply workers are people employed or engaged by the Borrower's primary suppliers.							
Involve the use of Children?							
Involve the use of forced labour?							
Workers' grievance redress mechanism with GBV/SEA/SH procedures (for existing SMEs)							
Is an Occupational Health and Safety (OHS) Management Plan in place? (for existing SMEs)							
Social Inclusion							
Cause the exclusion of migrants, poor, persons with disabilities, youth, women, men?							
Cultural Heritage							

If implemented, would the activity Potentially	Yes	No	If Yes, give a brief description	If Yes indicate frequency of occurrence			
				Very Rarely	Rarely	Occasionally	Very Frequently
Involve excavations, demolition, movement of earth, flooding or other changes in the physical environment?							
Be located in, or in the vicinity of, a recognized cultural heritage site?							
Affect culturally important sites in the community such as sacred areas, burial grounds or cemeteries?							
Affect religious sites shrines, temples, mosques, churches?							
Affect any archeological or historical site?							
Community Health and Safety							
Lead to labour influx? Labor influx consists of the rapid migration to and settlement of workers in the project area, typically in circumstances where labor/skills and goods and services required for a project are not available locally. Projects also stimulate speculative influx ("followers"), including those seeking employment or enterprises hoping to sell goods and services to the temporary project workforce, as well as "associates "who often follow the first two groups to exploit opportunities for criminal or illicit behavior (e.g. prostitution and crime).							
Create conditions that can lead to community health problems such as community exposure to health risks and vector-borne diseases, communicable diseases, injuries, nutritional disorders, HIV/AIDS and infectious Diseases?							
Lead to increase road traffic, vehicles or fleets of vehicles for the purposes of the activity?							

If implemented, would the activity Potentially	Yes	No	If Yes, give a brief description	If Yes indicate frequency of occurrence			
				Very Rarely	Rarely	Occasionally	Very Frequently
Involve the use of Security personnel?							
Other Areas							
Production or use in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCB's, wildlife or products regulated under CITES.							
Production or use of weapons and munitions.							
Production or use in alcoholic beverages (excluding beer and wine).							
Production or trade in tobacco							
Gambling, casinos and equivalent enterprises.							
Production or trade in radioactive materials.							
Production or use in unbonded asbestos fibers.							

D. Risks Classification

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

Risk areas	Low Risk (Risk that is negligible)	Moderate Risk (Risk that can cause an impact but not a serious one and can be easily mitigated)	Substantial Risk (Risk that falls between Moderate and High	High Risk (Risks that can result in huge impact and mitigation is complex or unavailable)
Air Quality and Noise				
Biological Resources and Natural Resources				
Water Quality and Hydrology				
Agricultural and Forestry Production				
Hazardous Waste and Materials				
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement				
Labor and Working Conditions				
Social Inclusion				

Cultural Heritage				
Community Health and Safety				

Overall proposed activity risk classification: ……..

E. Recommendations for Instruments to be prepared

Recommendation:	Tick as appropriate	Suggested timelines	Justification
No further instrument required			
Requires the preparation of:			
Environmental and Social Impact Assessment (ESIA)			
Environmental and Social Management Plan (ESMP)			
Resettlement Plan (RP)			
Labor Management Plan			
Sexual Exploitation and Abuse/Sexual Harassment Prevention Plan			
Environmental and Social Audit			
Hazard or Risk Assessment			
Social and Conflict Analysis			
Cultural Heritage Management Plan or Chance Find Procedures			
Biodiversity Management Plan			
Integrated Pest Management Plan			
Other (s)			

F. National Requirements

#	Would the activity require permit or approval from the following national regulatory agencies?	Yes	No	Justification
1	Environmental Protection Authority			
2	Forestry Commission			
3	Water Resources Commission			
4	Ghana Standards Authority			
5	Food and Drugs Authority			
6	Minerals Commission			
7	Plant Protection & Regulatory Services			
8	Ghana Health Service			
9	District Assembly			
10	Fire Service			
11	Other (s)			

G. Reviewer Details

Name of Officer	
Designation	
Signature:	
Date:	