ADOLESCENT GIRLS' INITIATIVE FOR LEARNING AND EMPOWERMENT (AGILE) PROJECT

DRAFT-FINAL REPORT

FOR:

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

REHABILITATION/RENOVATION OF JUNIOR AND SENIOR SECONDARY SCHOOLS IN KEBBI STATE, NIGERIA

June 2023

DRAFT-FINAL REPORT

ENVIRONMENTAL & SOCIAL MANAGEMENT PLAN (ESMP)

FOR

JUNIOR AND SENIOR SECONDARY SCHOOLS REHABILITATION/RENOVATION INTERVENTION PROJECT KEBBI STATE, NIGERIA

Prepared By

Kebbi State AGILE Project
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LIST OF ACRONYMS

AGILE	Adolescent Girls Initiative for Learning and Empowerment
ARAP	Abbreviated Resettlement Action Plan
BMP	Best Management Practices
CBO	Community Based Organization
CIP	Community Involvement Program
EIA	Environmental Impact Assessment
ERIP	Emergency Response and Incident Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FBO	Faith-Based Organization
FEPA	Federal Environmental Protection Agency
FGD	Focused Group Discussion
FGN	Federal Government of Nigeria
FME	Federal Ministry of Education
FMEnv	Federal Ministry of Environment
NPCU	National Project Coordinating Unit
GEF	Global Environmental Fund
GIIP	Good International Industry Practice
GIS	Geographic Information System
GPS	Global Positioning System
GRM	Grievance Redress Mechanism
ISDS	Integrated Safeguard Data Sheet
KBGS-AGILE	Kebbi State Adolescent Girls Initiative for Learning and Empowerment
KBSG	Kebbi State Government of Nigeria
LGA	Local Government Area
LMP	Labor Management Plan
MOEnv	Ministry of Environment
NEAQCR	National Environmental Air Quality Control Regulation
NESREA	National Environmental Standards and Regulations Enforcement Agency
NPCU	National Project Coordination Unit
NGO	Non-governmental Organization
NRO	Natural Resources Officer
OP	Operation Procedure of the World Bank
PAD	Project Appraisal Document
PAH	Project-Affected Household
PAP	Project-Affected Person

PC	Project Coordinator
PCC	Project Complaints Committee
PE	Project Engineer
PIM	Project Implementation Manual
PRS	Government's Poverty Reduction Strategy (PRS)
RAP	Resettlement Action Plan
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SBMC	School-Based Management Committee
SCCF	Special Climate Change Fund
SIG	School Improvement Grant
SME	State Ministry of Education
SMLS	State Ministry of Lands and Survey
SPIU	State Project Implementation Unit
STDs	Sexually Transmitted Diseases
SWMA	State Waste Management Agency
ToR	Terms of Reference
UN	United Nations
WB	World Bank
WHO	World Health Organization
WMP	Waste Management Plan

EXECUTIVE SUMMARY

ES-01 Project Background

The Federal Government of Nigeria (FGN) has requested World Bank (WB) support to undertake the Adolescent Girls Initiative for Learning and Empowerment (AGILE) Project to be funded by the Bank. The AGILE Project was developed as part of the FGN's long-term education reform agenda, to adequately address the identified constraints of accessing and completing secondary education facing adolescent girls in Nigeria. The project will support the education programmes of participating states of Borno, Ekiti, Kaduna, Kano, Katsina, Kebbi and Plateau to improve secondary education opportunities amongst girls, particularly adolescent girls.

The project will use schools as a platform to deliver multi-sectorial services. The lead agency at the federal level is the Federal Ministry of Education (FME). At the state level, the State Ministry of Education (MOE) is responsible for AGILE implementation through the State Project Implementation Unit (SPIU) Kebbi State and the School-Based Management Committees (SBMC).

ES-02 Project Components

The AGILE Program is structured into three components consisting of interventions aimed at keeping girls in school and providing opportunities for them to acquire critical life skills and market relevant skills not currently offered in schools. The programme is designed to empower adolescent girls to reach their full potential, using the schools as a platform to deliver multi-sectorial services. The specific components include:

Component 1: Safe and Accessible Learning Spaces

- **Sub-component 1.1**. Creating new safe learning spaces in Secondary Schools;
- **Sub-component 1.2**. Improving existing infrastructure in Secondary Schools i.e., School Improvement Grant (SIG).

Component 2: Fostering an enabling environment for Girls

- **Sub-component 2.1**: Promoting social and behavioral change through communications campaigns, engagement with traditional rulers, and advocacy;
- **Sub-component 2.2a**: Empowering girls with critical life skills and knowledge for navigating adulthood;
- **Sub-component 2.2b:** Digital Literacy Skills and Remote Learning Platforms;
- **Sub-component 2.3**: Providing financial incentives to the poorest households.

Component 3: Project Management and System Strengthening

- **Sub-component 3.1**: System strengthening for sustainability and technical Assistance;
- **Sub-component 3.2**: Project Management, Monitoring and Evaluation (M&E).

ES-03 Rationale for the ESMP

While the proposed rehabilitation works (rehabilitation of existing school buildings and facilities) is aimed at achieving the project objectives of creating safe and accessible learning spaces, some negative impacts are expected in relation to civil works activities stated above. Such impacts may include generation of hazardous, non-hazardous waste, e-waste as well as general rehabilitation wastes, other impacts could arise from noise/air pollution, traffic accident from movement of equipment and materials to site, occupational health & safety risks, risks associated with labor influx such as Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH), increase in STIs/STDs, child labour, among others. Thus, the Environmental and Social Management Plan (ESMP) is required to guide Kebbi AGILE in ensuring the project implementation is in line with the Nigerian Environmental and Social

laws and the World Bank Environmental and Social Framework (ESF), in a bid to avoid negative environmental and social impacts, reduce or mitigate them to acceptable levels.

ES-04 Proposed Project Activities

The identified project activities at the Kebbi schools consist of rehabilitation/renovation of offices and classroom blocks; drilling of water boreholes and installation of overhead water tanks; Construction of cell toilets; procurement and installation of wooden and steel-frame furniture; supply and installation of generators; as well as some major and minor repairs of floors, roofing, doors and windows. These activities essentially involve mobilization of personnel, equipment, and materials to each of the school sites at the pre-rehabilitation phase; active rehabilitation works and utilization of construction materials at the rehabilitation phase.

ES-05 Policy, Legal and Administrative Framework

This ESMP is guided by the requirements of the World Bank Environmental and Social Framework (ESF) and the required Environmental and Social Standards (ESS) as well as the relevant and applicable state, national and international regulations, guidelines, conventions, industrial best management practices that are applicable to the AGILE project. Based on the environmental and social effects of the project, the relevant ESSs include:

- ESS1: Assessment and Management of Environmental and Social Risks and Impacts;
- ESS2: Labor and Working Conditions;
- ESS3: Resource Efficiency and Pollution Prevention and Management;
- ESS4: Community Health and Safety;
- ESS5: Land acquisition, Restriction of land use and Involuntary Resettlement; and
- ESS8: Cultural Heritage
- ESS10: Stakeholder Engagement and Information Disclosure.

The basic legal framework for the regulation of the environment in Nigeria is braced in the Environmental Impact Assessment (EIA) Act No. 86 of 1992; the National Guidelines and Standards for Environmental Pollution Control in Nigeria (March 1991); the National Environmental Standards and Regulations Enforcement Agency (establishment) Act 2007 (NESREA), as well as the Land Use Act 1978 (modified in 1990). The power to regulate all environmental matters in Nigeria is vested in the Federal Ministry of Environment (FMEnv).

ES-06 Public Consultations and Concerns

Five broad categories of stakeholders were identified for this project based on the degree to which the project activities affected or involved such persons or group of persons. Individual stakeholders and project beneficiaries were also engaged during the ESMP preparation.

Some key environmental and social issues and concerns were raised during the stakeholders'/community meetings. These include concerns relating to using inferior materials during rehabilitation work, serious erosion damages to access roads, fencing for security purposes, possible physical abuse of female students by site workers, etc. These issues and concerns were fully addressed during the community meetings. The specific mitigation measures were discussed and are included under the impacts' mitigation measures section of this ESMP.

ES-07 Summary of Impacts of the Project

<u>Positive Impacts:</u>

This project will effectively:

- Provide new classrooms and office facilities, toilets, potable water and other life systems for AGILE Schools including reconstructing the existing ineffective systems;
- Provide healthy and effective learning opportunities for the students of the AGILE Schools;

- Encourage adolescent girls who have hitherto withdrawn from school to return back to their schools;
- Reduce costs of education and transportation for the students;
- Improve livelihoods for the area residents due to increased enterprise and reduced cost of transportation;
- Improve landscape vista of the project area; and,
- Provide temporary job opportunities for both skilled and unskilled labors.

Potential Adverse Impacts

Potential adverse impacts that may be triggered by the proposed rehabilitation works such as pollution from poor waste management practices, community health & safety risks such as accidents, child labour, forced labor, Occupational Health & Safety (OHS) risks such as work accidents etc. while labor influx is expected to be minimal considering rehabilitation works will be done by local artisans coordinated by the SBMC, a few workers may be foreign to the local community and may pose risks of Sexual Exploitation (SEA)/Sexual Harassment (SH) risks. Mitigation measures include preparation and implementation of site-specific waste management plan, community health & safety plan to minimise disturbance & accidents, OHS Plan, labor management plan which prohibits forced labor and child labor etc., signing of Code of Conducts by workers amongst other measures as detailed in this ESMP, including a monitoring plan, responsibilities and costs for mitigation and monitoring.

ES-08 Budget

The budget estimate for implementing the mitigation measures including cost for administration, monitoring and evaluation is N19,582,500.00 (Nineteen Million Five Hundred and Eighty-Two Thousand Five Hundred Naira) or 42,481.07USD only, for the Kebbi AGILE project. The budget estimate is summarized in the Table below:

Table ES1: Breakdown of Cost Estimates

S/No	ITEM	RESPONSIBILITY	COST BREAKDOWN IN (N)			COST ESTIMATE IN NAIRA (N)	COST ESTIMATE IN DOLLAR ($)
			Pre-Rehabilitation Phase	Rehabilitation Phase	Post-Rehabilitation Phase		
1	MITIGATION	SPIU/ SBMC	(To be built into Rehabilitation costs)				
2	MANAGEMENT	SPIU/ SME	1,950,000.00	3,100,000.00	2,600,000.00	N7,650,000.00	$16,595.44
3	MONITORING	SPIU/ NPCU/ SME/ Consultants/ NGOs	2,350,000.00	4,500,000.00	1,850,000.00	N8,700,000.00	$18,873.25
4	CAPACITY BUILDING & TRAININGS	SPIU/ SBMC/ MOH/ Consultants	800,000.00	900,000.00	600,000.00	N2,300,000.00	$4,989.48
Sub-total						N18,650,000.00	$40,458.16
5	CONTINGENCY (5%)					N932,500.00	$2,022.91
GRAND TOTAL						N19,582,500.00	$42,481.07

Note: N460.97 = 1.00USD (Source: cbn.gov.ng as at April 20, 2023)

The proposed budget will facilitate the implementation of the various ESMP management, monitoring plan and capacity building measures to be executed by the SPIU and should be made an integral part of financing for the AGILE Schools intervention and development project. The specific Environmental and Social obligations for SBMC should be incorporated into the contract specifications along with other contract provisions.

The estimated mitigation cost for the ESMP has been developed with due consideration in

the three project phases (pre-rehabilitation, rehabilitation and post-rehabilitation) to the following factors:

- The magnitude of the rehabilitation project;
- The type of technology to be employed;
- The volume of the project affected assets and persons; and,
- The area of coverage of the proposed project.

ES-9 Disclosure

This ESMP is subject to public review and it should be disclosed in the state to the general public for review and comments at designated locations in Kebbi State and in World Bank Information Website. Display centers will include Kebbi AGILE SPIU office, AGILE NPCU office, EA Department of FMEnv., Office of State Commissioner for Environment, LGA AGILE Liaison office, Project Community, and Office of the State Commissioner for Local Government matters.

CHAPTER ONE: INTRODUCTION

1.1 Background

The Government of Nigeria is implementing the Adolescent Girls Initiative for Learning and Empowerment (AGILE) Project, which is financed by World Bank (WB) as part of the Government's long-term education reform agenda to adequately address the identified constraints of accessing and completion of Secondary education facing adolescent girls in Nigeria. The project aims to address the critical binding constraints adolescent girls face in enrolment, retention, completing secondary school education and empowerment with life skills that are relevant and marketable, in participating states across the country. The project will support the education programs of participating states of Borno, Ekiti, Kaduna, Kano, Katsina, Kebbi and Plateau to improve secondary education opportunities amongst girls.

The Project Development Objective (PDO) of AGILE aims to improve secondary education opportunities among girls, with particular attention to adolescent girls, in targeted areas of the participating states. The project focuses on the human capital development for sustaining economic growth and poverty reduction through improvement in the quality and efficiency of social service delivery at the state level to promote social inclusion, strengthening governance, public sector management and gender equity. As building blocks to empower adolescent girls to reach their full potential, the project will use schools as a platform to deliver multi-sectorial services. The lead agency at the federal level is the Federal Ministry of Education (FME). implementation of AGILE activities at the State level with the lead agency being State Ministry of Education (SME), through the State Project Implementation Unit (SPIU) Kebbi State. Figure 1.1 is the map of Nigeria showing the location of Kebbi State.

Fig. 1.1 MAP OF NIGERIA SHOWING KEBBI STATE

The State Education sector is spearheaded by the State Ministry of Education, while SUBEB is responsible for Qualitative Basic Education. The challenges with respect to Girl child education in the state includes Access, Poverty, Early Marriage, Infrastructure, cultural and

religious misconceptions. AGILE intends to rehabilitate/renovate 294 junior and senior secondary schools across the Kebbi state.

1.2 Description of AGILE Intervention

The AGILE Project is structured into three components consisting of interventions aimed at keeping girls in school and providing opportunities for them to acquire critical life skills and market relevant skills not currently offered in schools. As building blocks for empowering adolescent girls to reach their full potential, the project will use schools as a platform to deliver multi-sectorial services, which include:

(a) Education;
(b) Financial incentives to the poorest households;
(c) Life-skills training (self-determination, gender awareness, confidence);
(d) GBV and health awareness (RH, hygiene and nutrition); and,
(e) Digital literacy and Remote Learning Platforms.

The proposed rehabilitation/renovation activities at the secondary schools intended as part of the AGILE intervention will include rehabilitation of blocks of classrooms, offices and stores as well as rehabilitating and/or renovation of toilets, major and minor rehabilitations such as repairs of floor, roofing, doors and windows and provision of water tank to promote hygiene and sanitation, drilling of water boreholes complete with overhead tanks.

The project components are as follows:

Component 1: Safe and Accessible Learning Spaces

- **Sub-component 1.1**. Creating new safe learning spaces in Secondary Schools
- **Sub-component 1.2**. Improving existing infrastructure in Secondary Schools i.e., School Improvement Grant (SIG)

Component 2: Fostering an enabling environment for Girls

- **Sub-component 2.1**: Promoting social and behavioral change through communications campaigns, engagement with traditional rulers, and advocacy;
- **Sub-component 2.2a**: Empowering girls with critical life skills and knowledge for navigating adulthood
- **Sub-component 2.2b**. Digital Literacy Skills and Remote Learning Platforms
- **Sub-component 2.3**: Providing financial incentives to the poorest households

Component 3: Project Management and System Strengthening

- **Sub-component 3.1**: System strengthening for sustainability and technical Assistance
- **Sub-component 3.2**: Project Management, Monitoring and Evaluation (M&E)

1.3 Rationale for ESMP

Prior to implementation of civil works in rehabilitation sub-projects, there is need for the assessment of the environmental and social impacts of the sub-project interventions involving rehabilitation works. The Environmental and Social Management Plan (ESMP) will identify and provide technical guidance for management of the social and environmental risks and impact that will be associated with the proposed rehabilitation activities. The envisaged negative impacts will be site specific, reversible, and manageable through appropriate mitigation measures. The ESMP will be prepared in line with the World Bank's Environmental and Social Framework (ESF) requirements and take into consideration National Environmental legislation, as far as applicable.

1.4 Objective and Scope of the Consultancy Services

The objective of this Consultancy is to prepare an ESMP for the rehabilitation/renovation of

294 junior and senior secondary schools in communities across 21 LGAs of Kebbi State. This ESMP specifically identifies and assesses the environmental and social impacts that may be associated with the planned intervention project as designed and all other activities aimed at rehabilitating/renovating the identified AGILE schools. The ESMP also identifies, evaluates and documents the set of mitigation, monitoring and institutional actions to be taken before, during and after the rehabilitation works to eliminate any identified adverse environmental and social impacts, offset the impacts or reduce the impacts to acceptable levels.

The potential impacts associated with the pre-rehabilitation, rehabilitation, and operation phases of the designed intervention are developed and appropriate mitigation measures established for the impacts. This ESMP includes measures needed to implement the identified actions, addressing the adequacy of the monitoring and institutional arrangements on a sustainable basis. The ESMP provides necessary institutional framework and monitoring actions to be taken before, during and after the rehabilitation works. The mitigation measures adopted are guided by and consistent with recommendations in the Environmental and Social Management Framework (ESMF) for AGILE.

CHAPTER TWO: INSTITUTIONAL, ADMINISTRATIVE AND REGULATORY FRAMEWORK

This ESMP is guided by the institutional framework applicable to AGILE as well as the requirements of the relevant and applicable local (state), national and international regulations, guidelines, conventions, industrial best management practices including the World Bank safeguard policies that are triggered by the AGILE project. These institutional requirements and regulatory frameworks are summarized below:

2.1 Institutional and Administrative Framework

Responsibilities for the ESMP and its implementation are shared between multiple stakeholders, including relevant federal, state, and local Ministries, Department and Agencies (MDAs), the SPIU and the SBMCs. The MDAs include:

- Federal Ministry of Education (FME)
- Federal Ministry of Environment (FMEnv)
- State Ministry of Education (SME)
- State Ministry of Environment (SMEnv)
- State Universal Basic Education Board (SUBEB)
- School Based Management Committee (SBMC)
- State Waste Management Agency
- Local Government Education Agencies (LGAs)

The responsibilities and roles of these institutions are discussed below:

Federal Ministry of Education (FME)

Education in Nigeria is administered by the federal, state and local governments. The Federal Ministry of Education (FME) is responsible for overall policy formulation and quality control in education but is primarily involved with tertiary education. Secondary and primary school education is largely the responsibility of state and local governments, respectively. The FME provides overall oversight function for the AGILE project.

The National Project Coordination Unit (NPCU) is established at the national level to be responsible for (a) project coordination; (b) overall project M&E; (c) reporting on project progress to the Bank and with the SPIUs and (d) knowledge sharing and dissemination of information among project supported states.

Federal Ministry of Environment (FMEnv)

Federal Ministry of Environment (FMEnv) is the highest policy making body responsible for addressing environmental issues in Nigeria. The main legal instrument in ensuring that environmental and social issues are mainstreamed into development projects is the Environmental Impact Assessment (EIA) Act No. 86 of 1992. The FMEnv has responsibility to ensure that all development and industry activities, operations and emissions are within limits prescribed in National Guidelines and Standards and comply with relevant regulations for environmental protection management in Nigeria as released by the Ministry.

With this Act, the FMEnv prohibits public and private sectors from embarking on major projects or activities without due consideration, at an early stage, of environmental and social impacts that may arise from the project implementation. The FMEnv through the Environmental Assessment Department (EAD) monitors and provides clearance and certification for all environmental activities conducted under the Act.

State Ministry of Education (SME)

The State Ministry of Education (SME) is the agency responsible for implementation of AGILE project in Kebbi State in close coordination with the relevant parastatals (e.g., SUBEB, LGEAs, and federal agencies) supported by the SPIU.

The SPIU for Kebbi state is established within the SME to lead and support the overall implementation of the AGILE project activities. In addition to being responsible for effective implementation of activities at the state level, the SPIU liaises with various implementing partners, closely tracks progress, and monitors compliance with World Bank requirements, including safeguards.

State Ministry of Environment (SMEnv)
The SMEnv is created to back up the mandates of Federal Ministry of Environment at State levels towards the objective of protecting public health and safety, and to restore and enhance environmental quality and efficient implementation of environmental programs. The SMEnv, therefore, gives direction to all issues concerning the environment, monitor and control pollution and the disposal of solid, gaseous and liquid wastes generated by various facilities in the state. The ministry through support to the SPIU ensures that the AGILE project rehabilitation activities are implemented in an environmentally and socially healthy manner.

Kebbi State Environmental Protection Agencies (EPA)
The State EPA was also created to back up the mandates of Federal Ministry of Environment at State levels towards the objective of protecting public health and safety, and to restore and enhance environmental quality and efficient implementation of environmental programs. The SEPA, therefore, like the SMEnv gives direction to all issues concerning the environment, monitor and control pollution and the disposal of solid, gaseous and liquid wastes generated by various facilities at the local and community levels.

School-Based Management Committees (SBMC)
The responsibility for the management of School Improvement Grant (SIG) (supported under Subcomponent 1.2) lies with the SBMCs. They are required to develop the Schools Improvement Plans (SIPs) and manage the SIGs and SIG-funded activities as described in the approved SIP. SBMCs are responsible for organizing meetings with relevant community members to discuss school performance against their SIPs and targets and are responsible for record keeping reporting to the SPIU and LGEA. All relevant details on the design and implementation of the SIG activity are included in the SIG manual.

The SBMCs comprise representatives from school management, parents, civil society organizations and community members. The SBMCs have developed the SIPs on rehabilitation/additional classrooms, improving learning conditions, and elements of the whole school approach, among others, and are managing the activities under such plans as approved by the SPIUs.

State Waste Management Agency (SWMA)
The SWMA was established in the state with the following mandate:

- Collection of waste based on the assigned jurisdiction and coverage
- Disposal of waste and in some states recycling of waste
- Management of disposal sites, waste vehicles, etc.
- Awareness and sensitization on waste management matters

Local Government Education Agencies (LGEAs)
The LGEA is the decision-making body for the education sector for each LGA and is responsible for assisting with the monitoring and support of educational activities in the LGAs. LGEAs coordinate capacity-building for SBMCs, conduct school visits, and perform some monitoring of school activities. The Agencies also assist the SME and the SPIU in the AGILE project coordination and implementation.

NGO, CSOs, CBOs, Others

Independent firms, NGOs or CSOs will be hired to support monitoring and supervision of school level implementation by the SPIU. All relevant details on the design and implementation of the SIG activity are as included in the SIG manual.

2.2 International Laws and Regulations

2.2.1 The World Bank Environmental and Social Framework (ESF)

The World Bank ESF documents the Environmental and Social Standards (ESSs) designed to help ensure that infrastructure projects proposed for Bank financing are environmentally and socially sustainable, and thus improve decision-making. The Bank has ten Environmental and Social Standards (ESS1-10) and requires that all environmental and social risks and impacts of the project be addressed as part of the environmental and social assessment conducted in accordance with ESS1. ESS2–10 set out the obligations of the Borrower in identifying and addressing environmental and social risks and impacts that may require particular attention. These Standards establish objectives and requirements to avoid, minimize, reduce and mitigate risks and impacts, and where significant residual impacts remain, to compensate for or offset such impacts.

2.2.2 Relevant World Bank Environment and Social Standards

Based on the scope of the Kebbi AGILE Project and the proposed schools' rehabilitation/renovation activities, Table 2.1 (Relevant Environmental and Social Standards for AGILE Project) summarizes the World Bank ESSs considered relevant to the Kebbi AGILE Schools intervention works. The following six of the ten Environmental and Social Standards (ESSs) are applicable due to the potential environmental and social risks and impacts associated with the AGILE project, as specified in the Terms of Reference (ToR), (Annexure I):

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

Table 2.1: Relevant Environmental and Social Standards for Kebbi AGILE Project

WB Environmental and Social Standards	Relevant to Kebbi AGILE?		Relevant To Kebbi AGILE Due To	How Project Addresses ESS Requirements
	YES	NO		
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	[x]	[ ]	Scope of anticipated rehabilitation/renovation works and activities with environmental and social risks and impacts. Need to assess, manage, and monitor environmental and social risks and impacts associated with each phase of the schools' intervention activities	This site-specific Environmental and Social Management Plan (ESMP) and other required site-specific plans like waste management plan, OHS plan etc. has been prepared for Kebbi AGILE project.
ESS2: Labor and Working Conditions	[x]	[ ]	Proposed project will result in employment creation and involve worker-management relationships	Labor Management Plan (LMP) consistent with ESS2 and National Labor Laws for all categories of workers has been prepared as part of this site-specific ESMP to meet the requirements of the ESS. This is included as Annexure XI.
ESS3: Resource	[x]	[ ]	Proposed project activities will	This site-specific ESMP is

WB Environmental and Social Standards	Relevant to Kebbi AGILE?		Relevant To Kebbi AGILE Due To	How Project Addresses ESS Requirements
	YES	NO		
Efficiency and Pollution Prevention and Management			likely generate pollution to air, water, and land, and consume resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels	prepared for Kebbi AGILE project with associated waste management plans that include mitigation measures to minimize and manage the risks and impacts associated with resource efficiency and pollution management.
ESS4: Community Health and Safety	[x]	[ ]	Schools and project communities may be exposed to risks from project activities during pre-rehabilitation, rehabilitation, operation phases including accidents/incidents, pollution, increase in spread of diseases, SEA/SH, security risks etc.	This site-specific ESMP is prepared for Kebbi AGILE project and includes environmental and social mitigation measures developed to meet the requirements of this ESS. A stand-alone GBV assessment and action plan has been developed and is currently implemented by the SPIU.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	[x]	[ ]	Project-related land acquisition and restrictions on land use will cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. However, none of the schools under the Kebbi AGILE project has been identified to require any land acquisition or restriction on land use.	A Resettlement Policy Framework (RPF) was prepared alongside the ESMF, which outlines procedures to address issues related to ESS5. However, the Environmental and Social Screening exercise conducted for the proposed rehabilitation works did not reflect any impacts related to ESS5.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	[x]	[ ]	Protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. The AGILE project will involve clearing of vegetation.	There are no critical and sensitive habitats encountered during the site visits. Project rehabilitation activities are not expected to alter the existing natural habitats.
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	[ ]	[x]	Applies to a distinct social and cultural group identified in accordance with the provisions for indigenous people and does not apply to Nigeria. Standard is therefore not relevant to AGILE	Not Relevant
ESS8: Cultural Heritage	[x]	[ ]	Scope of civil works and activities may result in impacts to the traditions and cultural heritage of the people - an important economic and social asset for development	This site-specific ESMP is prepared for Kebbi AGILE project & includes specific mitigation measures developed to address cultural heritage issues associated with the project area. Chance Find Procedures are addressed in this ESMPs.
ESS9: Financial Intermediaries	[ ]	[x]	Project is not about financial sector development or enhancing the role of domestic capital and financial markets. Standard is therefore not relevant to AGILE	Not Relevant
ESS10: Stakeholder Engagement and Information Disclosure	[x]	[ ]	Development of strong, constructive and responsive relationships are important for successful management of a	This ESMP is prepared for Kebbi AGILE project & includes a Stakeholder Engagement Plan (SEP)

WB Environmental and Social Standards	Relevant to Kebbi AGILE?		Relevant To Kebbi AGILE Due To	How Project Addresses ESS Requirements
	YES	NO		
			project's environmental and social risks	prepared to meet the requirements of this ESS.

2.2.3 World Bank Group EHS Guidelines

The Environmental, Health, and Safety (EHS) Guidelines of the World Bank Group (WBG) are technical reference documents with general and industry - specific examples of Good International Industry Practice (GIIP). The EHS Guidelines that are relevant and applicable to the AGILE project include the following:

(i) General EHSG;
(ii) EHSG for Waste Management Facilities.

2.3 Other Relevant International Acts and Legislations

Nigeria subscribes to a number of international regulations and conventions relating to environmental protection. These international protocols signed by Nigeria, that are relevant to the AGILE project include:

- International Union for Conservation of Nature and Natural Resources (IUCN) Guidelines
- Convention of Biological Diversity
- Convention Concerning the Protection of the World Cultural and National Heritage Sites (World Heritage Convention)
- United Nations Framework Convention on Climate Change (1992)
- UN Convention to Combat Desertification
- Forced Labour Convention, 1930
- Freedom of Association and Protection of Right to Organize Convention, 1948
- Right to Organize and Collective Bargaining Convention, 1957
- Equal Remuneration Convention, 1951.
- Abolition of Forced Labour Convention, 1957
- Discrimination (Employment` and Occupation) Convention, 1958
- Minimum Age Convention, 1973
- Worst Forms of Child Labour Convention, 1999
- Labour Inspection Convention, 1947
- Tripartite Consultation (International Labour Standards) Convention, 1976
- Right of Association (Agriculture) Convention, 1921;
- Protection against Accidents (Dockers) Convention.

2.4 Nigeria EIA Guidelines and World Bank EA Guidelines

The Environmental Impact Assessment Act No. 86 of 1992 requires that development projects be screened for their potential environmental impact. Based on the screening, a full, partial, or no Environmental impact assessment may be required. Guidelines issued in 1995 direct the screening process and according to these guidelines the Nigeria EIA Categories include:

- Category I projects will require a full Environmental Impact Assessment (EIA) - for projects under this category EIA is mandatory according to Decree No. 86.
- Category II projects may require only a partial EIA, which will focus on mitigation and Environmental planning measures, unless the project is located near an environmentally sensitive area--in which case a full EIA is required. The AGILE project may be considered a category II project within the public facility context of industry and infrastructural projects.
- Category III projects are considered to have "essentially beneficial impacts" on the environment, for which the Federal Ministry of the Environment will prepare an

Environmental Impact Statement.

The Nigeria EIA requirements of Category I, II and III corresponds in principle with the World Bank's risk classification system which in actual practice is done with regard to the level of impacts associated with a given project. The Bank requires that environmental and social assessment of subprojects irrespective of the designated classification, whether:
(a) *High Risk* subprojects;
(b) *Substantial Risk;*
(c) Moderate Risk; and
(d) *Low Risk* subprojects, shall be carried out in accordance with the ESSs following the World Bank ESF. At the same time, the subprojects shall comply with the national laws and requirements.
However, in the event of divergence between the two, the more stringent requirement shall apply.

Thus, for the Kebbi AGILE project, the Nigeria's *EIA* requirements and World Bank ESS are harmonized as much as possible to be responsive to the objectives of good practice.

2.4.1 Gaps between Nigerian Legislation and World Bank ESSs

The gaps between the relevant Nigerian legislation and WB E&S standards as they relate to this project are summarized in Table 2.2 below. Seven of the 10 ESSs are considered to be relevant to the AGILE project. These ESSs are considered in the Table 2.1.

Table 2.2: Gaps between Nigeria Legislation and WB ESSs

Relevant standards	Nigerian Legislation	World Bank ESS	Gaps Between the Policies
ESS1 Environmental Assessment	National EIA Act 1992, Clause 2 provides that public or private sector of the economy shall not undertake or embark on or authorize projects or activities without prior consideration of the effects on the environment. The act makes an EIA mandatory for any development project, and prescribes the procedures for conducting and reporting EIA studies. As part of the effective utilization of the EIA tool, the ministry has produced sectoral guidelines. Responsibility for monitoring of EIA activities lies with the NESREA and State ministries of environment but these agencies lack the logistic capability to carry out the tasks assigned to it by the law	An EA is conducted to ensure that Bank-financed projects are environmentally sound and sustainable, and that decision-making is improved through appropriate analysis of actions and of their likely environmental impacts. Any World Bank project that is likely to have potential adverse environmental risks and impacts in its area of influence requires an EA indicating the potential risks, mitigation measures and environmental management framework or plan.	Nigeria currently has a comprehensive framework for assessing and managing the environmental impacts of development projects. However, in comparison with the World Bank ESS1, it would appear that the Nigeria framework lacks the provision of clear requirements or guidance in the assessment of the impact of an activity on public health. In this case the policy of the bank prevails.
ESS2 Labor and Working Conditions	The EIA Act in consonance with the NESREA Act recognize the need for compliance enforcement of the provisions of international agreements, conventions and treaties on the environment and labor matters. These provisions bring the Nigerian EIA Act to par with the World Bank ESS2.	ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.	Essentially, there is no difference between the main framework of both policies.
ESS3 Resource Efficiency and Pollution Prevention and Management	The policies, standards, legislation and guidelines under the EIA Act in consonance with the NESREA Act set out compliance requirements to address water quality, environmental health and sanitation, including pollution abatement. The legislations provide enforce compliance with guidelines and legislations on sustainable management of the ecosystem, biodiversity conservation and the development of Nigeria's natural resources; The regulations seek to use the most appropriate means to prevent and combat	ESS3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. At the same time, more efficient and effective resource use, pollution prevention and GHG emission avoidance, and mitigation technologies and practices have become more	Essentially, there is no difference between the main framework of both policies.

Relevant standards	Nigerian Legislation	World Bank ESS	Gaps Between the Policies
	various atmospheric pollution; and to address standards applicable to emission from any new mobile or stationary source which causes or contributes to air pollution and may reasonably be anticipated to endanger public health or welfare using appropriate means to reduce emission to permissible levels.	accessible and achievable. This ESS sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle consistent with GIIP.	
ESS4 Community Health and Safety	In consonance with the NESREA Act, Section 20(1), the EIA Act provides the specifications and standards to protect and enhance the quality of Nigeria's air resources, so as to promote public health, welfare and the natural development and productive capacity of the nations' human, animal, marine or plant life including, in particular, minimum essential air quality standards for human, animal, marine or plant health; and the control of concentration of substances in the air which separately or in combination are likely to result in damage or deterioration of the environmental and human health ;	ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities. 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.	Essentially, there is no difference between the main framework of both policies.
ESS5 Involuntary Resettlement	The basic legal framework for the acquisition of land in Nigeria is the Land Use Act 1978 as amended under the Amended Land Use Act of 2004, Chapter L5 under the laws of the Federation of Nigeria. The Part 1 of the amended Act 2004 vests all land within the urban areas of any Nigerian State in the Executive Governor of that state. Land within the rural areas of the state is vested on the Local Government. The Part VI, Section 29 of the law provides for compensation to the holder of any land title when such land is to be acquired for public purposes. For developed land, the Governor (in the case of urban areas) or Local Government (in the case of rural areas) may, in lieu of compensation, offer resettlement in any other place as a reasonable alternative accommodation and in acceptance of resettlement, the holder's right to compensation shall be deemed to have been duly satisfied. Although the Land Use Act is not strictly an Act for environmental protection, protection of the environment is one of the considerations which a holder of certificate of occupancy has to observe.	Key objectives of the ESS 5 are to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; assist displaced persons in improving their former living standards, income earning capacity and production level, or at least in restoring them; encourage community participation in planning and implementing resettlement; and provide assistance to affected people regardless of the legality of land tenure. The policy covers not only physical relocation, but any loss of land or other assets resulting in relocation, or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood whether or not the affected people must move to another location. When the policy is triggered, a Resettlement Action Plan (RAP), must be prepared. An abbreviated plan may be developed when less than 200 people are affected by the project. In situations, where all the precise impacts cannot be assessed during project preparation, provisions are made for preparing a Resettlement Policy Framework (RPF). The RAP/RPF must ensure that all Bank's policy provisions detailed in ESS5 are addressed particularly the payment of compensation for affected assets at their replacement cost	Essentially, there is no difference between the main framework of both policies. Lands that would be acquired for this project shall be fully compensated for in accordance with the World Bank policy and principles. The Nigerian regulations while also lacking clear responsibility for monitoring of activities associated with compensations further lack the logistic capability for any agency to carry out the tasks assigned to it by the law. In this case the ESS 5 prevails.
ESS 6	Nil	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Although provided for in the Endangered Species Act, Cap E9, LFN 2004. Gaps exist in the EIA Act 86, 1992 on issues relating to biodiversity and climate change.
ESS 7	Nil	Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	The provision for Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities are not provided for in the EIA Act 86, 1992.
ESS 8	Nil	Cultural Heritage	The issue on Cultural Heritage is not provided for in the EIA. However, the FGN established the National Endowment for The Arts Act to foster understanding

Relevant standards	Nigerian Legislation	World Bank ESS	Gaps Between the Policies
			amongst cultural organizations in order to strengthen cultural ties. National Commission for Museums and Monuments has responsibility of physical cultural properties
ESS 9	Nil	Financial Intermediaries	The EIA Act 86, 1992, has not provided for Financial Intermediaries
ESS10 Stakeholders Engagement and Information Disclosure	The EIA Act in consonance with the NESREA Act recognize the need to create public awareness and provide environmental education on sustainable environmental management, promote private sector compliance with environmental regulations	This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive and responsive relationships that are important for successful management of a project's environmental and social risks. Stakeholder engagement is most effective when initiated at an early stage of the project development process, and is an integral part of early project decisions and the assessment, management and monitoring of the project's environmental and social risks and impacts.	Essentially, there is no difference between the main framework of both policies. Lands that would be acquired for this project shall be fully compensated for in accordance with the World Bank policy and principles. The Nigerian regulations while also lacking clear responsibility for monitoring of activities associated with compensations further lack the logistic capability for any agency to carry out the tasks assigned to it by the law. In this case the policy of the bank prevails.

2.5 Federal Policy, Legal, Regulatory and Administrative Frameworks

Pursuant to Section 20 of the Nigerian 1999 Constitution, the state is empowered to protect and improve the environment and safeguard the water, air, and land, forest, and wildlife of Nigeria. The power to regulate all environmental matters in Nigeria is vested in the Federal Ministry of Environment (FMEnv) – a mandate that previously rested with the now defunct Federal Environmental Protection Agency (FEPA) set up by Federal Act 88, of 1988.

The applicable environmental laws include the Environmental Impact Assessment Act No. 86 of 1992; the National Guidelines and Standards for Environmental Pollution Control in Nigeria (March 1991); the National Environmental Standards and Regulations Enforcement Agency (establishment) Act 2007 (NESREA), the Land Use Act 1978 (modified in 1990); the Forestry Act 1958; and the National Agricultural Policy 1988.

2.5.1 National Policy on Environment

The national policy on environment, 1989 (revised 1999), provides for "a viable national mechanism for cooperation, coordination and regular consultation, as well as harmonious management of the policy formulation and implementation process which required the establishment of effective institutions and linkages within and among the various tiers of government – federal, state and local government". The defined guideline and strategies provide for the effective management of the environment in the following 14 major areas:

Human population; Land use and soil conservation; Water resource management; Forestry; Wildlife and protected areas; Marine and coastal area resources; Toxic and hazardous substances; Energy production and use; Air pollution; Noise pollution; Toxic and hazardous substances; Recreational space; Greenbelts movements; and, Cultural property.

2.5.2 National Environmental Impact Assessment Act 1992:

National EIA Act 1992, Clause 2 provides that public or private sector of the economy shall not undertake or embark on or authorize projects or activities without prior consideration of the effects on the environment. The act makes an EIA mandatory for any development project, and prescribes the procedures for conducting and reporting EIA studies. As part of the effective utilization of the EIA tool, the ministry has produced sectarian guidelines.

2.5.3 NESREA Establishment Act, 2007.

The National Environmental Standards and Regulations Enforcement Agency (NESREA) has responsibility for the enforcement of the environment regulations and biodiversity conservation, including coordination and liaison with relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, rules, laws, policies and guidelines.

The following NESREA National Environmental Regulations are considered relevant in this study:

- National Environmental (Construction Sector) Regulations. 2011;
- National Environmental (Desertification Control and Drought Mitigation) Regulations. 2011;
- National Environmental (Surface and Ground Water Control) Regulations. 2011;

2.5.4 National Guidelines and Standards for Environmental Pollution (March, 2001):

The National Guidelines and Standards for environmental pollution control in Nigeria (March, 2001) is the basic instrument for monitoring and controlling industrial and urban pollution.

2.5.5 National Waste Management Regulations of 1991

This regulation which is updated under the National Environmental (Sanitation and Waste Control) Regulations 2009, S.I. No. 28 mandates the collection, treatment, and disposal of solid and hazardous waste from municipal and industrial sources. It provides the legal framework for the adoption of sustainable and environment friendly practices in environmental sanitation and waste management to minimize pollution.

2.6 State Legislations

2.6.1 State Environmental Protection Agency (SEPA)

The State Environmental Protection Agency (SEPA) is created to back up the mandates of FMEnv at State level towards the objective of protecting public health and safety, and to restore and enhance environmental quality and efficient implementation of environmental programs. The SEPA therefore gives direction to all issues concerning the environment, monitor and control pollution and the disposal of solid, gaseous and liquid wastes generated by various facilities in the states.

2.6.2 Kebbi State Waste Management Act

This Act provides for the effective development and maintenance of sanitation in all areas of the State. The law further provides for proper disposition of excavated silt or earth and other materials after any construction/rehabilitation project or repair works. Open burning of wastes is prohibited with stipulated penalties.

2.7 AGILE Institutional Arrangement

Federal Level Coordination: The National Project Coordinating Unit (NPCU) is responsible for the overall coordination of the AGILE project activities. The NPCU provides oversight on behalf of the Federal Ministry of Education and provide updates on project development to the Federal Ministry and the World Bank. The NPCU has an Environmental and Social Unit which coordinates E&S compliance across all project states.

State Project Implementation Unit: The SPIU is established at the state level and is responsible for day-to-day project implementation activities, including procurement, disbursement, financial management (FM), and monitoring and evaluation (M&E) and environmental and social risk management. The PIU reports directly to the Permanent Secretary and Minister on issues related to project implementation through the State Project Coordinator. To ensure environmental and social management compliance prior to and during project implementation, the PIU ensures responsibility through its Environmental and Social Unit.

CHAPTER THREE: PROJECT DESCRIPTION

3.1 Introduction

This section presents information on the project components and the proposed intervention for the Kebbi State Schools. The proposed junior and senior secondary schools intended for rehabilitation and renovation activities in the 21 local government areas of Kebbi State are listed in Annexure II.

The project objective is to improve completion of quality secondary education and comprehensive life-skills training for adolescent girls. The approach consists of interventions aimed at keeping girls in school and providing opportunities for them to acquire critical life skills and market relevant skills not currently offered in schools. The project is structured around three (3) components with nine (9) sub-components. The AGILE approach is illustrated in Figure 3.1 below:

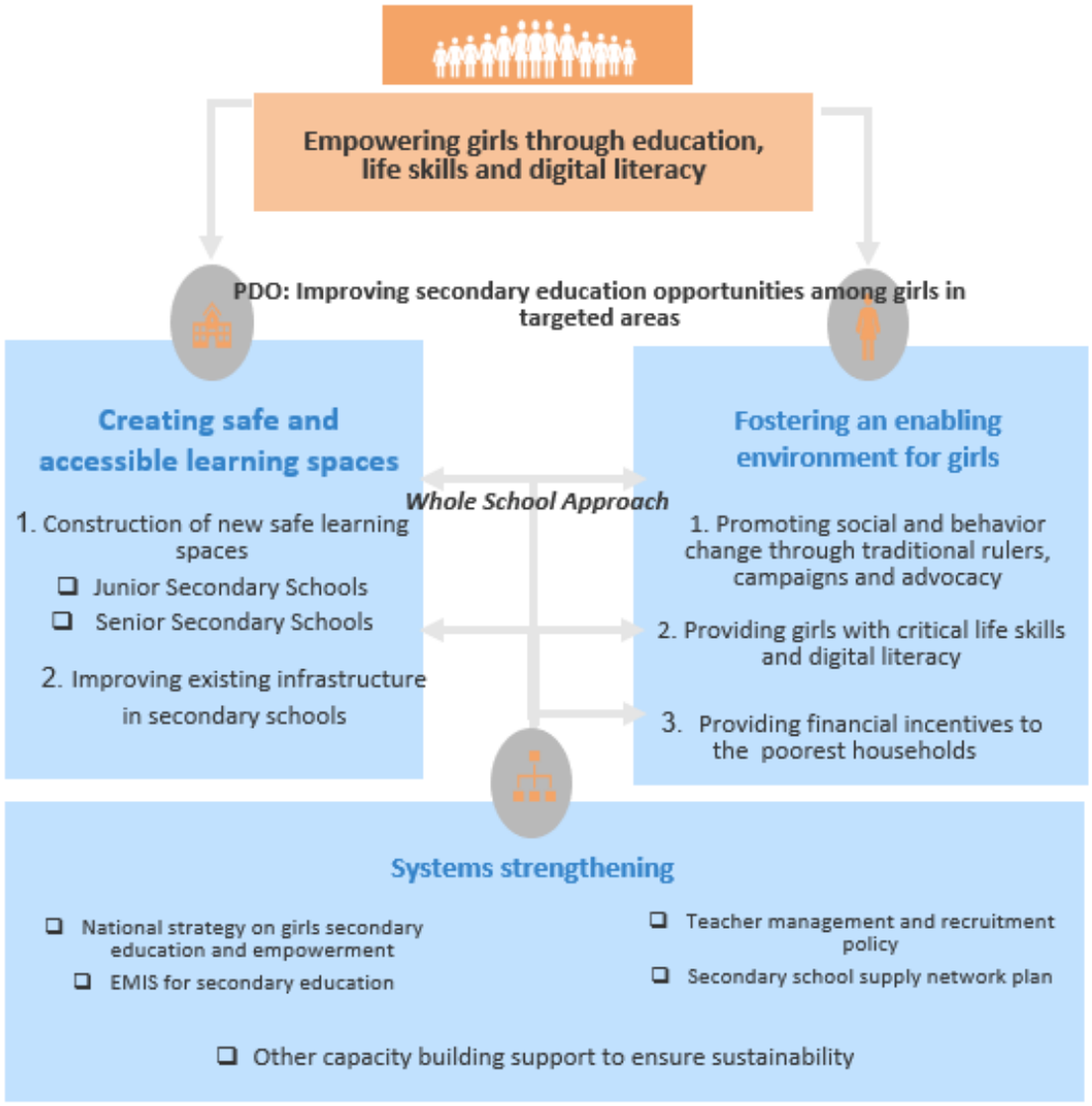

Figure 3.1: AGILE Approach to Improving Secondary Education Opportunities Among Girls
(Adopted from PAD for AGILE Project)

3.2 Description of Project Components:

The project will support a ***whole school approach*** that involves empowering all stakeholders (for example, school heads, teachers, administrative staff, students, parents and community members) working towards a shared vision of violence prevention and

reduction and is comprised of comprehensive activities with the involvement of stakeholders who are important in a young person's life. Such an approach is supported through activities under all project components as described below. The project components and sub-components include:

3.2.1 Component 1*:* Safe and Accessible Learning Spaces

This component aims to improve completion of quality secondary education for adolescent girls by addressing critical constraints. Specifically, the component will support: (a) the construction of new classrooms (climate-smart infrastructure) to expand existing primary and junior secondary schools (JSSs) to include JSSs and senior secondary schools (SSSs), respectively; and (b) the rehabilitation of dilapidated classrooms/facilities as well as the provision of teaching and learning materials (TLMs) to make schools functional, safe, inclusive and conducive to teaching and learning.

Sub-component 1.1: Create new learning spaces

This sub-component is aimed at:

- Expanding the Junior and Senior Secondary Schools as well as teachers' skills development.
- Addressing access gaps by constructing new schools and renovating or expanding existing schools through Ministry of Education. To improve quality, the component will provide continuous professional development for teachers through colleges of education.

Sub-component 1.2: Improve learning conditions

This sub-component is aimed at:

- improving the existing infrastructure in Junior and Secondary Schools through rehabilitation/renovation of the schools.
- providing large and small school improvement grants (SIGs) to improve learning environment as well as address the school's needs.

This sub-component 1.2 is essentially the primary focus of this ESMP.

3.2.2 Component 2: Fostering an enabling environment for girls

This component aims to galvanize support for girls' education and empowerment among families, communities, and schools by addressing constraints to girls' participation in education. Specifically, this component will: (a) support information, awareness and communication activities to shift social norms and community's perceptions of the role of girls and the value of girls' secondary education; (b) provide girls with relevant life skills and digital literacy; and (c) provide assistance to families to remove financial barriers to secondary education.

Sub-component 2.1. Providing financial support package to families

This sub-component is aimed at:

- promoting social and behavioral change through communications campaigns, engagement with traditional rulers, and advocacy.
- providing financial support package to families to incentivize girls transition to and attendance of secondary school. This will be implemented by state ministries of education in partnership with private sector.

Sub-component 2.2. Community engagement, Promoting Social and behavioral change

The objective of this subcomponent is to empower girls with different skill sets which will be useful as they transit to adulthood. The subcomponent has two main activities: (a) life skills, and (b) digital literacy skills. Life skills are critical in building girls' capacity and confidence to effectively navigate the transition to adulthood and the workplace.

In addition, elements to raise awareness of climate change and effective actions will be integrated into the life skills training programs. Under this subcomponent, support will also

be provided to implement a training program to promote digital literacy for all girls and boys in targeted schools.

Sub-component 2.2a is aimed at:

- Empowering girls with critical life skills and knowledge for navigating adulthood;
- Supporting behavior and social norms change on the value of girls' education and empowerment through media and by engaging traditional and religious leaders to serve as advocates. Traditional and religious leaders will be engaged via the Network of Traditional and Religious Leaders on Keeping Girls in School (KGIS Network). The component will support the formation of Mothers association and boys' clubs to support and monitor school attendance of teachers and students and feed into the School Based Management Committee (SBMC) accountability framework.

Subcomponent 2.2b. Digital Literacy Skills and Remote Learning Platforms

Subcomponent 2.3 Empowering girls with life skills and market relevant skills
This sub-component is aimed at:

- Providing financial incentives to the poorest households
- Empowering and preparing adolescent girls to successfully navigate the different stages of life by equipping them with life skills (negotiation skills, conflict resolution, self-esteem leadership skills, financial literacy and adolescent health and nutrition) etc. It will also provide market-relevant skills training and a graduation grant upon senior secondary school completion. It will be implemented through collaborations with NGOs and private sector.

3.2.3 Component 3*:* Project Management, System Strengthening, and Learning

Subcomponent 3.1 Project management
This sub-component is aimed at:

- System strengthening for sustainability and technical Assistance
- Project implementation and coordination arrangements, monitoring and evaluation at the Federal and State levels

Subcomponent 3.2 System strengthening (All line ministries)
This sub-component is aimed at:

- Project Management, Monitoring and Evaluation (M&E)
- Providing technical support to Federal and state governments in institutional strengthening, policy review and improve their capacity at the federal, state and local government levels. Support will be provided to ensure effective project implementation and coordination, monitoring and evaluation and efficiency in service delivery.

Subcomponent 3.3 Learning
This sub-component is aimed at:

- Impact evaluations, studies, pilot programs will be supported to facilitate learning that will enable scale up to other phases of the MPA. Learning will be facilitated from multi-dimensional approaches and allow lessons to be more easily applied to other operations.

While the AGILE project aims at addressing the three components of the project, this ESMP has been prepared focusing on the activities of the Subcomponent 1.2. This subcomponent relates to the rehabilitation of dilapidated classrooms and the provision of teaching and learning materials (TLMs) to ensure schools are fully functional, safe, and conducive to learning.

Under this subcomponent, the following climate change support activities are being implemented:

Climate Change Actions

- **Energy efficiency measures.**

School rehabilitation works will integrate design layouts of classrooms to ensure natural light and ventilation. This will also include energy efficiency improvements such as use of solar panels, low-energy light bulbs, automatic switch-off mechanisms, water-efficient toilets and sinks, better insulation materials, and other environment-friendly features.

- **Waste management.**

With waste management, emphasis shall be placed on finding ways to get rid of school waste with the least negative effects on the environment. Separating, reducing, reusing, recycling, and composting waste will be considered for managing school waste. Recycling and using organic waste for composting options will be carefully reviewed and the best option for the schools will be developed.

a) **Organic waste.**

Students will be motivated to plant trees and to use the compost made out of the organic waste in the school gardens, which will reduce the use of fertilizer and other chemicals.

b) **Recycle waste.**

For recycling, educating students and staff is essential, so some recycling programs that educate staff and students will be developed.

c) **Eco-clubs.**

Schools will form clubs as part of safe space in schools to empower teachers and students to participate and take up meaningful environmental activities and projects to include (a) composting all non-animal based organic materials; (b) recycling materials, that is, installing recycling bins around the school and in classrooms—or have a recycling area; (c) making adjustments so that the school functioning is more ecofriendly; (d) encouraging change in purchasing habits—determining if there is a greener alternative to current/proposed purchases; and (e) promoting good practice measures such as water-harvesting, plantations drives, and so on. In addition, pupils and staff will be encouraged to walk or cycle to school as much as possible.

Communities will be responsible for school improvements and will be assigned Technical Assistants (TAs) on climate issues and appropriate response measures. The teacher training activities will include information to enhance their knowledge about climate change and mitigation measures.

3.3 Subcomponent 1.2 Intervention Activities for Kebbi Schools

Based on the Subcomponent 1.2 of the AGILE Project (Improving existing infrastructure in Secondary Schools), the identified intervention activities at each of the Kebbi schools consist of the following in varying degrees:

1) Rehabilitation/renovation of offices and classroom blocks;
2) Drilling of water boreholes and installation of overhead water tanks;
3) Construction cell toilets;
4) Procurement and installation of wooden and steel-frame furniture;
5) Supply and installation of generators
6) Major and minor rehabilitation such as repairs of floors, roofing, doors and windows

Pre-Rehabilitation Phase: Involves the preparation of the staging areas, mobilization of personnel and materials to site; Vehicular movements; Land access; Materials storage; Equipment assembly, etc.

Rehabilitation Phase (active construction works, utilization of materials):
Use of cement, sharp sand, gravel, steel doors and windows, iron rods, binding wires, hard woods, nails and water. Other materials include roofing and ceiling sheets, ceramic floor and wall tiles, PVC pipes, fittings and adapters, emulsion and gloss paints, electrical cables and fittings, etc. Delivery of furniture, teaching and learning materials such as books for JSS 1-3

classes, white marker boards, etc.

Rehabilitation/Renovation Works:

- The key activities in putting up the rehabilitation/renovation works at the targeted schools include:
    - Soil cutting and filling for percentage recovery
    - concrete casting
    - demolition of old structures and disposal of debris
    - assembling of structures and,
    - overhead tank assembly
    - slope stabilization.
- The foundations of the lattice structures and concrete casting may be dug mechanically. The depth will be consistent with the geotechnical study and the engineering designs.
- Vegetation clearing will be done manually.
- A number of transport vehicles shall be employed in the project but there may be no on-site maintenance of vehicles.
- Skilled and unskilled labour shall be employed in the project.

Table 3.1: Project Works Schedule

Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Pre-Rehabilitation						
Mobilization of personnel						
Delivery of materials						
Preparation of staging areas						
Demolition of old structures						
Rehabilitation						
Renovate offices and classrooms blocks						
Install water boreholes & overhead tanks						
Construct toilets						
Post Rehabilitation						
Disposal of debris						
Clean up of construction areas						

CHAPTER FOUR: DESCRIPTION OF PROJECT ENVIRONMENT

This chapter presents an overview of the approach and methodology employed in conducting this ESMP and discusses the project area of influence (Kebbi State) as well as the general and specific baseline conditions that characterize the physical environment at the location of the AGILE schools. The chapter also discusses the project area socioeconomic and cultural environment prior to the implementation of the Kebbi AGILE School intervention. The methodology was formulated around the objectives and scope of the assignment and the strategies in ensuring actualization of the objectives.

4.1 Study Approach and Methodology

4.1.1 Study Approach

The adopted approach to this study is shown in the Figure 4.1 with the various activities described in the following sections.

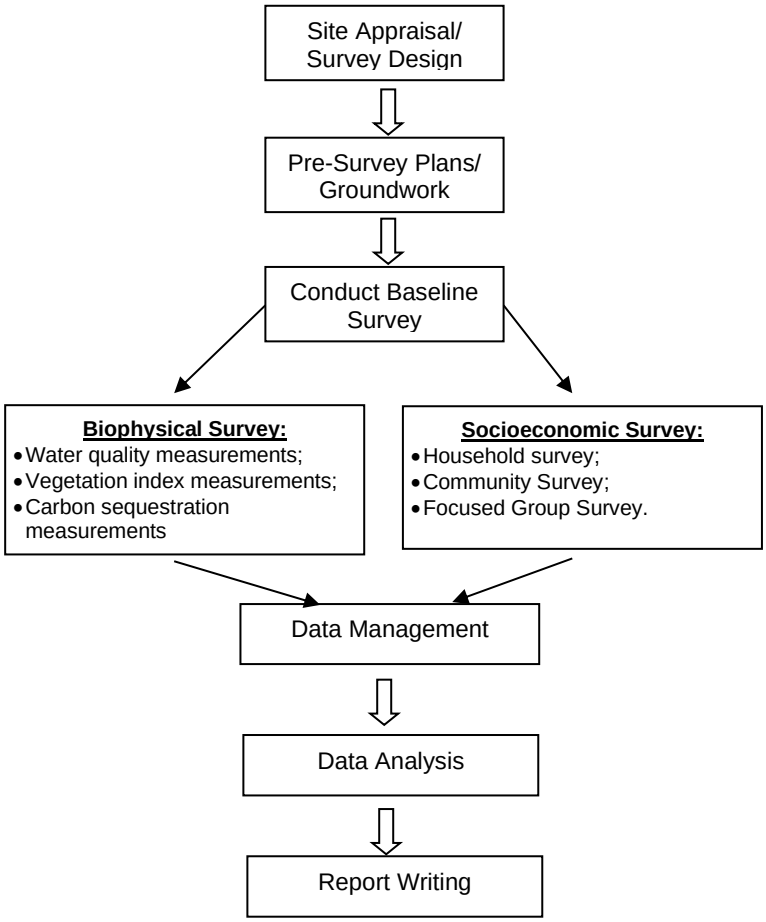

Figure 4.1: Flow Chart on the study approach

4.1.2 Site Visit/Initial Consultation and Reconnaissance Exercise

Project area visits and field investigations were conducted from January 18 to 24, 2023, which enabled an understanding of the project area and its environs as well as the identification of stakeholders to be consulted. The visits enabled a first-hand inspection of the various schools. The field assessments specifically included observing the physical environment, obtaining samples for biophysical analysis, conducting topographic surveys and socio-economic baseline data gathering, and then conducting stakeholders' consultations.

4.2 Description of Baseline Environmental Setting and Conditions

4.2.1 Project Location

Kebbi state is located within latitudes 10.12°E and 13.29°N and longitudes 3.56°N and 6.06°E, covering 36,653km. It is bordered to the west by Benin Republic, to the east by Sokoto and Zamfara States, to the south by Zamfara and to the north by Sokoto State. The Map of Kebbi State showing the Local Government Areas (LGAs) in the state is shown in Figure 4.2.

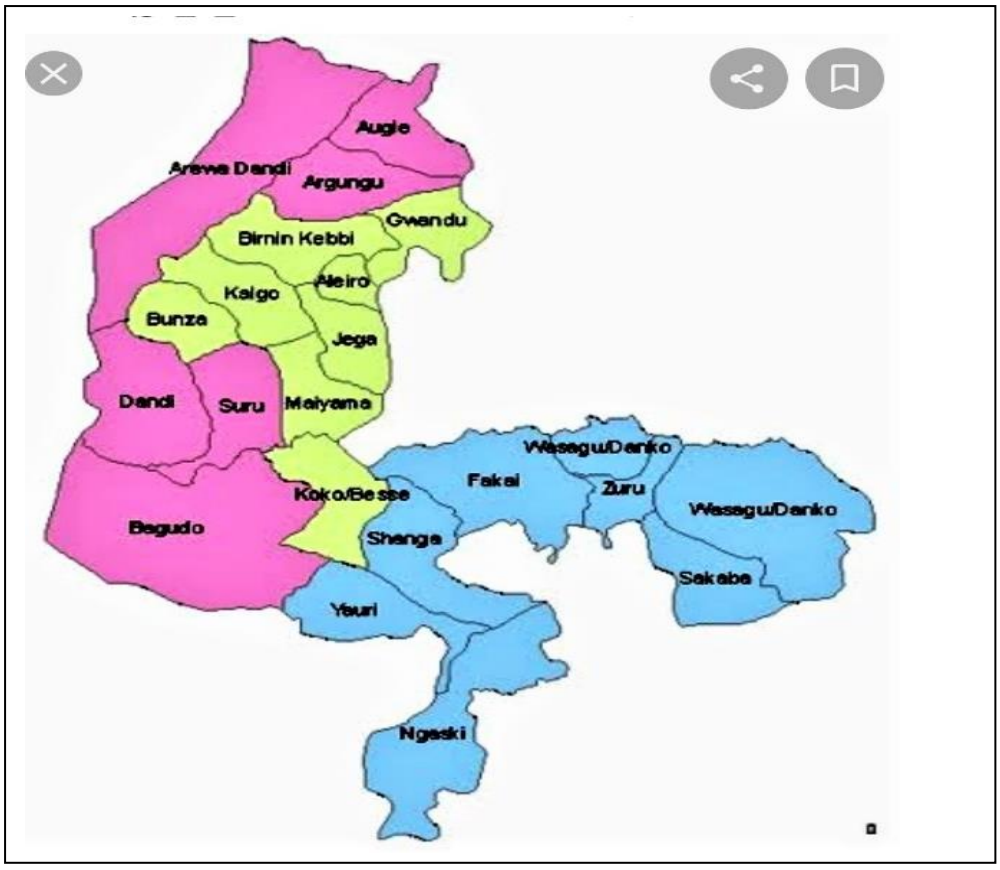

Fig. 4.2 MAP OF KEBBI SHOWING LGAs

4.2.2 General Conditions

The environmental characteristics of Kebbi State are discussed under Sections 4.2.3 through 4.2.8. The geologic and soil characteristics of the project area and the extent to which implementation of the proposed project could be affected by soil characteristics and other natural environmental factors are summarized below. The natural environmental factors include climate and vegetation, topography and landforms, hydrogeology and hydrologic patterns. Information sources for this evaluation include published literature and the physical observations made during site visit in the course of the Consultancy.

Prevailing climatic conditions were sourced from online and literature sources complimenting field data to establish the project area rainfall, ambient temperature, wind direction and speed, atmospheric pressure and relative humidity. Information and data relating to the vegetation, topographic, geological, hydrogeological, hydrological and hydraulic nature of the area were used to fully characterize the state. Road transects or quadrat method was used to sample flora/fauna.

4.2.3 Climate

Kebbi state falls within the Guinea Savannah vegetation zone with distinct dry and wet seasons. The area experiences a tropical savanna climate which is strongly influenced by

the tropical maritime air mass and the tropical continental air mass like in most part of West Africa. The tropical maritime air mass which originates from the southern high pressure belt is humid in nature and is attended with on-shore south-western winds. The tropical continental air mass on the other hand is dry and accompanied by north-east trade winds.

The annual rainfall of Kebbi state has an average of between 787.53mm and 112.21mm across the state. Rainfall is a climatic resource in the state, which aids agricultural production. The rainy season occurs between mid-May and mid-September of the year, while the dry season occurs for a period of seven months. The temperature of Kebbi state has an annual variation between 650F and 1040F. The cloud of Kebbi state is clearer around November to March of the succeeding month, while the state is usually cloudy between March and November at 68% annually. There is a relatively high humidity between seven months, April and November of every year, with high winds from November to July.
`

Kebbi state is one of the warmest region in Nigeria with an average daily high temperature of 36 degrees. The climate is very warm with an annual average of 36 degrees, but has few truly tropical and sultry months. Due to the lesser rain the best time for traveling is from November to April. Sometimes humidity is unpleasantly high from June to September. The most rain days occur from June to September.

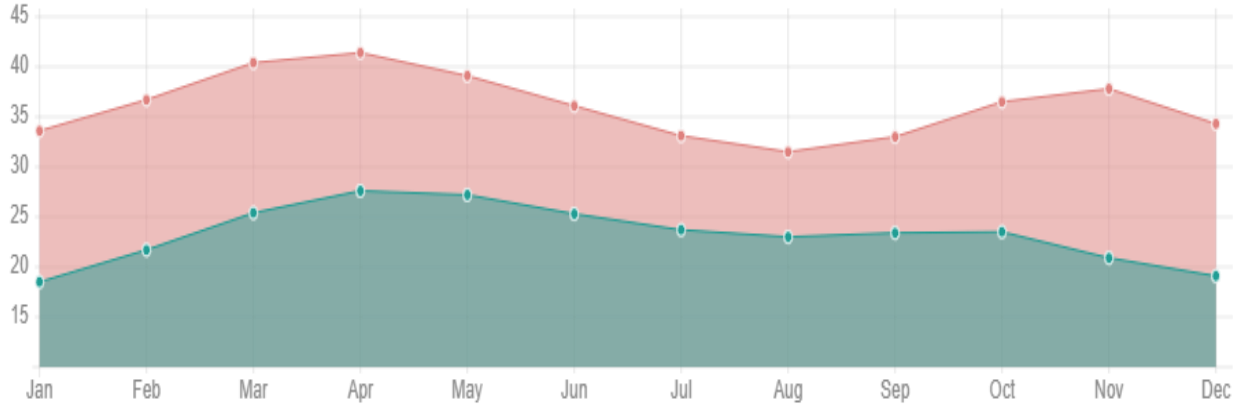

Fig. 4.3: Climate in Kebbi (Average daytime and nighttime temperature)

(Source- world data)

4.2.4 Geology and Hydrology

The geology of Kebbi State is characterized by thick and vast sequences of sedimentary deposits of the Sokoto Rima-basin, which underline about 50% of the area. The rest being underlain by Precambrian Basement complex rocks. The geology of Kebbi State is dominated by two formations Precambrian Basement complex in the south to southeast and young sedimentary rocks in the north. The basement complex region is composed of very old volcanic and metamorphic rocks such as granites, schist, gneisses, and quartzite consisting of Gwandu, Illo and Rima groups whose ages range from cretaceous to the Eocene. The Gwandu group consists of massive of clay interbeded with sandstone while Illo and Rima group consist of Pebbly grits, sandstones and clays, mudstones and siltstones respectively. Mineral that can be found in the state include quarts, Kaolin, photolytic bauxite, clay, potassium, silica sand, and salt. The sediment dips gently and thickens gradually toward the northwest with maximum thicknesses attainable toward the border with Niger Republic.

The River Sokoto – River Rima System is the principal drainage network of the State. The headwaters of the river Kebbi and Rima and their tributaries rise in precretaceous crystalline rock terrain east of Kebbi and flow west and south across an area underlain by sedimentary rocks of the Sagaldu, Indian water and Mashaya groups and the Tabkin Bature (Kebbi State

Ministry of Environment & Solid Minerals). The rivers Gagare, Maidiyaru, Wuyan RaiRai, Mashaya Gado, Gulka and Gayan Gulbinka are principal tributaries to the Kebbi, above its confluence with the river Chad. West of the Fadama of the river Kebbi, on the outcrop of the Dukku, surface drainage is largely ephemeral and poorly integrated.

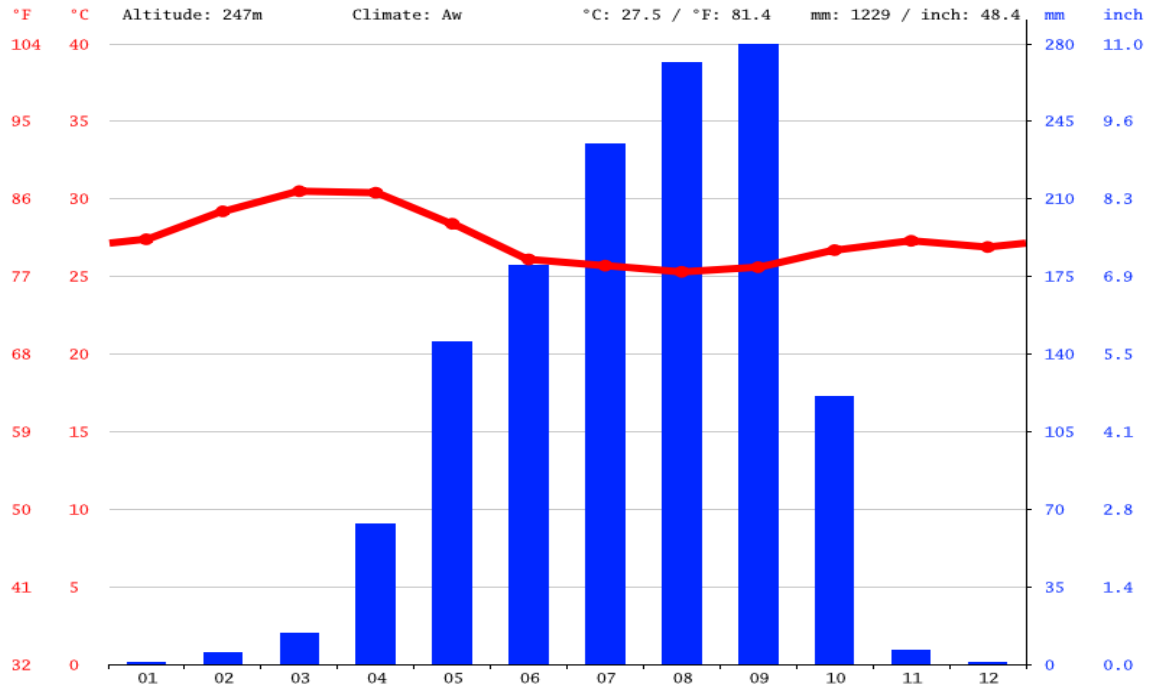

Fig. 4.4: Temperature and Rainfall Distribution in Kebbi State
(Source: Climate-data.org)

4.2.5 Soil Types

The predominant soil type in Kebbi State is the ferrugirious tropical soils. Their main features include a sandy surface horizon underlain by weakly developed clayey, mottled and sometimes concreting subsoil. Although, they are generally considered to be high in natural quality, they are very sensitive to erosion because ones the vegetation cover is removed, the sandy topsoil are easily washed away by rain water and wind. The soil show low water holding capacity and are therefore susceptible to drought.

Another type of soil that occurs in the state is the alluvial or fadama soil mostly found in Rima and Niger River Valleys. This soil is suitable for crop production. Farming in Kebbi State indeed depends to some extent on the Fadama land that are sometimes several kilometers in width.

4.2.6 Traffic and Transport Infrastructure:

Kebbi State is served by several intra-linkage roads many of which are now severely degraded by the soil erosion and potholes. The main means of transportation in the state is by road. Many roads currently experience low level of traffic flow due to developmental and landform degradation problems. The flooding and erosion challenges are currently being addressed through the World Bank-assisted Agro Climatic Resilience in the Semi-Arid Landscapes (ACRESAL) Project. The traffic and transportation situation is envisaged to gradually improve once the landform restoration intervention project is completed, and as additional residential areas develop and the road surfacing is improved.

4.2.7 Waste Management:

Waste management in the schools is generally lacking and there are also no structured

waste collection systems for most of the schools, resulting, to a large extent, in wastes being indiscriminately dumped in isolated places. For individual homesteads in the project area, solid wastes are either burnt or disposed of in small earth fills to rot. For the schools where toilet facilities exist, the major type of toilet facility found are covered pit latrines. Most of the people defecate in open spaces. In most cases, the wastes are indiscriminately disposed of in the environment. There are also generally no effective sewerage works in the project areas.

In many areas, solid wastes are indiscriminately dumped inside the water canals or at illegal dumpsites created only as a matter of convenience. Solid waste management in the project areas is a considerable hazard to the health of the population and the effective functioning of the storm water drainage systems. The unmanaged refuse causes regular obstruction of the storm water drainage systems.

The current lack of a formal solid waste management system is very apparent as waste and litter are indiscriminately abandoned throughout the AGILE Schools communities. People use a variety of containers for waste disposal (e.g., plastic bags, tins and baskets). However, these are make-shift solutions to a serious waste problem. No collection system means waste is left to rot throughout the project areas. The abandoned food waste attracts scavengers such as rats and cats. Once containers are opened by scavengers, waste is scattered widely by wind and animals. The ultimate litter and waste trap tends to be streams and water bodies which net result is a spiral of contamination of water and on-going environmental degradation that promotes the spread of disease.

4.3 Evaluation of Baseline Environmental Conditions

Soil, water and air samples were collected from various locations within the AGILE schools and communities. The collected samples were submitted to MGG Laboratory for analyses to assess the baseline environmental conditions within the project areas.

4.3.1 Soil Analytical Condition

Environmental contaminants in soil generally can be of concern to human health. Heavy metals are a class of elements that include lead, copper, arsenic, and cadmium, and can be toxic to humans and plants if ingested in high enough quantities. Soils have often been the landing spot for heavy metals, chemicals, and wastes as byproducts of industrial and agricultural pollutants. Many of these metals are present in soils naturally, usually in small amounts, although the natural level may vary. (Saunders & Buob, 2018).

Soil Sample Collection

Representative near-surface (0 - 6 inches depth) soil samples for laboratory analysis were randomly collected from locations within the AGILE schools. The sampling locations were selected based on observed environmental conditions that suggest possible contamination and/or locations that are within the general project activity areas. Each near surface soil sample was collected using the Dutch hand auger and put in a properly labeled self-sealing plastic bag prior to shipment to the FMEnv-certified MGG Resources Laboratory at Nsukka for chemical analysis.

Soil Analytical Results

The baseline analytical results of the samples are summarized in Table 4.3A-F (Annexure XIV). The analytical results show concentrations of key soil quality parameters below the regulatory threshold limits. The recorded levels of heavy metals in soils across the study area were found to be within regulatory permissible limits except for iron levels (8.2 mg/Kg – 80.2 mg/Kg) which are above the FMEnv limit of 0.03mg/Kg.

Color

Soil color is influenced by moisture. The color of the soil samples collected ranged from brown to darkish brown and reddish brown to whitish soils.

Soil pH
The top and near surface soil was observed to reflect acidic medium indicating a humid environment and arable soil type. The mean pH of the soil across the project area is 5.6.

4.3.2 Surface Water Sample Collection

No surface water was encountered at any of the AGILE schools visited in the six educational zones of the state. Surface water samples were therefore not collected.

4.3.3 Ground Water Quality

In Kebbi state, many depend on boreholes and wells for drinking water due to the country's inefficient and inadequate pipe borne water system. Most of surface water has been severely contaminated by natural sources, humans and animals. To avoid disease outbreaks and health hazard, continuous monitoring of ground water throughout the state is required.

Contaminants in groundwater which are relied upon as drinking water source by communities pose serious health risks to the residents. People can suffer acute or chronic health effects from almost any contaminant if they are exposed to extraordinarily high levels (as in the case of a spill). In drinking water, microbes, such as bacteria and viruses, are the contaminants with the greatest chance of reaching levels high enough to cause acute health effects.

Groundwater Sample Collection
To assess the groundwater conditions, representative samples of groundwater were collected from each borehole at the AGILE schools visited. The water samples were collected in a clean sampling bottle, sealed, labeled and preserved in an ice-filled chest before shipping to the MGG Resources Laboratory at Nsukka, Enugu state for chemical analyses. The summaries of baseline analytical results of the samples are as shown in Table 4.4A-F (Annexure XIV).

Groundwater Analytical Results
The groundwater conditions at the AGILE Schools were assessed through laboratory analysis of parameters that affect the quality of water in the environment. Physical properties of water quality include temperature and turbidity. Chemical characteristics involve parameters such as pH and dissolved oxygen. Biological indicators of water quality include algae and phytoplankton. The analytical results of the baseline water quality indicators show concentrations that are either below the regulatory threshold limits or are considered not significant. These results are discussed below:

pH
pH values for the sampled water sources ranged between 6.5 and 8.4. These values are in line with the FMEnv. permissible limits of 6.5-8.5. Details of the analytical results are included in Table 4.4A-F (Annexure XIV).

Dissolved Oxygen (DO)
DO refers to the amount of oxygen that is present in the water body is necessary for aquatic life. DO of less than 5.0mg/l puts aquatic organisms under stress. It is used as a measure of water quality. According to the laboratory analysis, the DO value ranged from 1.0 to 3.8mg/L. These values are outside the FMEnv. limit of 5.0mg/l. Details of the analytical results are included in Table 4.4A-F (Annexure XIV).

Biochemical Oxygen Demand BOD
The water body contains some amount of oxygen in form of dissolved oxygen; hence, BOD is a measure of the amount of oxygen required to remove waste organic matter from water in the process of decomposition by aerobic bacteria. It is mostly used to ascertain the degree of organic pollution in the water body. The BOD in this study ranged from 4.4 to 8.2mg/L. Details of the analytical results are included in Table 4.4A-F (Annexure XIV).

Total Dissolved Solids (TDS).
This is also a measure of water quality and is sometimes used as an indicator of the presence of chemical contamination. It comprises inorganic salts. The TDS values recorded in this study ranged from 13.0 to 492.0mg/L and are below FMEnv's permissible set limit of 2100mg/l. Details of the analytical results are included in Table 4.4A-F (Annexure XIV).

Chemical Oxygen Demand (COD)
Chemical oxygen demand (COD) is the amount of oxygen required to chemically stabilize the organic matter contained in solution under aerobic conditions. It has a similar significance to (BOD). A high COD may be an indication of the presence of either organic that is hard to biodegrade or of toxic materials. The value of COD as recorded in this study is between 5.2 and 10.8mg/L across all the water sampling locations and are generally in compliance with the FMEnv regulatory standards of 30mg/l. Details of the analytical results are included in Table 4.4A-F (Annexure XIV).

Heavy Metals
Heavy Metals are constituents of a large class of inorganic and organic chemicals, which are both essential and toxic to human health and the natural environment. The metals exist in several oxidation states, each with different reactive, toxicological, physiological and bioconcentration potentials. Metals such as Cr, Pb and Zn are toxic in their cationic form, while others require biochemical transformation to organic metallic compounds before toxicity (Miller & Donahue, 1990).

Based on the analytical results, the concentration levels of Zinc, Copper, Iron, Silver, and Lead were all below the regulatory threshold limits across all the samples analyzed. Chromium ranged from 0.11 to 0.46mg/L, Nickel had a concentration range of 0.1 to 1.53mg/L, Manganese concentration ranged from 0.03 to 1.12mg/L, while Lead ranged from 0.14 to 0.44mg/L. The complete baseline analytical results of the water samples are included in Table 4.4A-F (Annexure XIV).

4.3.4 Air Quality

Air pollution is a major environmental risk to health. By reducing air pollution levels, people can reduce the burden of disease from stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma. The lower the levels of air pollution, the better the cardiovascular and respiratory health of the population will be, both long- and short-term. The WHO Air Quality Guidelines (Global Update 2005) provide an assessment of health effects of air pollution and thresholds for health-harmful pollution levels. The Guidelines apply worldwide and are based on expert evaluation of current scientific evidence.

Air Sample Collection
Air quality assessment was carried out at the AGILE schools visited in each educational zones. Air samples were collected from areas where active rehabilitation activities are anticipated as well as where human activities are expected to be high. Samples were collected using the Dragner CMS Gas Analyzer. Ambient air was drawn into the calibrated equipment at the targeted locations and subsequently the digital readings for the various parameters were read off the instrument. The parameters measured as part of the air quality assessment included Hydrogen Sulphide (H_2S), Carbon Monoxide (CO), Nitrogen Oxide (NO), Nitrogen Dioxide (NO_2), Sulphur Dioxide (SO_2), Hydrogen Cyanide (HCN), Ammonia (NH_3), Oxygen (O_2) as well as dust and suspended particulate matter (SPM).

Air Analytical Results
The baseline analytical results of the air pollution indicators from the air samples are included in Table 4.5A-F (Annexure XIV). The analytical results obtained for air quality were reviewed against the appropriate regulatory limits to determine any potential health risk levels. These pollutants are discussed in the following sections:

Hydrogen Sulphide
Hydrogen sulphide (H_2S) is a toxic and corrosive gas, which is rapidly oxidized to SO_2 in the atmosphere. H_2S is odorous and can typically be perceived at levels of 0.1ppm. It can be present in natural gas in certain areas and can be released by sulphate reducing bacteria (SRB) in certain aquatic environments. Adverse health effects can be encountered with longer term exposures above 1ppm and exposure to concentrations more than 500ppm can be fatal (SIEP, 1995).
Hydrogen sulphide concentration levels detected in all the samples analyzed were below the FMEnv regulatory limit of 5ug/m^3. Details of the analytical results are included in Table 4.5A-F (Annexure XIV).

Carbon Monoxide
Carbon monoxide (CO) is a poisonous, colorless, odorless and tasteless gas resulting from the incomplete burning of material containing carbon such as natural gas, gasoline, kerosene, oil, propane, coal, or wood (OSHA, 2012). Adverse health effect has been observed with carbon monoxide concentrations of 12ppm - 17ppm for 8 hours (Canter and Hill, 1977). All people are at risk of CO poisoning. Unborn babies, infants, the elderly, and people with chronic heart disease, anemia, or respiratory problems are generally more at risk than others.
Carbon monoxide levels detected in the samples ranged from zero to 2.0ug/m3. These concentrations are less than the FMEnv limit of 4.0ug/m3. Details of the analytical results are included in Table 4.5A-F (Annexure XIV).

Nitrogen Dioxide
Nitrogen dioxide (NO_2) is a member of the family of highly reactive gases called nitrogen oxides or oxides of nitrogen, which are formed during combustion processes. NO_2 results when fuel is combusted at high temperatures and occurs mainly from motor exhaust and stationary sources such as electric utilities and industrial boilers (SIEP, 1995). It is the only oxide of nitrogen that has been shown to have significant human health effects. Exposure to concentrations higher than 0.5ppm can trigger changes in pulmonary function in healthy people (SIEP, 1995).
Ambient NO_2 levels in the study area ranged from 0.05ug/m3 to 6.84ug/m3 across all sampling areas. These concentrations fall below the FMEnv regulatory standard of 25ug/m3. Details of the analytical results are included in Table 4.5A-F (Annexure XIV).

Sulphur Dioxide (SO_2)
Sulphur dioxide in the air results primarily from activities associated with the burning of fossil fuels (coal, oil) such as at power plants or from copper smelting. Exposure occurs from breathing and it affects the lungs and at high levels may result in burning of the nose and throat, breathing difficulties, and severe airway obstructions (ATSDR, 1999). Sulphur dioxide is known to be a harsh irritant, and is capable of aggravating asthma, bronchitis and emphysema and promoting impaired functions in the human system (CCDI, 2001).
SO_2 levels in the study area ranged from 1.20ug/m3 to 3.42ug/m3 across all sampling points within the project area. These concentrations fall below the regulatory standard of 40ug/m^3. Details of the analytical results are included in Table 4.5A-F (Annexure XIV).

4.3.4 Noise and Particulate Matter:

Noise is one of the most common environmental impacts from rehabilitation operations and transportation systems. The noise levels at the AGILE schools' sites and their environs were measured using the Digital Sound Level Meter (BAFX Products), Type BAFX3370.

Noise
The recorded minimum and maximum ambient noise levels within and around the vicinity of the schools ranged from 32.2dB to 51.7dB for schools in the rural neighborhoods and ranged from 36.7dB to 81.7dB for schools in the urban neighborhoods. These noise levels may be considered moderate ambient levels but are below the FMEnv regulatory standard of 55dB and 90dB for schools and industrial areas, respectively. The regulatory standard noise

level in residential and school areas are expected not to exceed 55dB during the day and 45dB at night. Also, the regulatory limit for industrial areas shall not exceed 90dB during the day. Typically, the noise levels in any construction areas will increase with the use of equipment and project vehicular movements at any time. The baseline noise levels within the school zones as recorded during the visits to the various schools are shown in Table 4.1.

Table 4.1: Noise Reading at the AGILE Schools

S/N	LOCATIONS	NOISE READING RANGE (dB)	
		RURAL NEIGHBORHOODS	URBAN NEIGHBORHOODS
1.	Schools in Argungu Zone	33.5 – 47.0	43.6 – 70.0
2.	Schools in Birni Kebbi Zone	37.1 - 51.5	44.9 – 80.5
3.	Schools in Yauri Zone	31.9 – 43.4	45.1 – 70.4
4.	Schools in Jega Zone	33.5 – 40.7	37.8 – 78.4
5	Schools in Zuru Zone	32.8 – 46.9	36.7 – 72.9
6	Schools in Bunza Zone	32.2 – 51.7	40.4 – 81.7

Particulate Matter (PM)

Suspended particulate matters (SPM) are finely divided particles which can be of anthropogenic and/or natural origin and is present in ambient air in form of dust, smoke and other aerosols. High concentrations of suspended particulate matter (SPM) are known to irritate the mucous membranes and may initiate a variety of respiratory diseases. Fine particulates may cause cancer and aggravate morbidity and mortality from respiratory dysfunctions (CCDI, 2001). Dust, smoke, and diesel exhaust are particulate pollutants that pose direct health threats to people. Children, asthma sufferers, people with other lung problems, and children are most vulnerable to this pollution. Some types of particulates also indirectly affect people when they combine with chemical pollutants. The PM_{10} particulates are able to penetrate and damage people's lungs and cause the worst health problems.

The baseline maximum particulate matter ($PM_{2.5}$ and PM_{10}) readings at the schools visited within the school zones are shown in Table 4.2.

Table 4.2: Suspended Particulate Matter Readings at the AGILE Schools1

S/N	LOCATIONS	PARTICULATE MATTER (PM) MAXIMUM READING	
		$PM_{2.5}$	PM_{10}
1.	Schools in Argungu Zone	3.0 - 8.8	6.3 - 12.3
2.	Schools in Birni Kebbi Zone	3.1 - 6.6	4.1 - 9.0
3.	Schools in Yauri Zone	4.2 - 11.1	3.7 - 15.4
4.	Schools in Jega Zone	3.7 - 7.3	3.1 - 10.1
5	Schools in Zuru Zone	4.0 - 9.9	4.6 - 13.7
6	Schools in Bunza Zone	3.6 - 6.4	2.2 - 9.0

The levels of particulate matter ($PM_{2.5}$) and (PM_{10}) ranged from 3.0 - 11.1ppm.and 2.2 - 15.40ppm, respectively. These levels are found to be within the set permissible limits of FMEnv (25ppm for $PM_{2.5}$) and NESREA (150ppm for PM_{10}).

4.4 Description of Socioeconomic and Cultural Environment

4.4.1 Population

Based on the 2006 National Population Census records and the 3.17% annual population growth factor recommended by the National Population Commission (NPC), Kebbi State has a projected population of 5,365,515 in 2022.

4.4.2 Ethnic Groups

Kebbi State has diverse ethnic groups and the dominant among which are Hausas, Fulanis, Kabawa, Dakarkaris, Kambaris, Gungawa, Dandawa, Zabarmawa, Dukawa, Fakkawa and Bangawa. These ethnic groups speak diverse languages and dialects, with the Hausa language spoken all over the state. The majority of the people in Kebbi state are Muslims following the 1804 Fulani Jihad. However, there are minority groups of Christians and traditional worshippers particularly to the south of the state. These ethnic diversities and religious differences notwithstanding, the people of Kebbi live in peace with one another.

Each District/Village traces its origin from genealogical ties. Politics in the communities are done within the framework of clannism. Clans are the basic point of cultural and political identity for the citizens. Clannism and kinship are the elemental forces in control of political and cultural institutions as well as service points. For Kebbi State, the cultural associations and social interactions are epitomized during cultural and religious ceremonies and festivities.

4.4.3 Archaeology and Cultural Heritage:

There are no World Heritage Sites or areas of cultural importance that would be impacted by the proposed project, nor are there any archeologically sensitive areas. This ESMP spells out appropriate site-specific mitigation measures for any archaeological and cultural relics that maybe found during the project implementation.
Some of the state's cultural activities and archeology are Argungu International Fishing Festival, Uhola Festival, Karishi Traditional Settlement, and Kanta Museum, Argungu.

4.4.4 Cultural Resources

There are no known designated historical or archaeological resources within the project area. This ESMP spells out appropriate site specific mitigation measures for any other cultural relics that may be found during the project implementation.

4.4.5 Land Use Pattern

There are three major types of customary land tenure system in the project area – (1) individual land ownership; (2) family land ownership; and. (3) communal land ownership. Individual ownership may be for indigenes or for residents of the community. Family lands (as well as individual lands) are inherited from generational relatives. Communities retain family lands which may never be sold. Such family lands are generally retained for communal development and sometimes are rotationally shared among the members of the community for agricultural purposes but are not for sale.

Less than 20% of the land use in the project area is fully developed infrastructurally. The remaining land area is committed to agricultural production of food crops. The crops include yam, rice, onions, garlic, maize, millet, groundnuts, tomatoes, potatoes, wheat, sorghum, guinea corn, vegetables, etc.

4.5 Analysis of Socioeconomic Survey

4.5.1 Respondent and Household Distribution in Project Area

The following sections show how the respective communities of the project area responded to the socioeconomic survey administered to them. The survey was administered to the assembly of community members from the LGAs that make up each educational zone. All AGILE School communities (three members per community) were targeted in the questionnaire administration. A total of 752 questionnaires were administered to the affected communities within the project area with a 100% return. Based on the survey, the 752 respondents with 5,347 household members were documented for the six AGILE Schools Zones.

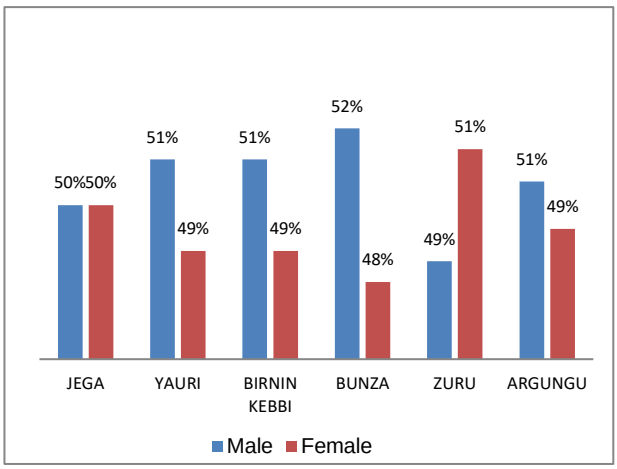

Fig 4.5 Household gender distribution

4.5.2 Gender, Age and Household Size Distribution

The survey data indicated male/female distribution of 50/50%, 51/49%, 51/49%, 52/48%, 49/51%, and 51/49% for households in Jega, Yauri, Birni Kebbi, Bunza, Zuru, and Argungu AGILE Schools' communities, respectively. The household gender data is reflected in Figure 4-5. Men and women in the project area are generally mainly involved in farming. Both men and women are significantly involved in the general pursuits of livelihoods.

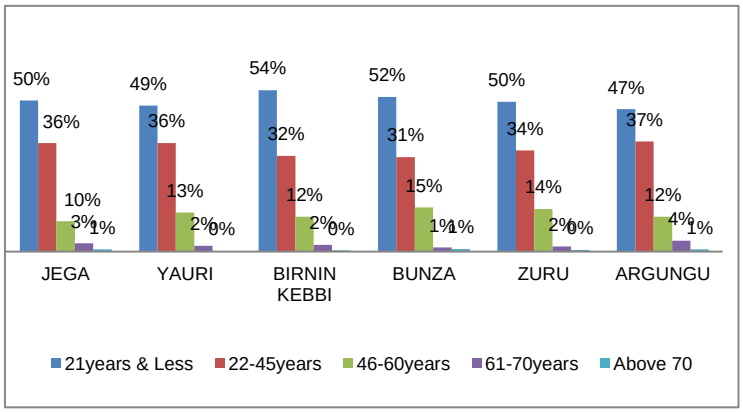

Fig 4.6: Age Distribution of Households

The age distribution data (Figure 4-6) indicated that the percentage of household members 21 years of age and below for AGILE Schools' communities in Jega, Yauri, Birni Kebbi, Bunza, Zuru and Argungu ranged between 47-54%. About 2-5% of the surveyed households are 61years and above for the six zones, respectively. The survey further showed that 31-37% are within the youthful ages of between 22 and 45 years for the zones, respectively while 10-15% of the household members in the communities are between the ages of 46 and 60 years for Jega, Yauri, Birni Kebbi, Bunza, Zuru and Argungu zones, respectively (Figure 4-6).

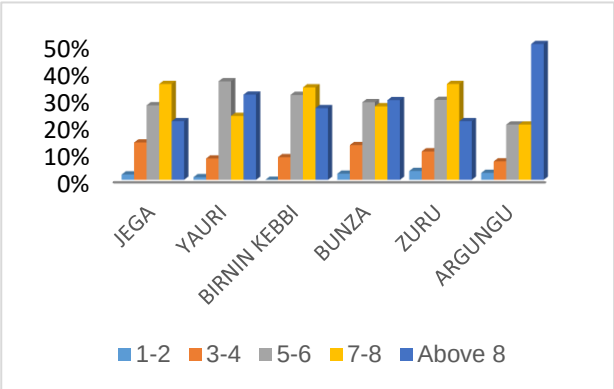

Fig 4.7: Household Size Distribution

The household size distribution from the survey ranged from a minimum of one person to a maximum of 16 persons in the AGILE Schools' communities. The average size of households is 6 persons for the project area community.

At the lowest and highest ends of household sizes, 3% of the households surveyed have only one or two members while 38% of the households have more than 8 persons, respectively (Figure 4-3). About 24% of the households have sizes of 7 or 8 persons while 23% showed sizes of 5 or 6 persons. The data showed 13% households have sizes of between 3 and 4 persons.

4.5.3 Marital Status of Respondents

The survey data showed that 34-39% of household members in the Jega, Yauri, Birni Kebbi, Bunza, Zuru and Argungu project communities are married, 11-18% are children of non-marriageable age, while 44-54% are single and 1-2% widowed. (Figure 4-8)

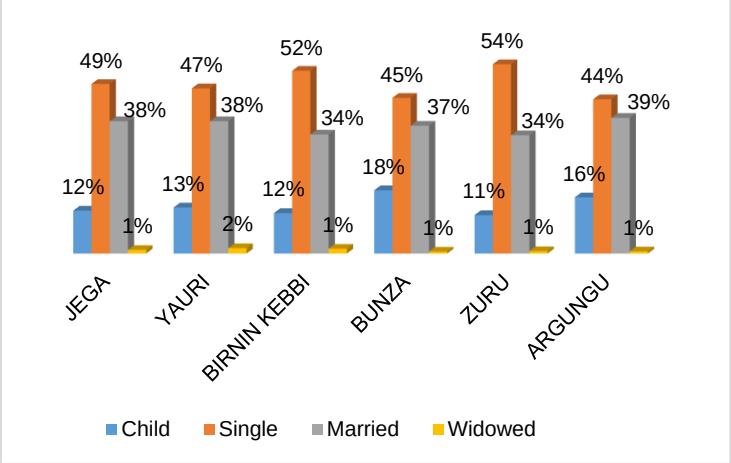

Fig 4.8: Marital Status of Household

4.5.4 Access to Education

The survey responses indicated that with the project area households, the population of schooling age who never attended school is between 8-15% for the six zones; 18-25% had basic primary school education (FSLC) for the zones, 26-34% attended Secondary school (SSCE), 18-25% are Undergraduates in the six zones, 9-18% are Graduates and between 1-3% had Post-Graduate degrees. (Figure 4-9). The low literacy level within the households is reflective of the significantly low number of existing educational infrastructure support within the project area.

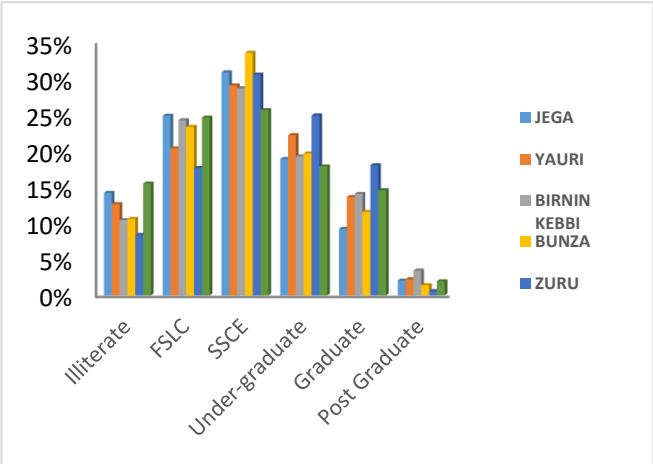

Fig 4.9: Educational Distribution of Households

4.5.5 Access to Health Infrastructure

The common perceived diseases within AGILE Schools' communities include diarrhea, malaria, typhoid, pneumonia, cough, skin diseases, deficiency diseases, eye diseases, ear diseases, and waterborne diseases resulting mainly from malnutrition and lack of hygiene. Due to poverty, access to quality of the health care services in the areas is generally poor with most residents patronizing quacks and medicine shops for their medical treatment. It should be anticipated that there will be increased pressure in the demand for health facilities in the communities resulting from influx of persons during the implementation of this project.

4.5.6 Access to Socioeconomic Infrastructure

The socioeconomic infrastructures (roads system, electricity and access to water) in the AGILE Schools' communities are generally in poor state. Public access to government installed public potable water system is non-existent and power is generally not steady. Generally, community members who are able to afford generators buy them for their private use. Others resort to the use of woods or kerosine stoves as their energy source for cooking and lighting.

4.5.7 Occupational and Income Distribution of Respondents

The occupational distribution data from the questionnaires indicated that of surveyed households in the AGILE Schools' communities in the six zones of Jega, Yauri, Birni Kebbi, Bunza, Zuru and Argungu, 10% are farmers, about 26% are employed in the private sector, 1% are civil servants, 39% are students and 6% are unemployed with another 18% being unclassified (persons of school age but not in school and not employed) (Figure 4-10).

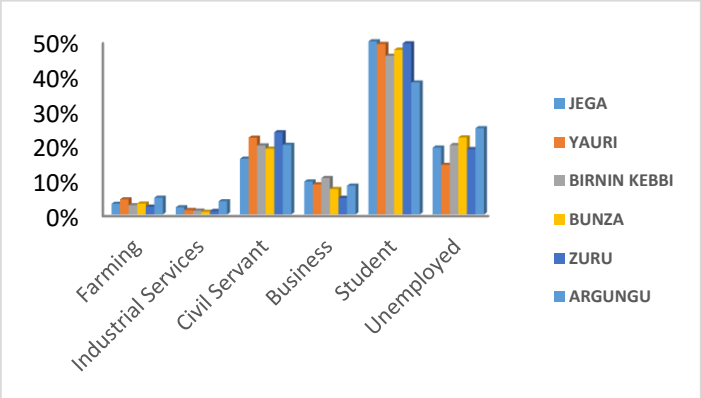

Fig. 4.10: Occupational Distribution of Households

The main source of income for the households surveyed came from farming and trading/business across the communities. Based on the household income data provided, 3-8% earned less than N21,000 monthly, 3-18% earned between N21,001-30,000 monthly, 15-20% earned N31,001-45,000 monthly, 18-24% earned N46,001-60,000 monthly, 35-50% earned above N60,001 monthly (Figure 4-11). The margin of error in the information provided on incomes may be significant considering that some of the respondents may have grossly inflated data provided with the intent to receive compensations in accordance with incomes indicated in the survey. The data provided could not be independently verified.

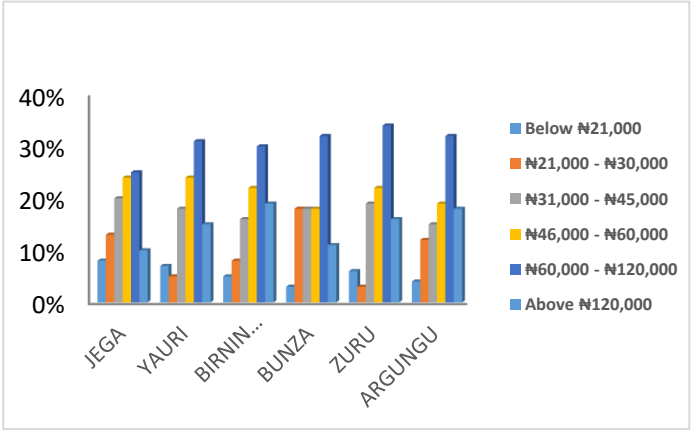

Fig. 4.11: Monthly Income Distribution of Households

CHAPTER FIVE: IDENTIFICATION AND ASSESSMENT OF POTENTIAL IMPACTS AND MITIGATION

5.1 Introduction

This chapter discusses the methods and techniques used in assessing and analyzing the potential social and environmental impacts of the Kebbi AGILE Schools project. The details of methods used in arriving at the significant potential social and environmental impacts of the project are included in Tables 5.1 through 5.4 and the impact assessment process is depicted in Figure 5.1.

The beneficial and adverse potential environmental, economic, social and cultural impacts are identified based on expert knowledge, professional judgment and the use of unranked pair-wise comparison approach (Canter and Sadler, 1997). Other factors in predicting the potential impacts include the results of public consultations. The potentially significant environmental and social impacts of the project as well as the suitable mitigation measures are discussed.

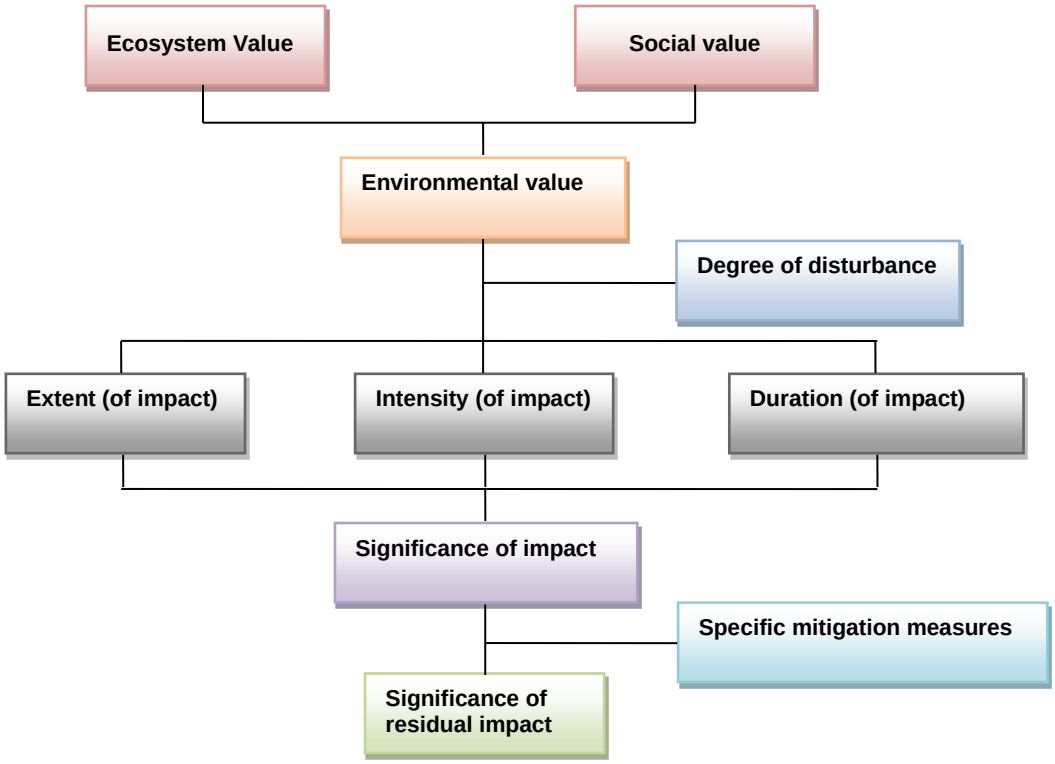

Fig. 5.1: Standard Flowchart for a Systematic Approach to Impact Assessment
(Source: OTG Consultant, 2019)

5.2 Discussion of Method/Technique Used In Assessing Impacts

Impact Rating Methodology

As indicated above, the assessment of the potential impacts of the project was based on expert knowledge, Consultant's professional judgment, field observations, public opinion and desk-top analysis. Generally, the envisaged areas of potential impacts which could result from the activities of the project are evaluated for impact significance based on the comparative consequential effects of the potential impact on the social and biophysical environments. The significance of an impact may be defined as a combination of the consequence of the impact occurring and the probability that it will occur. The criteria used to determine impact consequence are shown in the Table 5-1.

Table 5.1: Criteria for Determining Impact Consequence

RATING	DESCRIPTION OF RATING	SCORE
A. Extent – the area over which the impact will be experienced		
Localized	Confined to specific project activity area or part thereof	1
Entire Watershed	The entire watershed	2
Regional	Beyond the watershed	3
B. Intensity – the magnitude of the impact in relation to the sensitivity of the receiving environment, taking into account the degree to which the impact may cause irreplaceable loss of resources		
Low	Site-specific and wider natural and/or social functions and processes are negligibly altered	1
Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way	2
High	Site-specific and wider natural and/or social functions and processes are severely altered	3
C. Duration – the timeframe over which the impact will be experienced and its reversibility		
Short-term	Up to 6 months	1
Medium-term	6 months to 1 year	2
Long-term	More than 1 year	3

The numerical scores in Table 5.1 are positive or negative depending on whether the impact is adverse or beneficial. If impact is adverse, the numerical score is positive and if the impact is beneficial, the numerical score is negative. The combined score of the three criteria (extent, intensity and duration) corresponds to a Consequence Rating, as shown in Table 5.2:

Table 5.2: Method used to determine Consequence Score

Combined Score (A+B+C)	3 – 4	5	6	7	8 – 9
Consequence Rating	Very low	Low	Medium	High	Very high

The probability of the impact occurring is determined using the probability classifications presented in the Table 5.3 below:

Table 5.3: Probability Classification

Probability – the likelihood of impact occurring	
Improbable	< 40% chance of occurring
Possible	40% – 70% chance of occurring
Probable	> 70% - 90% chance of occurring
Definite	> 90% chance of occurring

The overall significance of impacts is determined by considering consequence and probability using the rating system prescribed in the Table 5-4 below:

Table 5.4: Impact Significance Ratings

		Probability			
		Improbable	**Possible**	**Probable**	**Definite**
Consequence	**Very Low**	INSIGNIFICANT	INSIGNIFICANT	VERY LOW	VERY LOW
	Low	VERY LOW	VERY LOW	LOW	LOW
	Medium	LOW	LOW	MEDIUM	MEDIUM
	High	MEDIUM	MEDIUM	HIGH	HIGH
	Very High	HIGH	HIGH	VERY HIGH	VERY HIGH

Based on the ESMF the environmental risk rating is **moderate** because the project proposes to support some civil works under component 1.2, while the social risk rating is **substantial.** The substantial social risk rating is because the project involves adolescent Girls (a vulnerable category) and other related social risks that include, conflict/fragility, SEA/GBV and communal conflicts related to social norm campaigns. This ESMP highlights areas of interventions which are likely to generate the risks associated with the proposed project activities. The tools which were used to define the boundaries for or regulate every intervention activity and their impacts comprise relevant laws, policies, plans, standards, objectives, limits of acceptable change, performance targets or other environmental quality goals which have a bearing on the proposed activity and its associated impacts.

The potential risks that are linked to the identified project activities under component 1.2 are shown in Table 5.5.

Table 5.5: Potential Risks Associated with Proposed Rehabilitation Activities

Component	Activities	Potential Risks
Component 1.2: Safe Accessible Learning Spaces	Rehabilitation/renovation of classrooms, offices and other facilities in the schools Construction of hygiene and sanitation (toilet) facilities Installation of drinking water borehole with overhead storage facilities	• Risks associated with rehabilitation including air pollution, waste management, occupational health and safety risks, community health & safety risks, and risks associated with labor influx • Inefficient use of resources like water and energy • Disruption of school activities (temporary discomfort) • Risks of damage to physical and cultural resources • Increased exposure to security risks for workers, school staff and students • Sustainability risks from lack of operational maintenance of facilities • Vulnerability risks to disable persons and other disadvantaged groups • Social risks arising from grievances and social norm disagreements associated with project activities
	Installation of laboratory equipment, chemicals, electronic equipment	Generation of hazardous waste, e-waste Risks of toxicity

The envisaged areas of potential impacts (positive and negative) that may result from rehabilitation/renovation of the AGILE Schools on the biophysical, socioeconomic and cultural environments are shown in Table 5.6.

Table 5.6: Environmental and Social Components and Associated Impact Indicators

Impact Aspects	Environmental Component	Impact Indicators
Biophysical	Atmospheric Elements	Gaseous emissions such as NOx, SOx, H2S, VOC, TSP, CO) that contaminate ambient air quality and contribute to atmospheric impacts both at local and global level.
	Noise Levels	Increase in ambient noise levels
	Aquatic Ecology	Changes in the baseline physico-chemical and biological properties of surface water; Changes in the physico-chemical properties of sediments; Changes in community composition and abundance of aquatic biota including: microbes, plankton, macro benthos, fishes, mammals, reptiles, amphibians, birds species, etc.
	Geology	Changes in geology and geomorphology
	Soil	Changes in physico-chemical and biological properties of soil
	Topography	Changes in land terrain and topography
	Vegetation	Changes to vegetation population, health, species abundance and diversity, and impact on endangered and economic species
	Wildlife	Changes in wildlife distribution and abundance
	Ecosystem	Changes in the ecosystem level of impacts such as animal and plant communities, nutrient balance, loss of habitats, etc
	Surface Water	Changes in physico-chemical and biological properties of surface water bodies.
	Ground water	Changes in physico-chemical and biological properties of groundwater
Socioeconomic and Cultural	Land Use Pattern	Changes in land use patterns such as agriculture, fishing, logging, hunting, etc.
	Local Population	Immigration, emigration and in-migration of people
	Socioeconomic System	Changes in employment opportunities, income differentials, inflation, difference in per capita income, inequality of benefits to local population, etc.
	Socio-cultural System	Changes in social structure, organization and cultural heritage, practices and beliefs, natural resources, rights of access, changes in value system influenced by foreigners, etc.
	Basic Amenities and Infrastructure	Access to goods and services such as housing, education, healthcare, water, fuel, electricity, sewage and waste disposal, consumer goods brought into the region, etc.
	Transportation System	Changes in transport systems and associated effects such as noise, accident risk, changes in existing facilities, etc
	Environmental Justice	Conflicts in choice making between development and protection, natural resources use, recreational use, historical and cultural resources, tourism, etc.
	Aesthetics	Presence of unsightly facilities
Human Health	Construction Workers	Accidents, injury, fatality, exposure to nuisance (dust, noise), fire, spread of sexually transmitted diseases (STD) such as HIV (Human Immunodeficiency Virus), etc.
	General Public / Workplace	Exposures to general risks that impact on the quality of human life such as security, electromagnetic radiation, etc.

Potential environmental and social impacts on the schools' respective communities were developed in accordance with the grouped and project-phased impact identifiers contained in the ESMF for AGILE as well as those shown in Table 5.6. The relevant potential environmental and social impacts are determined from the evaluation of each impact's significance rating using the various matrices from Tables 5.1 through 5.4. The project phases are pre-rehabilitation, rehabilitation, and operation phases. The potential impacts that arise from all the information/data sources identified were developed and presented in

matrix/table format for the AGILE Schools in their respective school zones.

5.3 Analysis of Potential Impacts Associated with Kebbi AGILE Project

The potential risks identified are organized considering the critical phases of the project from the pre-rehabilitation phase through the rehabilitation phase to the operation (post-rehabilitation) phase and summarized based on whether the envisaged project impact areas will result in positive or negative impacts.

Potential Positive Impacts

The positive impacts associated with Component 1.2 project activities include the following:

- Increased value and usefulness of assets in community
- Employment Generation
- Protection to building structures.
- Increased community awareness and enhancement of local capacity
- Improved infrastructure (classroom/ office blocks, toilets and water supply systems).
- Enhanced community leadership
- Restoration of vegetation and other vital trees

Potential Negative Impacts

The potential negative environmental and social impacts are summarized in Table 5.7 and Table 5.8, respectively below.

Table 5.7: Negative Environmental Impacts Associated with Project

S/N	Impact	Aspects of Project that Trigger Impact
1	**Loss of Vegetation**	• Removal of Natural Vegetation for project works (staging areas, workers campsite, vehicular movements, etc) could disturb the natural ecosystem and exacerbate climate change
2	**Increase in soil erosion/ soil contamination**	• Removal of vegetation cover will lead to soil erosion which may lead to sedimentation in rivers and waterbodies and exacerbate flooding. • Leakages from construction equipment may contaminate the soil surface
3	**Pollution and Contamination:**	• Increase in fugitive dusts and vehicular emissions and machines during civil works will cause air pollution in the project area and surrounding environment. However, this will be short term, moderate and localized • Soil/gravel brought for any filling/beautification purposes and soil removed during site preparation if not properly stored and is exposed to the natural elements can be washed off to nearby streams, rivers and low-lying areas causing sedimentation and contamination. • Improper placements of toilets facilities and boreholes can cause contamination to groundwater and surface water sources
4	**Sanitation and Waste Management Problems**	• Rehabilitation of school classrooms / blocks will imply the generation of debris of various forms such roof tiles, old irons sheets wastes, bricks, stones, cements which will need to be removed and disposed or reused. Waste generation from workers camps including human feces which can become breeding sites for water-borne diseases and their leachate pollute surface water sources. • Presently most schools litter their wastes and cannot properly manage them. Civil works will lead to increase in waste burden on the school management. • Increase in solid waste and sanitation waste during operation phase could lead to diseases and pollution
5	**Sourcing of Construction Materials**	• Sourcing of construction materials such as sand, clay, gravels will lead to impacts related to sand mining and extraction of gravel from borrow pits or quarries. Incidents and injuries could be associated with poorly managed borrow pits and quarries. • Un-reclaimed borrow pits could become drowning sites, accident prone locations, gully erosion, accidents/incidents for residents and sites for breeding mosquitoes and other vector-borne diseases
6	**Soil Excavation**	Excavation may lead to chance find and affect Physical and Cultural Resources (PCR)
7	**Efficient Resource Utilization**	Competition for resources like water
8	**Occupational**	• Site workers will be exposed to risks of accidental collisions with moving

S/N	Impact	Aspects of Project that Trigger Impact
	Health and Safety	vehicles, strains, and ergonomics from repeated movements or from lifting and heaving of heavy objects, slips and falls. Accidental cuts from tools and machines are also safety risks. • Dust and particulate emissions and welding works from rehabilitation site may cause respiratory and eye impairment health concerns for workers and the public • Movement of trucks carrying sand and materials, lack of road safety measures may also cause risk of accident, injury and death • Some hazardous materials maybe used during this project and contact with such may pose skin problems or otherwise. • Workers may face poor living and labor conditions
9	**Community Health and Safety**	• Exposure to hazardous materials and waste • If the toilet facilities are not well maintained during the operation phase, they may become hotspots for fly infestation and other pathogens that may cause water borne diseases such as diarrhea, dysentery and typhoid • Classrooms may be expanded in areas prone to erosion and landslides which could become a disaster • Exposure of students to labor influx and construction workers (foreign and local) may result in risk of alcohol and drugs usage
10	**Disruption of traffic and public utilities deliveries**	• Some schools in built up areas may cause increase in traffic during rehabilitation and operation phases • Conveyance of materials may cause vehicular traffic • Site preparation may disrupt the supply of public utilities such as water and electricity during excavation and terracing, electrical cables and water pipe passing through the site may be unearthed, and this may disrupt the supply of these services. • Potential accidents from movement of equipment and vehicles to site due to lack of road safety measures

Table 5.8: Summary of Potential Negative Social Impacts Triggered by Project

S/N	Potential Impact	Project Activity that Triggers Impact
1	Disruption of routine school activities with temporary discomfort to people; Restriction of access to staging and construction areas	• All the AGILE Schools for rehabilitation may suffer disruption of routine school activities with temporary discomfort to personnel if the rehabilitation takes place during active school session. • Peoples' access will be restricted for areas marked as project staging areas or construction areas, etc. with potential temporary discomfort
2	Labor Influx	• Labor influx to school communities could lead to potential increase in the spread of STIs/STDs, HIV/AIDs due to workers on site, • Labor influx could increase SEA/SH especially for Girls exposed to the workers • Sexual relations between workers and minors could result in unwanted pregnancies • Labor influx could also encourage presence of sex workers in the school communities • Labor influx could lead to competition for resources like water, health facilities, electricity in the school communities
3	Potential child labor and forced labor	• Under-aged children may be used for construction works as cheap labor • There could also be incidences of forced labor or poor terms and conditions of employment • Grievances could arise from unfair treatment of workers
4	Security challenges for workers and equipment	The northern region is very susceptible to violence and conflicts and civil works are likely to worsen this situation due to the presence of workers and movement of equipment. Generally, workers may be prone to kidnapping at work sites and equipment not well secured may be vandalized or stolen away. These instances may even cause hoodlums to shift their attention to these areas especially to sites in remote areas.
5	Insecurity risks and	The project will ultimately lead to increase in girls enrolment which means more

S/N	Potential Impact	Project Activity that Triggers Impact
	SEA/SH risks during operations phase	girls will traverse to school daily and more girls will also be accommodated in hostels. This may lead to: • Exposure of girls to sexual exploitation as they traverse to school • Increased risk of kidnapping on the way to and from school • Exposure of more girls to SEA/SH risk in schools, cultists, alcohol, drugs • Sexual harassment of female employees for all categories of workers
6	Vulnerable Groups	• Vulnerable groups and Persons with Disabilities may be excluded from gaining from the project, especially if facilities are not inclusive. • In addition, internally displaced girls due to insurgency may also miss out from benefiting from the program
7	Community health and safety	• All activities during pre-construction and construction phase can cause potential health and safety hazards to students, teachers and residents who are close to the construction site. This includes potential air pollution from vehicular emissions, accidents from movement of equipment and vehicles to site, lack of road safety measures, exposure to hazardous materials and wastes • If the toilet facilities are not well maintained during the operation phase, they may become hotspots for fly infestation and other pathogens that may cause water borne diseases such as diarrhea, dysentery, and typhoid • Classrooms may be damaged in areas prone to erosion, floods and landslides which could become a disaster • Involvement of students with workers during off-project social activities in the areas may expose the students to alcohol and drugs
8	Grievances	• Social conflicts and grievances may arise from disagreements between parties relating to inadequate social compensations or unsatisfactory practices for activity disruptions and inconveniences to persons relating to perimeter fencing, staging or construction areas.
9	General Project Sustainability	• There could be general failure to ensure community buy-in and participation during the operations phase which could hamper project sustainability

5.4 Potential Impacts Significance Ratings

Based on the identified impacts listed in Tables 5.7 and 5.8, the detailed analysis of each of the potential impact areas/risks was carried out to ascertain each impact significance rating. Table 5.9 summarizes how Tables 5.1 – 5.4 are applied to each of the identified risk or impact areas in the evaluation. In Table 5.9, column C2 identifies whether the row item is an Environmental or Social impact as well as whether the impact occurs during the Pre-rehabilitation, Rehabilitation or Operations phases of the intervention.

Table 5.9: Impact Significance Ratings for Identified Environmental and Social Impact Areas

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C17	C18	C19	C20	C21	C22
S/N	**E&S**	**Impact Areas**	**Chance of Occurrence**				**Impact Probability**	**Impact Extent**			**Impact Intensity**			**Impact Duration**			**Impact Consequence**		**Impact Significance**	
			< 40%	**40% – 70%**	**> 70% - 90%**	**> 90%**		**Localized**	**Water shed**	**Regional**	**Low**	**Medium**	**High**	**Short-term**	**Mid-term**	**Long-term**				
			Improbable (1)	**Possible (2)**	**Probable (3)**	**Definite (4)**		**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**Score**	**Rating**	**Score**	**Rating**
1	EPR	**Loss of vegetation**		2			POSSIBLE	1				2				3	6	MEDIUM	8	LOW
2	ER	**Soil erosion and flooding vulnerability**		2			POSSIBLE	1				2				3	6	MEDIUM	8	LOW
3	ER	**Air quality (Pollution and Contamination)**				4	DEFINITE		2				3		2		7	HIGH	11	HIGH
4	ER	**Noise and vibrations**				4	DEFINITE	1				2			2		5	LOW	9	MEDIUM
5	ER	**Sanitation and waste management**				4	DEFINITE		2				4			3	9	VERY HIGH	13	VERY HIGH
6	ER	**Off-site Resources (backfills)**		2			POSSIBLE		2			2			2		6	MEDIUM	8	LOW
7	ER	**Resource utilization efficiency**		2			POSSIBLE	1				2			2		5	LOW	7	VERY LOW
8	ER	**Traffic and transportation**			3		PROBABLE			3		2		1			6	MEDIUM	9	MEDIUM
9	SPR	**Disruption of peoples' activities**				4	DEFINITE	1					3		2		6	MEDIUM	10	HIGH
10	SR	**Labor Influx**				4	DEFINITE		2				3			3	8	VERY HIGH	12	VERY HIGH
11	SR	**Increase in social grievances**				4	DEFINITE			3			3			3	9	VERY HIGH	13	VERY HIGH
12	SR	**Potential child and forced labor**				4	DEFINITE	1				2			2		5	LOW	9	MEDIUM
13	SR	Security challenges for workers and equipment				4	DEFINITE			3			3			3	9	VERY HIGH	13	VERY HIGH

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C17	C18	C19	C20	C21	C22
S/N	**E&S**	**Impact Areas**	**Chance of Occurrence**				**Impact Probability**	**Impact Extent**			**Impact Intensity**			**Impact Duration**			**Impact Consequence**		**Impact Significance**	
			< 40%	**40% – 70%**	**> 70% - 90%**	**> 90%**		**Localized**	**Water shed**	**Regional**	**Low**	**Medium**	**High**	**Short-term**	**Mid-term**	**Long-term**				
			Improbable (1)	**Possible (2)**	**Probable (3)**	**Definite (4)**		**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**Score**	**Rating**	**Score**	**Rating**
14	SR	Occupational Health and safety				4	DEFINITE		2			2		1			5	LOW	9	MEDIUM
15	SR	Community Health and safety				4	DEFINITE		2			2			2		6	MEDIUM	10	HIGH
16	SR	Insecurity risk to others				4	DEFINITE			3			3			3	9	VERY HIGH	13	VERY HIGH
17	SR	Increase in vulnerable groups				4	DEFINITE		2				3			3	8	VERY HIGH	12	VERY HIGH
18	SR	Access restrictions to social services		2			POSSIBLE	1				2			2		5	LOW	7	VERY LOW
19	SR	Disruption of traffic and transportation			3		PROBABLE		2			2		1			5	LOW	8	LOW
20	SR	Land use restrictions		2			POSSIBLE	1				2			2		5	LOW	7	VERY LOW
21	SO	GBV/SH risks (operations)				4	DEFINITE			3			3			3	9	VERY HIGH	13	VERY HIGH
22	SO	Potential constraints in project sustainability			3		PROBABLE			3			3			3	9	VERY HIGH	12	VERY HIGH

LEGENDS:

EPR = Environmental Impact during Pre-Rehabilitation Phase;
ER = Environmental Impact during Rehabilitation Phase;
EO = Environmental Impact during Operations Phase;

SPR = Social Impact during Pre-Rehabilitation Phase;
SR = Social Impact during Rehabilitation Phase;
SO = Social Impact during Operations Phase;

5.5 Significant Environmental and Social Impacts

Based on the impact significance outcome of Table 5.9, the environmental and social impact categories that will suffer medium to very high impact levels during the Pre-rehabilitation, Rehabilitation and Post-rehabilitation Phases of the project implementation are summarized in Tables 5.10. The other environmental and social impact categories that will suffer low to insignificant impact levels are considered negligible. The applicable mitigation strategies to the identified risks associated with the AGILE schools project are summarized in Table 5.11.

Table 5.10: Significant Environmental and Social Impacts

S/N	E&S	PROJECT PHASE	IMPACT AREAS	SIGNIFICANCE RATING
1	ENVIRONMENTAL	REHABILITATION	AIR POLLUTION AND CONTAMINATION	HIGH
2	ENVIRONMENTAL	REHABILITATION	NOISE AND VIBRATIONS	MEDIUM
3	ENVIRONMENTAL	REHABILITATION	SANITATION AND WASTE MANAGEMENT	VERY HIGH
4	ENVIRONMENTAL	REHABILITATION	TRAFFIC AND TRANSPORTATION	MEDIUM
5	SOCIAL	PRE-REHABILITATION	DISRUPTION OF PEOPLES' ACTIVITIES	HIGH
6	SOCIAL	REHABILITATION	LABOR INFLUX	VERY HIGH
7	SOCIAL	REHABILITATION	INCREASE IN SOCIAL GRIEVANCES	VERY HIGH
8	SOCIAL	REHABILITATION	POTENTIAL CHILD AND FORCED LABOR	MEDIUM
9	SOCIAL	REHABILITATION	SECURITY CHALLENGES FOR WORKERS AND EQUIPMENT	VERY HIGH
10	SOCIAL	REHABILITATION	OCCUPATIONAL HEALTH AND SAFETY	MEDIUM
11	SOCIAL	REHABILITATION	COMMUNITY HEALTH AND SAFETY	HIGH
12	SOCIAL	REHABILITATION	INSECURITY RISK TO OTHERS	VERY HIGH
13	SOCIAL	REHABILITATION	INCREASE IN VULNERABLE GROUPS	VERY HIGH
14	SOCIAL	OPERATIONS	GBV/SH RISKS (OPERATIONS)	VERY HIGH
15	SOCIAL	OPERATIONS	POTENTIAL CONSTRAINTS IN PROJECT SUSTAINABILITY	VERY HIGH

The proposed mitigation strategies to the identified significant risks associated with the AGILE schools project are summarized in Table 5.11.

Table 5.11: Environmental and Social Impacts and Mitigation Measures

Impact Area	Impact Rating Prior to Mitigation	Proposed Mitigation Measures	Impact Rating After Mitigation
ENVIRONMENTAL IMPACTS			
REHABILITATION PHASE			
Pollution and Contamination: • Increase in fugitive dusts and vehicular emissions and machines during civil works will cause air pollution in the project area and surrounding environment. However, this will be short term, moderate and localized • Soil/gravel brought for any filling/beautification purposes and soil removed during site preparation if not properly stored and is exposed to the natural elements can be washed off to nearby streams, rivers and low-lying areas causing sedimentation and contamination. • Improper placements of toilets facilities and boreholes can cause contamination to groundwater and surface water sources	**HIGH**	• Stockpiles of sand, clay and other materials should be properly covered with tarpaulin -kind of materials • Cement should be stored in a safe ventilated room. • Vehicles and machinery should be serviced regularly to reduce emissions • SBMCs to implement air quality management plans (including waste management plans) prior to commencement of and during construction works. • Toilets will be placed at a minimum required distance from water facilities in accordance with WHO guidelines	**Low**
Noise and Vibrations Nuisance (noise, vibrations, and emissions) due to movement from heavy duty equipment, vehicles and power generating plants affecting site workers, school staff and students.	**MEDIUM**	• Maintain all work equipment at optimal operating condition • Minimize venting from vehicle and equipment through the use of impingement scrubbers to control particulate matter emissions • Use equipment with low noise and vibration capacity • Ensure equipment are properly maintained • Padding of machineries where possible to reduce noise impact • Machinery, vehicles and equipment that generate high levels of noise are used on a phase basis to reduce the overall impact.	**Low**
Sanitation and Waste Management Problems • Construction and rehabilitation of school classrooms / blocks will imply the generation of debris of various forms such roof tiles, old irons sheets wastes, bricks, stones, cements which will need to be removed and disposed or reused. Waste generation from workers including human faeces which can become breeding sites for water-borne diseases and their leachate pollute surface water sources. • Presently most schools litter their wastes and cannot properly manage them. Civil works will lead to increase in waste burden on the school management. • Increase in solid waste and sanitation waste during operation phase could lead to diseases and pollution	**VERY HIGH**	• SBMCs will implement waste management plans, etc. prior to commencement of construction works • Provision of potable water, toilets and wash water to the workers • Waste recycling will be encouraged in these schools and school management should partner with associations that provide recycling functions with the help pf the SPIU. • The project should support the capacity of the sanitation departments at the LGEAs in the participating locations for management of school sanitation wastes • Wealth to Waste management can be tied to the planned entrepreneurship programs	**Low**

Impact Area	Impact Rating Prior to Mitigation	Proposed Mitigation Measures	Impact Rating After Mitigation
Disruption of traffic and public utilities deliveries • Some schools in built up areas may cause increase in traffic during construction and operation phases • Conveyance of materials may cause vehicular traffic and spills on roadways • Site preparation may disrupt the supply of public utilities such as water and electricity during excavation and terracing, electrical cables and water pipe passing through the site may be unearthed, and this may disrupt the supply of these services. • Potential accidents from movement of equipment and vehicles to site due to lack of road safety measures	**MEDIUM**	• Traffic management plan has been prepared as part of this ESMP • The SBMCs should liaise with the State Traffic Management Agencies in management of traffic during construction, while school management should also liaise with these agencies during operations. • The SPIU should liaise with public utility providers including Ministries of Work/LGA to map locations of public utilities prior to site clearance	**Low**
SOCIAL IMPACTS			
PRE-REHABILITATION PHASE			
Disruption of People's Activities, Restriction of Access • Peoples access may also be blocked as a result of the project (easement) • Inadequate compensation practices for disruptions and disturbance, staging areas could lead to conflicts **Disruption of Routine School Activities** The noise level will disturb the students and interrupt their classes and disturb also their concentration levels. It is also likely to cause hearing impairment to workers and nearby residents.	**HIGH**	Transactional agreement for inconvenience allowances should be properly documented and adjudged as fair (by the SPIU social safeguards officers). • Construction activities can be carried out during the periods when schools are not in active session, or after school hours Noise mufflers should be used on noisy equipment	**Low**
REHABILITATION PHASE			
Labor Influx • The project may face influx of labor to local communities especially where skilled laborers are not available in some project sites. This could lead to Increase in potential spread of STIs/STDs, HIV/AIDs due to workers on site, increase in GBV/SEA especially for Girls been exposed to contractors, sexual relations between workers and minors and resulting pregnancies, encourage presence of sex workers in the project communities • This could also lead to competition for resources like water, health facilities, electricity in the project locations	**VERY HIGH**	• Use of local labor should be encouraged in the project • All workers must sign Code of Conducts and be trained on the implications • Workers should be kept away from social sensitivities close to the school • Sensitization of students and workers on Code of Conduct, prevention of STIs/STDs/GBV/SEA risks by health workers, Women Affairs, relevant NGOs • Stakeholders should be encouraged to report inadequate practices through the GRM, and these reports should be forwarded to the appropriate referral service in line with the project GBV action plan. Implementations of Labour Management plan	**Low**

Impact Area	Impact Rating Prior to Mitigation	Proposed Mitigation Measures	Impact Rating After Mitigation
Grievances • Social conflict and grievance may arise from various aspects of the project or other project activities • Unacceptability of the project due to cultural/religious beliefs or lack of trust for Government interventions	**HIGH**	• The project should comply with provisions of the grievance redress manual (GRM) which is also summarized in chapter 6. • Adequate consultation, advocacy and sensitization of all interest groups should be carried out throughout the project lifecycle in line with the Stakeholder Engagement Plan (SEP)	**Low**
Potential Child Labor and Forced Labor • Under-aged children may be used by contractors as cheap labor • There could also be incidences of forced labor or poor terms and conditions of employment • Grievances could also ensue from unfair treatment of workers	**MEDIUM**	• The SPIU should monitor compliance with the project Labor Management Procedures • SBMCs should be sensitized on the prohibition of use of children as labor and the associated sanctions • Workers Grievance Redress Mechanism (GRM) should be implemented as provided in the ESMP and all workers should be informed of the process	**Low**
Security challenges for workers and Equipment The northern region is very susceptible to violence and conflicts and civil works are likely to worsen this situation due to the presence of workers, school staff, students and equipment. Generally, workers may be prone to kidnapping at work sites and equipment not well secured may be vandalized or stolen away. The prevailing situation may even cause hoodlums to shift their attention to these areas especially to sites in remote areas.	**VERY HIGH**	• The SPIU and SBMCs should collaborate to develop security management plans and liaise with police/ Military where required. • Community leaders should also be used to sensitize their youths to desist from such nefarious activities	**Low**
Occupational Health and Safety • Site workers will be exposed to risks of accidental collisions with moving vehicles, strains, and ergonomics from repeated movements or from lifting and heaving of heavy objects, slips and falls. Accidental cuts from tools and machines are also safety risks. • Dust and particulate emissions and welding works from rehabilitation site may cause respiratory and eye impairment health concerns for workers and the public • Movement of trucks carrying sand and materials, lack of road safety measures may also cause risk of accident, injury and death • Some hazardous materials maybe used during this project and contact with such may pose skin problems or otherwise.	**MEDIUM**	• SBMCs will implement Occupational Health and Safety Plans in line with the ESHG and this site specific ESMP • The project workers and SBMCs will abide by the Labor Management Procedures provided for this project • SBMCs' implementation of waste management plans will include handling and management of hazardous waste • Provision and use Personnel Protective Equipment (PPE) by workers will be enforced • First aid will be provided at construction site, staging area and mobile • Provision of potable water, toilets and wash water to the workers • Drivers will undergo road safety training for the safety of personnel.	**Low**
Community Health and Safety • All activities during pre-rehabilitation and construction phase can cause potential safety hazards to students, teachers and residents who are close to the construction site. This includes potential accidents from movement of equipment and vehicles to site, lack of road safety measures, exposure to hazardous materials and waste • If the toilet facilities are not well maintained during the operation phase, they may become hotspots for fly infestation and other	**HIGH**	• SBMCs will develop and implement drivers training plan in conjunction with Road Safety/ State Traffic Management Agencies • Caution signs and flagmen will be used at strategic locations to provide warning and guidance especially for children crossing • Construction activities to be carried out during holidays preferably, or otherwise site managers and HSE officer to ensure children stay off equipment areas, staging areas and construction sites. • Stockpiles of sand, clay and other materials should be properly covered	**Low**

Impact Area	Impact Rating Prior to Mitigation	Proposed Mitigation Measures	Impact Rating After Mitigation
pathogens that may cause water borne diseases such as diarrhea, dysentery and typhoid • Classrooms may be expanded in areas prone to erosion and landslides which could become a disaster Exposure of students to alcohol and drugs as a result of project activities in the area		with trampoline-kind of materials • Cements should be stored in a safe ventilated room • Recommended toilets are ECO toilets, VIP latrines which are easier to manage. Maintenance and sustainability plans for sanitation facilities should be developed by the SPIU prior to implementation • Intervention designs should take into consideration erosion prone areas to avoid future disasters. • SBMCs should have responsibility for reporting and investigating incidents to the SPIU, which should also be reported to the World Bank	
Vulnerable Groups • Vulnerable Groups and people with disabilities may be disadvantaged from gaining from the project, especially if facilities are disability-unfriendly. • In addition, internally displaced girls due to insurgency may also miss out from benefiting from the program	**VERY HIGH**	• Building designs should be disable-friendly and deliberate attempts at supporting vulnerable groups should be made by the project. • Interventions should consider areas in proximity to IDPs so displaced girls can also benefit from the program	**Low**
OPERATIONS (POST-REHABILITATION PHASE)			
Insecurity Risks and GBV Risks The project will ultimately lead to increase in girls enrolment which means more girls will traverse to school daily and more girls will also be accommodated in hostels, this may lead to: • Exposure of girls to sexual exploitation as they traverse to school • Increased risk of kidnapping on the way and in school • Exposure of more girls to GBV in schools, cultists, alcohol, drugs • Sexual harassment of female employees for all categories of workers • If the Government cannot sustain the stipends for Girls after the project tenure this could leave them in a worse off state than before the project	**VERY HIGH**	• Girls should be formed into groups in commuting to and fro school • All participating schools should be securely fenced round with limited access and on-site trained security personnel • Engage the services of monitoring groups to curb such risks including neighborhood inspectors, mother's association, SBMCs, PTA, Community leaders, Religious leaders etc. Capacities should also be strengthened by provision of incentives and monitoring tools. • The GBV action plan as part of the project GBV assessment should be enforced • Stakeholders should be encouraged to report inadequate practices through the GBV-GRM, and these reports should be forwarded to the adequate referral service in line with the project GBV action plan. • CCTVs can also be put in schools were possible to enable the principal to monitor the students	**Low**
General Project Sustainability • The project may not be sustained during the operation phase especially with change in Government • There could be general failure to ensure community buy-in and participation in project implementation which could hamper project sustainability	**VERY HIGH**	• Sustainability plans should be developed by every state and reviewed by the World Bank. • Skills acquisition can be programmed for Fridays and weekends where possible to allow for adequate learning hours • There should be adequate consultation with community and school stakeholders to ensure their buy-in and participation.	**Low**

5.6 Potential Security and Safety Risks

Implementation of the Kebbi AGILE project will result in an influx of persons seeking employment to the project communities. Different types of persons, including criminals of sorts, may be expected to find their ways into the project communities within this time. Such movement of persons will increase potential for criminal activities within project communities. An increased pressure in the demand for police services and other security issues in the project area. Additionally, the cumulative unemployment levels in the school communities resulting from the influx of employment seeking persons to the area will pose its own security risks for both the communities and the security institutions.

The northwest region of Nigeria including Kebbi State is currently subject to kidnapping and terrorism threats. The AGILE Schools' project is consequently subject to these threats, against which appropriate security measures are to be identified and deployed. More specifically, there are reasonable concerns on the security risk and safety situation within some LGAs of the State where heightened fears of lurking terrorists exist.

Kidnapping has become a common occurrence across many States of Nigeria and may occur as a result of political or socioeconomic concerns on the part of the perpetrators. Terrorism is potentially an issue as well; not only is there a threat of politically-motivated attacks; there is also the risk of terrorist pre-disposed destructive acts. The general principles of risk mitigation were adopted to provide mitigations for the identified AGILE schools' project risks. Generally, the mitigation measures involve the application of people, processes or technology to the risk to reduce the impact or the likelihood (or, ideally, both) of the risk, in order to bring its rating down to below the acceptable risk threshold.

Table 5.12: Mitigation Measures for Assessed Security Risks

S/N	Risk	Assessed Risk Level	Mitigation Measures	Responsible Party
1	Breaches of security into the AGILE schools	HIGH	• Restriction of access to project facilities/office buildings; • Code of conduct for all workers and security personnel; • Surveillance of persons on site • Presence of armed security guards on site; • Provision for controlled and monitored site evacuation; • Liaison with police, local authorities and other stakeholders.	SPIU-ESO; Community Leaders; Site Committee; Contractor
2	Kidnapping of citizens and project workers for ransom purposes	HIGH	• Restriction of access to site • Surveillance of persons on site • Presence of armed security guards on site • Citizen awareness on security • Security patrol vehicles • Community vigilante services • Liaison with police, local authorities and other stakeholders;	SPIU-ESO; Community Leaders; Site Committee; Contractor

Citizen Awareness on Security/Safety Measures

Sustained community awareness outreaches focusing on security/safety for the project communities. Involvement of the community vigilante group in a bid to bring the security matters closest to the citizens. The community vigilante group to provide additional presence of security personnel at the project schools.

CHAPTER SIX: GRIEVANCE REDRESS MECHANISM

6.1 Grievance Mechanism and Procedures

It is for the benefit of the Ministry of Education, Kebbi State Government, AGILE Schools' Communities and the Schools to devise a mechanism through which complaints and disagreements arising from the implementation of the schools' project can be resolved. A Grievance Redress Mechanism (GRM) is necessary in order to prevent and address community issues, reduce exposure to risks and also provide the platform for the optimization of environmental and social benefits of the project. The Federal Ministry of Education has already developed a GRM Manual applicable to the AGILE School project. The grievance procedures consist of the steps that ensure proper documentation of all grievances, a discussion mechanism for hearing and resolving the grievances, and provisions for appeals in the event of dissatisfaction by any affected persons.

The AGILE GRM Manual is intended to guide project beneficiaries, interested parties and project implementation units on how to effectively handle grievances under the AGILE project. The issues considered include: the project's benefit(s) to the stakeholders; potential changes to the routine activities of the stakeholders that might occur due to the project; and the project activities that might cause damage or conflict for the stakeholders. Any issues that may lead to grievances will be addressed through documented mechanism that takes into consideration the cultural and traditional rights of people avoiding as much as possible potential for legal redress mechanism. The specific objective of the mechanism is to facilitate the process and ensure effective and timely grievance resolution thereby reducing the risk of escalation of conflicts and avoiding unnecessary delays. The grievances and remedial actions shall be carefully documented to enhance accountability and reduce liability.

The community traditional land dispute resolution structure currently constitutes the nucleus of traditional resolution of disputes among community members on matters of land. It is therefore wise and advisable that this structure be necessarily retained in the event of any grievance or dispute relating to the ESMP implementation. Inputs from the leadership may also be limited to providing recommendations as to how a specific dispute is to be addressed. Aside from the traditional structure, Figure 6-1 provides a secondary mechanism for grievance resolution using the Grievance Redress Committee (GRC). The GRM will also help to achieve the following:

- To serve as the open channel for effective communication together with the identification of emerging environmental and social concerns due to the project;
- To prevent and mitigate any adverse environmental and social impacts as a result of any phase of the project;
- Promote harmonious relationship and respect among stakeholders; and,
- Ensure community acceptance of the project.

6.2 Formation of Grievance Redress Committee (GRC)

The objective of the GRC is to respond to the complaints relating to the project in a timely and transparent manner and to provide a mechanism to mediate conflict and cut down on lengthy litigation, which often delays projects. It will also provide people who might have objections or concerns about their assistance a public forum to raise their objections and through conflict resolution, address these issues adequately. The committee will provide ample opportunity to redress complaints informally, in addition to the existing formal administrative and legal procedures.

The major grievances that might require mitigation include:

- PAPs not listed;
- Use of local workforce;
- GBV/SEA Issues
- Losses not identified correctly;
- Inadequate assistance;

- Dispute about ownership;
- Delay in disbursement of assistance and improper distribution of assistance.

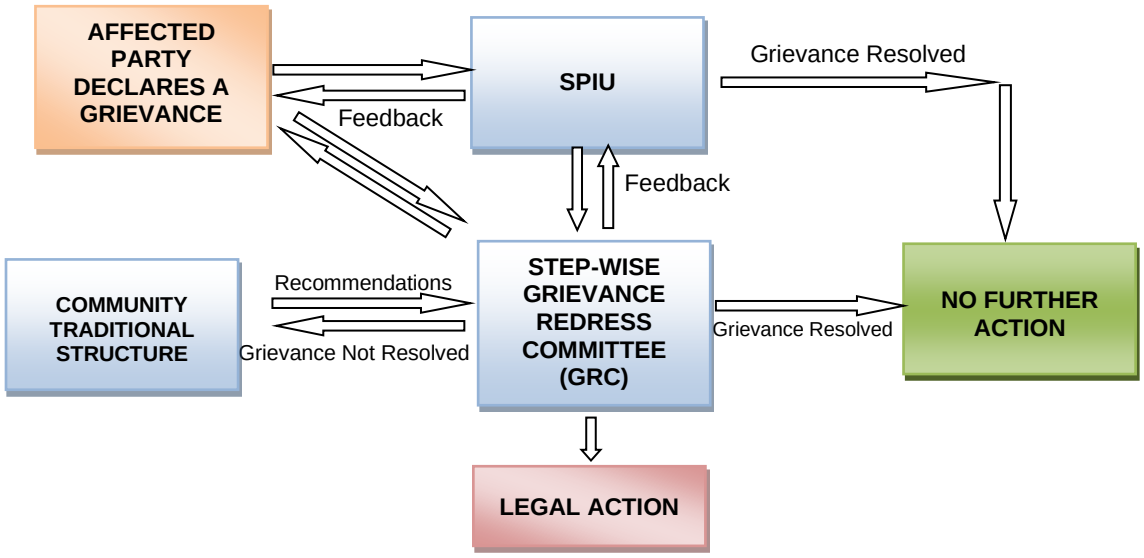

Fig. 6.1: Grievance Redress Procedure

The project will utilize various channels to receive complaints/grievances from project affected persons (PAPs) and stakeholders. The AGILE SPIU shall establish necessary levels of Grievance Redress Committees (GRC) overseen by AGILE for the Schools project to address complaints. The GRC will be set up at the project/community level, the SPIU level and NPCU level. Members of the school communities and stakeholders would be sensitized on the GRM use, process and procedure. Each GRC shall provide specific necessary support and resolution of the potential PAP related grievances in accordance with provisions of this ESMP and the GRM Manual. The Committees will be coordinated as provided for at each level with the compositions of each GRC level comprising as follows:

First Level: Community Grievance Redress Committee (COM-GRC)
The first level of the GRC in the grievance process shall be the community-based GRC (Community GRC) which shall be made up of the following:

- A representative of the community leadership
- School Principal
- PTA Chairman of the school
- Guidance Counsellor of the school
- Representative from School-Based Management Committee (SBMC)
- Women representative
- Student representative
- LGEA officers responsible for schools monitoring and inspection
- Representative of Supervision Consultant

This committee shall be the place of first recourse for anyone who has a grievance matter related to the AGILE Schools. The timeline for addressing/resolving the issues raised by a complainant by this GRC shall be at most 15 days from the last day allowable for grievance and complaints submission following the end of ESMP disclosure.

Second Level: SPIU Grievance Redress Committee (SPIU-GRC)
Where the COM-GRC is unable to resolve the matter, the Complainant may seek redress from the State Project Implementation Unit – Grievance Redress Committee (SPIU-GRC). This Committee shall be made up of the following:

- Project Coordinator to serve as the Chairman;

- GRM Officer to serve as the Secretary
- Social Development Officer
- Environmental Officer
- Communication Officer
- GBV Officer

This committee shall be the second place of recourse for anyone who has a grievance matter related to the project. The timeline for addressing/resolution of the issues raised by a complainant by this SPIU-GRC shall be at most 15 days from the last day allowable for grievance and complaints submission following the inability of the COM-GRC to resolve the matter.

Third Level: National Grievance Redress Committee (NPCU-GRC)
This GRC is formed at the National office level and can receive complaints from the second level GRC or directly from complainants. Where the SPIU-GRC is unable to resolve the matter at this level, the Complainant may seek redress from the National Committee (NPCU-GRC). This Committee will be Chaired by the National Coordinator. The composition of this Committee shall be as follows:

- National Project Coordinator of the NPCU as the Chairman
- GRM Officer to serve as the Secretary
- Social Development Officer
- Environmental Officer
- Communication Officer
- GBV Officer

The timeline for addressing/resolving issues raised by a complainant by this NPCU-GRC shall be at most 15 days from the last day allowable for grievance and complaints submission following the inability of the SPIU-GRC to resolve the matter.

Fourth Level: The Courts
Where the Complainant is not satisfied with the decisions of the NPCU-GRC, he/she may seek redress in the law Courts. The household based survey conducted for this ESMP however, showed that all respondents in the survey (100%) prefer and find it most convenient to have conflicts resolved through informal traditional modes of conflict resolution which currently exist within the communities. The court system, although seen as an alternative means to resolve issues, no respondent favored it as their means of resolving conflicts.

All grievances will first of all be addressed at the First Level. It will only move on to Second Level if the first level agreement was not accepted by the party involved and then to third and forth under similar situations. If negotiated settlement of grievances cannot be achieved through the normal procedural steps outlined in the grievance mechanism, the complainant has the right to approach the courts. The GRM procedure will be included in the community engagement plan to ensure that all PAPs know and understand the process and are able to access it whenever they feel the need. The effectiveness of the GRM will be one of the crucial monitoring indicators.

6.3 Training of the Grievance Redress Committees

The various Grievance Redress Committees shall be provided with training to enable them adequately perform their responsibilities. The training shall be organized by the SPIU who shall provide logistics such as writing materials, per diem, transportation, training venue and time.

The details of the training including time and date shall be adequately communicated to all members for their attendance. At the end of the training, members of the intervention community and stakeholders shall be adequately sensitized on the procedure for submission of complaints and grievances.

CHAPTER SEVEN: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

This chapter discusses the Environmental and Social Management and Monitoring Plan (ESMMP) for the Kebbi AGILE project. It is necessary to achieve the health, safety, and environmental regulatory compliance objectives of the project. The environmental and social management systems/procedures are developed to establish sound basis for mitigation, monitoring and management at the project level. The E&S requirements are integrated into existing procedures to ensure that project bottlenecks are not created. To this end, the Plan has focused on specific steps to be taken with respect to implementation of the mitigation measures and monitoring activities for the environmental and social impacts identified in Chapter 5.

The plan highlights the specific mitigation measures that would be taken and the entities responsible for carrying them out. The ESMP also contains a monitoring plan indicating the responsible parties, the frequency of monitoring, key indicators and the reporting format, and provides for necessary capacity building to facilitate the ESMP implementation. Cost estimates for implementation of the various mitigation measures, monitoring plan and capacity building are also given. The projected implementation budget will enable the ESMP to be an integral part of financing for the rehabilitation and operational works in the project.

7.1 Discussion on the Mitigation Measures for Implementation

Based on the environmental and social impact categories identified in Chapter 5 (see Section 5.5), the ESMP implementation for the AGILE Schools will address measures that cover the following significant impacts during the pre-rehabilitation, rehabilitation and the post rehabilitation (operation) phases of the project implementation:

Social Impacts:

- Disruption of routine school activities (temporary) and associated disturbances
- Labor influx
- Potential child labor and forced labor
- Security challenges for workers and equipment
- Occupational health and safety
- Community health and safety
- Vulnerable groups
- Potential grievance situations
- Insecurity and GBV risks during the operational phase
- Potential constraints in project sustainability.

The mitigation measures proposed for these social impacts are addressed in Table 5.11.

Environmental Impacts:

- Air pollution and dust
- Noise and vibration
- Sanitation and soil management
- Traffic and Transportation

The mitigation measures proposed for these environmental impacts are also addressed in Table 5.11.

7.2 Environmental and Social Impact Mitigation Measures

These mitigation measures will be implemented by SBMCs which shall be principally responsible through the course of the project and shall be required to implement all the necessary site-specific management plans associated with mitigation of the impact areas. The monitoring aspects of the project implementation shall be carried out by other identified Agencies and organizations including the SPIU-ESO, SME., Community leaders, NGOs/CBOs, etc in accordance with the provisions and requirements of this ESMP.

7.3 Institutional Responsibilities and Accountabilities

The structure and reporting arrangements for the implementation of the ESMP are integrated into the overall project monitoring and evaluation program for the AGILE rehabilitation project. The key actors as well as their roles and responsibilities in the ESMP implementation are as shown in Table 7.1. The matrix includes listing of all entities (public and private) responsible for designing and implementing the various aspects of the plan. The need for additional capacity building for the involved institutions and actors, including long-term consultation and training program for the implementing agency (SBMC) are also built into the structure.

Table 7.1: Institutional Responsibilities

Institutional Category	Roles & Responsibilities
SPIU (Safeguard Officers, Component 1.2 Lead, M&E)	• Ensure that bidding and contract documents include the ESMP; • Review and approve all required management plans necessary for the pre-rehabilitation, rehabilitation and post rehabilitation phases of the project; • Undertake monitoring of the implementation of the ESMP (mitigation and monitoring measures) with support from the School Committee, SBMC and other stakeholders. • Report to WB and NPCU on all aspects of social and environmental management and monitoring at required frequency; • Submit monthly and quarterly or semi-annual monitoring reports on ESMP implementation to NPCU and WB; • Participate in grievance redress mechanism, as described in the this document, to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the sub-project's environmental performance • Based on the results of the ESMP monitoring, identify environmental corrective actions and prepare a corrective action plan • Ensure the smooth and efficient implementation of the prerehabilitation phase of project's various programmes; • Have custody of a copy of the ESMP and disseminate information contained therein accordingly.
	• Cooperate with the Steering/Technical Committees to provide guidance to the technical aspects of all project activities; • Provide oversight of contractors work plan and E&S implementation schedule; • Conduct weekly or routine site inspection and monitor implementation of E&S safeguards; • Receive and review reports from SBMC; • Prepare and submit weekly/monthly and subsequent quarterly and annual reports to the SPIU Project Coordinator, NPCU and the WB.
	• Ensure proper closures of all project-related temporary facilities in the schools; • Ensure that the terms of Agreement between SBMC and the community and land owners are fulfilled.
SME	The State Ministry of Education (SME) is the agency responsible for implementation of AGILE project in Kebbi State in close coordination with the relevant parastatals (e.g., SUBEB, LGEAs, and federal agencies) supported by the SPIU.
Kebbi State Ministry of Environment (SMEnv)	• Ensure adherence to the ESMP and applicable standards, environmental and social liability investigations, Monitoring and evaluation process and criteria • Ensure that SPIU complies with KBSG environmental policies and regulations. • Ensure that the bidding and contract documents include the ESMP; • Ensure that SPIU submits semi-annual monitoring reports on the ESMP implementation to WB and NPCU.
NPCU	• Project assessment and monitoring of the ESMP implementation and the rehabilitation activities. • Ensure that the SPIU retain dedicated Technical Support for the project duration including safeguard specialists to oversee ESMP implementation. • Ensure that SPIU monitor environmental protection and mitigation measures in the ESMP and those activities that are embodied in the detailed designs; • Ensure that SPIU establishes and implements an environmental grievance redress mechanism, as described in the ESMP, to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the project's environmental performance

Institutional Category	Roles & Responsibilities
World Bank	• Assessment of specific and general project implementation; • Recommend additional measures for strengthening the management framework and implementation performance.
SBMC (Site Manager, Component 1.2 Lead/ Supervisors)	• Implement all the provisions of the ESMP in coordination with the SPIU and other relevant authorities • Develop a work plan which incorporates schedule for E&S safeguards implementation; Submit the work plan and schedule of E&S safeguard implementation to the SPIU; • Train/create awareness of all personnel/workers on relevant E&S safeguard measures and their obligations; • Ensure land disturbance activities are conducted in accordance with relevant legislation and the ESMP; • Communicate content of ESMP to all employees and SBMC agents; • Provide oversight function during mobilization to ensure adherence to good practice and the ESMP
	Implement all E&S safeguards and other mitigation measures as planned; Submit monthly and quarterly implementation reports on E&S safeguards to SPIU; Comply with BEME specification in procurement of material and rehabilitation, and adherence to the ESMP' Ensure land disturbance activities are conducted in accordance with relevant legislation and the ESMP; • Provide adequate onsite waste collection bins, ensure proper disposal, not to litter and not to create environmental nuisance; • Provide oversight function during rehabilitation to ensure adherence to good practice and the ESMP
Local government	• Provide support in monitoring project execution within their domains to ensure compliance with the ESMP and other relevant requirements
Local Community	• Promote environmental awareness; • Assist and liaise with other stakeholders to ensure proper siting and provision of approval for such sites; • Support with provision of necessary infrastructures and engage/encourage carrying out comprehensive and practical awareness campaign for the proposed project, amongst the various relevant grass roots interest groups.
NGOs/CBOs	• Ensure community participation by mobilizing, sensitizing community members;
General Public	• Identify issues that could derail the project; • Support project impacts mitigation measures as well as awareness campaigns.

A summary of the impact mitigations and monitoring plan for the pre-rehabilitation, rehabilitation, and post-rehabilitation phases of the project with the associated monitoring frequencies, responsible parties and projected costs are presented in Table 7.2.

Table 7.2 E&S Impact Mitigation and Monitoring Plan for Kebbi AGILE Project

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
SOCIAL								
PRE-REHABILITATION PHASE								
Preparation of staging and construction areas.	Disruption of activities and inconveniences to persons (temporary); Potential social conflicts and grievances	Create awareness among the school communities, and sensitize the people to all project activities Rehabilitation activities can be carried out during the holiday periods, or after school hours	SBMC	To be included as part of awarenes s and sensitizati on costs of SBMC Budget	Level of awareness and understanding of community members; No of community members that attend trainings; No of women gainfully employed by project; No of other businesses induced by project Questionnaires, direct observations and interviews.	Weekly Continuous Quarterly Continuous Quarterly; Six months intervals	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	N150,000.00
Mobilization of workers to site	Labor influx into school communities. Increase in potential spread of STIs/STDs, HIV/AIDs Potential increase in GBV/SEA	Encourage use of local labor in the project All workers must sign Code of Conducts and be trained on the implications Workers should be discouraged away from social sensitivities with students Sensitization of workers on	SBMC	To be included as part of the project overall Budget	Number of workers from within and outside the school communities Evidence of signed Code of Conducts; Report on training and sensitization; Zero incidence of	Monthly At start of employment Monthly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	N250,000.00

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
	Pregnancies from inappropriate sexual relations between site workers and minors Potential presence of sex workers in the local communities Competition for resources like water, health facilities, electricity in the project locations	Code of Conduct, Prevention of STIs/ STDs/ GBV/ SEA risks by health workers, Women Affairs, relevant NGOs Report inappropriate practices through the GRM, and forward reports to appropriate GBV referral services. Implement effective GRM accessible to community members. Workers Code of Conduct should be translated in local language and included in cultural sensitization training for workers Sanctions for workers involved in criminal behaviors and substance abuse.			report of misconduct No. of sensitization workshops held for workers on cultural issues No. of reported GBV cases No. of grievances recorded	Weekly Quarterly Weekly Weekly		
	SEA/SH risk due to labor influx	Code of Conduct signing and training on its content to all workers Have GRM in place and people sensitized on its use The Project already has a GBV referral directory, so ensure people are made aware of it to referral survivors to SEA/SH risks	SME & SBMC	To be included as part of the project overall Budget	No. of GBV/SEA awareness workshops held; Level of GBV/SEA awareness of workers & others; No. of reported GBV cases No. of peer educators' training	Monthly Monthly Weekly Monthly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	N250,000.00/
REHABILITATION PHASE								

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
All civil and rehabilitation works	Potential Child Labor and Forced Labor Grievances resulting from unfair treatment of workers	Monitor compliance with the project Labor Management Plan Code of Conduct on prohibition of use of children as labor and associated sanctions No hiring of children for menial activities no matter the situation No one should be forced to work Ensure GRM is in place at the sites and also for workers	SME & SBMC	To be included in the overall project Budget	Presence of child labor Cases of public complaints	Weekly Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	N100,000.00/
	Poor terms and conditions of employment	Provide clean water always Provide training to workers on OHS Provide conducive work environment Implement Workers GRM and ensure all workers are informed of the process	SME & SBMC	To be included in the overall project Budget	Cases of complaints from workers based on welfare conditions	Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	N150,000.00/
	Insecurity at school sites	SBMC to appoint security personnel operating 24/7 a week Body-search workers to avoid getting weapons on site and to ensure nothing is stolen Ensure that only authorized personnel get into site Security alarms should be installed in appropriate areas of	SME & SBMC	To be included in the overall project Budget	Cases of insecurity complaints	Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	N150,000.00/

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
		the school						
	Possible social conflicts between workers and students or community members	Implement GRM throughout civil and rehabilitation works Community members should be given priority during workforce selection Prohibit all construction workers from socializing with students or residents Identify construction workers by wearing uniforms and name tags	SME & SBMC	To be included as part of the project overall Budget	Cases of reported social conflicts	Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	N150,000.00/
Presence of foreign workers on site	Kidnapping of workers Equipment may be vandalized or stolen.	Use of local labor should be encouraged at all times Implement security plans and liaise with police/security agencies where required. Community leaders to sensitize their youths to desist from nefarious activities	SME & SBMC	To be included in the overall project Budget	Cases of insecurity complaints	Daily	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	N250,000.00/
Schools enrollment and operations	Disabled girls/internally displaced girls may not benefit from the project	Facilities design should take into consideration disability-friendly solutions Interventions should consider areas in proximity to IDPs so displaced girls can also benefit from the program	SME & SBMC	Part of State Education Budget	Numbers of benefiting disabled girls/ IDP girls	As Necessary	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
POST REHABILITATION (OPERATIONS)								
Continued school operations	Increased number of girls exposed to harassment, SEA/SH Exposure of girls to sexual immoralities, substance and alcohol abuse, etc in school	Mothers/female guardians should be carried along in dispensing of money to Girls to enable monitoring Project should leverage on the use of monitoring groups (formal and informal) to monitor conduct of the school girls within the localities Strengthen guidance and counselling functions and report abuse Sensitization and awareness programs on sex education Access to functional sickbays/clinics provided for girls	SME & SBMC	State Education Budget/ State Health/ Women Affairs programs	Minimal incident reports Functional guidance and counselling in schools Number of awareness campaigns in schools	Monthly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	
		Sustainability plans should be developed by Kebbi state and reviewed by the World Bank. Kebbi state needs to make deliberate efforts to increase education budgets and develop a sustainability plan to cater for all teachers being recruited and payment of incentives to girls, teachers and families						
ENVIRONMENTAL								
PRE-REHABILITATION								

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
Excavation of materials from within school premises	Noise and air pollution.	Mark out areas for clearance & where possible use manual method of vegetation clearing; Use of PPE protection Use of properly maintained vehicles and equipment. Use of water tanker for purposes of water dousing to control dust emission in large areas. Use of nose masks by all workers on site works.	SME & SBMC	To be included in the overall project Budget	Areas of stressed vegetation; Size of cleared vegetation areas No. of public complaints; Level of particulates in air Level of other air pollutants Vegetation surfaces free of dusts Ambient air monitoring using standard methods	Monthly Monthly Weekly As Necessary As Necessary Weekly Daily	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	N550,000.00/
Disposal of debris and excavated materials	Increase in waste burden for the school management Increase in inappropriate acts of burning wastes	Implement waste management plan SBMC should reuse and recycle materials Liaise with the state MDA on waste management	SME & SBMC	To be included in the overall project Budget	No. of public complaints; Level of particulates Level of air pollutants Vegetation surfaces free of dusts Ambient air monitoring using standard methods	Daily Continuous as necessary Continuous as necessary Two month intervals or as required Two month intervals or as required	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	550,000.00

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
Traffic and transportation of solid waste materials	Water contamination, accidental spillages and water sedimentation	Erection of speed control signals and ramps mounted around the schools areas Implement emergency response plan for spillages Cover hauling trucks carrying soil and other aggregates;	SME & SBMC	To be included in the overall project Budget	Cases of non-compliance Cases of complaints or disruption of facility Cases of complaints from students or PAPs	Weekly Weekly Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	
	Dust emission, traffic congestion, accidents and incidents along the vehicular routes	Enforce speed limit and train drivers regularly Avoid extraction and excavation during extreme dry season Cover stockpiles and install pollution control devices Use of PPE	SME & SBMC	To be included in the overall project Budget	Cases of non-compliance Cases of complaints or disruption of facility Cases of complaints from students or PAPs	Weekly Weekly Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	
Excavation of materials from within school premises	Associated effects on ecosystem; Occupation health and safety (OHS) risks	Implement OHS management plan	SME & SBMC	To be included in the overall project Budget	Cases of non-compliance	Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	
REHABILITATION								
Disposal of debris and demolished school infrastructure materials	Increase in waste burden for the school management Increase in acts of burning wastes	Implement Waste Management Plan Reuse and recycle materials Liaise with the state MDA on waste management	SME & SBMC	To be included in the overall project Budget	No. of public complaints; Level of particulates Level of air pollutants Vegetation surfaces free of dusts	Daily Continuous as necessary Continuous as necessary Two month	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	550,000.00

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
					Ambient air quality	intervals or as required		
Masonry and carpentry works	Risk of increased energy consumption. Structural risks to old school buildings	Use of PPE Train, supervise and have regular talks with personnel Ensure machinery and equipment are always in good working conditions and comply with the ESS-2 guidelines Remove any know hazards within the work environment	SME & SBMC	To be included in the overall project Budget	Cases of water body pollution	Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	
Welding works	Risks of fire outbreak within the working area, Welding accidents Accidents due to unsafe and inappropriate equipment	Use of PPE Train, supervise and have regular talks with personnel Ensure machinery and equipment are always in good working conditions and comply with the ESS-2 guidelines Remove any known hazards within the work environment	SME & SBMC	To be included in the overall project Budget	Cases of accidents/incidents	Daily	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	
All installations and rehabilitation works	Overuse of water and conflicts arising from water usage	SBMC should make provision for all civil works Harness rainwater harvesting Promptly detect, repair water pipe and tank leak Sensitize staff to conserve water; Install water conserving taps that turn-off automatically when water is not being used	SME & SBMC	To be included in the overall project Budget	Evidence of conflict with students or community members	Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	500,000.00

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
	Poor hygiene and sanitation due to sewage		SME & SBMC	To be included in the overall project Budget	Cases of accidents/incidents	Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	
	Waste Management (solid and liquid wastes) Generation of debris of various forms such roof tiles, old irons sheets wastes, bricks, stones, cements Increased pressure on local waste dump facilities Indiscriminate and unauthorized disposal and littering of solid wastes.	Waste bins to be provided for the disposal of waste generated; Waste will be segregated into three at source - organic (food residues), recyclables (woods, metals) and non-recyclables (plastic and glass wastes); Organic waste to be composted near the site office to enrich the soil, while plastics and glass are taken to the district dump-sites; Topsoil removed from the right of way for maintenance work to be spread on the land to avoid disrupting drainage network; and Toilets and urinals to be sited at least 100m from any stream or drainage channel and decommissioned at the end of project.	SME & SBMC	To be included in the overall project Budget	Cases of accidents/incidents	Weekly	SPIU-Safeguard officers; SME.; Community Leaders; School Committee	
	Noise and Vibration Exposure	Stationary equipment shall be sited at safe distances from sensitive areas to minimize noise impacts Continuous equipment noise	SME & SBMC	To be included in the overall project Budget	No of complaints from community members; Absence of structural failures;	Daily Daily	SPIU-Safeguard officers; SME.; Community Leaders;	

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
		exposure for no more than 3 hours a day. Workers will be provided with ear plugs. Continuous equipment vibration exposure for no more than 3 hours a day. Sanctions (ranging from a warning to dismissal) for workers who do not observe use of appropriate PPEs			Absence of debris accumulation; No of debris removals & repairs made; Sensor measurements around workplace	Daily Daily Daily	School Committee	
	Efficient Resource Utilization Competition for resources like water Possible conflicts between students/ teachers and workers	SBMC to make provision for water availability during the rehabilitation works.	SME & SBMC	To be included in the overall project Budget		Weekly	SPIU-Safeguard officers; SME.; Community Leaders; NGOs/CBOs	
	Occupational & Public Health and Safety Exposure to water borne diseases due to poorly maintained toilet facilities Damage to classrooms due to erosion and landslides Potential student	Health, safety and environmental training and awareness will be extended to AGILE Schools' Community members and local stakeholders; Posting of speed limits of 25km/hr at approaches to construction sites; Safety meetings held twice a week and documented accordingly; Inductions and awareness	SME & SBMC	To be included in the overall project Budget	No. of sanitary facilities provided at start of project; Adherence to stipulated speed limit Record of incidents; Use of PPEs by workers; Records of appropriate workers' training;	At start of project; Twice weekly; Weekly; Daily; Monthly;	SPIU-Safeguard officers; SME.; Community Leaders; NGOs/CBOs	600,000.00

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
	exposure to alcohol and drugs as a result of social mix with project workers	program held for all employees on occupational health and safety practices; Caution signs and flagmen at strategic locations to provide warning and guidance especially for children crossing Construction activities to be carried out during holidays preferably, or otherwise site managers and HSE officer to ensure children stay off equipment areas, staging areas and construction sites.			Record of reinstatement plan for burrow pits; Record of health and safety meetings Record of first aid exercises Hazards assessment	At beginning of project Weekly; Monthly At start of project		
	HIV/AIDS and STIs Management		SME & SBMC	To be included in the overall project Budget	No. of HIV/AIDS workshops held; Level of awareness of workers & others; Records of peer educators' training; Records of condoms distributed	Quarterly Continuous Bi-monthly Monthly	SPIU-Safeguard officers; SME.; Community Leaders; NGOs/CBOs	500,000.00
Traffic and Transportation	Increased traffic movements Potential vehicular accidents.	Implement drivers' training in conjunction with Road Safety/ State Traffic Management Agencies A temporary structure to be constructed on one lane to allow for traffic flow while work is on-going on the other lane; Actual working areas to be secured with barricades; Adequate road warning signs to be posted at vantage points	SME & SBMC	To be included in the overall project Budget	Effective traffic flow with vehicular & worker safety; Appropriate positioning of road signs, reflectors, speed ramps, control limits, traffic wardens; Records of accidents and near misses	Daily; Daily; Daily.	SPIU-Safeguard officers; SME.; Community Leaders; NGOs/CBOs	350,000.00

Project Activity	Potential Negative E&S Impact	Proposed Mitigation Measures	Responsible to Implement	Mitigation Cost (N)	Monitoring Indicator	Monitoring Frequency	Responsible to Monitor	Monitoring Cost (N)
		to warn and direct traffic; Traffic and transport associated with project will adhere to existing roads or follow specified routes as established. All measures shall be effectively monitored by Contractor to ensure their implementation.						
POST REHABILITATION PHASE (OPERATIONS)								
Sanitation and Waste Management Generation of solid and liquid wastes,	Implement waste Management plan (solid and liquid wastes) Increased pressure on local waste dump facilities Indiscriminate and unauthorized disposal and littering of solid wastes. Increase in solid waste and sanitation waste during operation phase could lead to diseases and pollution	Schools should continue to implement waste management plan during the operation phase Provision of potable water, toilets and wash water to the workers Waste recycling to be encouraged SBMCs to partner with associations that provide recycling functions. Stockpiles of sand, clay and other materials should be properly covered Use of ECO toilets, latrines which are easier to manage. Intervention designs should take into consideration erosion prone areas to avoid future disasters.	SME & SBMC	To be included in the overall project Budget	Waste segregation and littering; Emptying of bins at waste dump sites; Waste composting; Indiscriminate defecation; Toilets closure Presence of rodents or rats	Daily; Weekly; Weekly; Daily; At end of project Weekly	SPIU-Safeguard officers; SME.; Community Leaders; NGOs/CBOs	400,000.00

Based on Table 7.2, a summary of the proposed E&S mitigation monitoring costs through the pre-rehabilitation, rehabilitation and post-rehabilitation phases of the project are presented in Table 7.3.

Table 7.3: Summary of Mitigation Monitoring Cost by Project Phase

Project Impact Area	Associated Monitoring Costs (₦)			TOTAL
	Pre-Rehabilitation	Rehabilitation	Post Rehabilitation	
Social Impacts	850,000.00	1,050,000.00	500,000.00	2,400,000.00
Environmental Impacts	1,500,000.00	3,450,000.00	1,350,000	6,300,000.00
TOTAL	**2,350,000.00**	**4,500,000.00**	**1,850,000.00**	**8,700,000.00**

7.4 Capacity of Kebbi AGILE to Implement the ESMP

7.4.1 Capacity and Training Needs

In order to achieve effective ESMP implementation, there is need to strengthen relevant competencies on environmental and social management at primarily the State level and secondarily, the LGA and community levels including the SBMCs. This will stimulate the required collaboration among the key actors. Experience has shown that strengthening capacity involves more than improving technical skills, developing new systems or establishing quality assurance and improvement standards. While these are important, strengthening capacity is however, essentially about changing behavior towards achieving desired goals.

The capacity building should include equipping individuals with the understanding, skills and access to information and training that enables them to perform effectively. Personnel of the intervention project need to understand the purpose of the ESMP and their expected roles during its implementation. The target groups for the training will include:

- SPIU Environmental & Social (E&S) Safeguard Officers and Component 1.2 Officers;
- SBMC's personnel;
- Rehabilitation workers and site personnel; and,
- Select members from the project communities (AGILE Schools).

The SPIU Environmental & Social (E&S) Officers and SBMC personnel will require capacity building in the implementation of the project's environmental and social safeguards and general project planning and management interfaced with E&S components. Capacity requirements are also necessary in the areas of E&S monitoring and reporting, adherence to the required E&S principles, standards, and commitments. The rehabilitation workers and select members of the project communities will undergo training on public awareness creation/educational techniques (on environmental, social and health issues) and first aid procedures.

7.4.2 Capacity Building Cost

The capacity building plan for the ESMP with the associated cost implications is shown in Table 7.4 below. To enhance the respective roles and collaboration of the relevant stakeholders, the broad areas for capacity building and effective ESMP implementation are

also identified and included in the table.

Table 7.4: Summary of Institutional Capacity and Training Needs with Costs

Program Description	Participants	Form of Training	Duration	Training Agency	Estimated Cost In (₦) and Project Phase
Understanding the Environment: • Concepts, Regulations & Statutory Requirements; • Environmental Management; • Stakeholder & Community Participation	Officials of SME, SPIU, SBMC, Community Leaders, CBOs & Other Relevant Groups	Workshop	1 Day	External Agency for capacity building or Environmental & Social Specialist	200,000.00 (Pre-Rehabilitation Phase)
Scope of AGILE Schools Intervention Project: • Environmental & Social Impacts; • Engineering Design and Associated ESMP; • Coordination with Other MDAs and the Community	SBMC, SPIU Safeguard Officers and Component 1.2 Officers, & relevant Community Leaders	Workshop	1 Days	External Agency for capacity building or Environmental & Social Specialist	N200,000.00 (Pre-Rehabilitation Phase)
Project Implementation: • Rehabilitation Works; • Roles and Responsibilities of Key Actors; • Environmental Monitoring	SPIU Project Engineers and Safeguard Officers, SBMCs, SME	Lecture and Site Visit	1 Days	External Agency for capacity building or Environmental & Social Specialist	N300,000.00 (Rehabilitation Phase)
Monitoring and Evaluation and GRM: • ESMP Monitoring and Reporting Strategy; • Stakeholder and Community Participation	SBMC, SPIU Safeguard Officers, Engineers, SMEnv, SEPA & relevant MDAs, Community Leaders, CDOs, & Focal NGO	Workshop	1 Days	Environmental & Social Specialists; External Agency engaged for capacity building	N200,000.00 (Rehabilitation Phase)
TOTAL					**N900,000.00**

The capacity building and trainings costs shown in Table 7.4 shall be included as part of the overall project rehabilitation cost to be funded by the project. The trainings are to be conducted preparatory to SBMC's mobilization to site. All trainings shall therefore be completed prior to SBMCs mobilization to the respective AGILE schools.

7.5 ESMP Management Costs

Based on Table 7.2, a summary of the projected ESMP management costs through the pre-rehabilitation, rehabilitation and post-rehabilitation phases of the project are presented in Table 7.5.

Table 7.5: ESMP Management Costs

Institutional Category	Roles & Responsibilities	Associated Management Costs (N)		
		Pre-Rehabilitation	Rehabilitation	Post Rehabilitation
Kebbi State Ministry of Environment (SMEnv)	Overall oversight, assessment and monitoring of specific and general project implementation ;	250,000.00	600,000.00	800,000.00
SPIU (Safeguard Officers, Project. Engineer)	Oversight of all specific activities associated with the ESMP implementation	1,000,000.00	1,600,000.00	1,600,000.00
NPCU	Project assessment and monitoring of this ESMP implementation and the rehabilitation activities.	300,000.00	300,000.00	200,000.00

Institutional Category	Roles & Responsibilities	Associated Management Costs (N)		
		Pre-Rehabilitation	Rehabilitation	Post Rehabilitation
World Bank	Overall assessment and monitoring of specific and general project implementation;	N/A	N/A	N/A
SBMC (Component 1.2 Leads/ Supervisors)	Provide oversight function during rehabilitation works and to ensure adherence to good practice and the ESMP	N/A	N/A	N/A
Site Committee	Monitor and ensure compliance with ESMP, BEME and implementation quality	N/A	N/A	N/A
Local government	Provide support in monitoring project execution within their domains to ensure compliance with this ESMP and other relevant requirements	N/A	N/A	N/A
Local Community	Support and promote environmental awareness	200,000.00	300,000.00	400,000.00
NGOs/CBOs	Ensure community participation by mobilizing, sensitizing community members;	200,000.00	300,000.00	600,000.00
General Public	Identify issues that could derail the project Support project impacts and mitigation measures as well as awareness campaigns	N/A	N/A	N/A
TOTALs		N1,950,000.00	N3,100,000.00	N2,600,000.00

7.6 Budget to Implement ESMP

Cost projections for implementation of the various measures, monitoring plan and capacity building are given in Table 7.8. The projected implementation budget will enable the ESMP to be an integral part of financing for the rehabilitation/maintenance works in the project.

An indicative budget of N19,582,500.00 (Nineteen Million Five Hundred and Eighty-Two Thousand Five Hundred Naira) or 42,481.07USD only, is shown for the implementation of the ESMP for the intervention project bearing in mind the elements that make up the implementation process. The budget covers:

- Routine E & S duties of the SPIU;
- Capacity Building for the SPIU and other stakeholders;
- Engagement of Environmental and Social Specialists
- Environmental and Social Due Diligence investigations and/or Audits;
- Monitoring and evaluation activities of the SPIU and other regulatory Agencies.

Table 7.6: Breakdown of Cost Estimates

S/No	ITEM	RESPONSIBILITY	COST BREAKDOWN IN (N)			COST ESTIMATE IN NAIRA (N)	COST ESTIMATE IN DOLLAR ($)
			Pre-Rehabilitation Phase	Rehabilitation Phase	Post-Rehabilitation Phase		
1	MITIGATION	SPIU/ SBMC	(To be built into Rehabilitation costs)				
2	MANAGEMENT	SPIU/ SME	1,950,000.00	3,100,000.00	2,600,000.00	N7,650,000.00	$16,595.44
3	MONITORING	SPIU/ NPCU/ SME/ Consultants/	2,350,000.00	4,500,000.00	1,850,000.00	N8,700,000.00	$18,873.25

S/No	ITEM	RESPONSIBILITY	COST BREAKDOWN IN (N)			COST ESTIMATE IN NAIRA (N)	COST ESTIMATE IN DOLLAR ($)
			Pre-Rehabilitation Phase	Rehabilitation Phase	Post-Rehabilitation Phase		
		NGOs					
4	CAPACITY BUILDING & TRAININGS	SPIU/ SBMC/ MOH/ Consultants	800,000.00	900,000.00	600,000.00	N2,300,000.00	$4,989.48
Sub-total						N18,650,000.00	$40,458.16
5	CONTINGENCY (5%)					N932,500.00	$2,022.91
GRAND TOTAL						**N19,582,500.00**	**$42,481.07**

Note: N460.97 = 1.00USD (Source: cbn.gov.ng as of April 20, 2023)

7.7 E&S Obligations of the SBMC

It is the responsibility of SBMCs as the project implementing agencies to ensure compliance with all the design provisions associated with this project. The SPIU shall not be responsible for any property (whether community, corporate or individual) damaged as a result of actions or activities undertaken or being undertaken by SBMC in the course of executing its assignment.

As part of the rehabilitation approval process for the project, a set of environmental and social management plans is needed to address the specific issues identified in this ESMP which may arise in the course of the project. The management plans will need to be developed by SBMC to address the specific impacts as identified in this ESMP. These management plans are briefly described in the following sections and shall be implemented as part of the overall environmental and social management and monitoring plans as required by each AGILE School in this ESMP study.

7.8 Required Environmental and Social Management Plan

SBMCs shall be required to meet the specific E&S safeguard obligations as provided in this ESMP which shall be incorporated into their schedule of Assignments for the project. SBMCs shall also be required to develop work programs for field work to guide and explain how the mitigation measures recommended in this ESMP will be implemented during the project execution. This is in addition to other contractual provisions for the project. The required specific E&S management plans include the following:

7.8.1 Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) Action Plan

The Sexual Exploitation and Abuse /Sexual Harassment (SEA/SH) Action Plan has been developed by the SPIU for implementation throughout the project phases. The SBMC shall deploy this plan which provides mitigation measures to prevent and respond to sexual exploitation, abuse and other forms of Gender Based Violence (GBV) in the course of the project. The SEA/SH AP sets out a formal system by which the mitigation measures that will reduce and/or mitigate any impacts relating to GBV matters will be carried out.

Specifically, the SEA/SH AP provides details regarding the implementation of avoidance mitigation and management measures for impacts related to the possibility of or any existing risks which may lead to SEA/SH AP issues. The scope of the SEA/SH AP covers pre-rehabilitation, rehabilitation and post rehabilitation/closure phases of the Project.

7.8.2 Labor Influx and Management Plan

The Labor Management Plan (LMP) to be applied to this project is included in Annexure XI.

This shall be included in the ESHS submission by SBMC for implementation**.** The Plan has addressed the possible issue of child labor and also evaluated possible issues regarding the working conditions of project workers both primary and secondary, promote fair treatment, non-discrimination and equality of workers. The GRM shall be followed by workers and community members for grievance issues that may arise during the course of the project. It addresses illicit behaviors, firearm and security concerns, substance abuse amongst workers associated with the project, influx stress on the host community resources and provide information regarding Worker Code of Conduct in local languages and inclusion of a cultural sensitization training for workers regarding engagement with local community. SBMCs shall ensure fully compliance with the LMP and monitored by the SPIU.

7.8.3 Air Quality Management Plan

Air quality plans identify potential control measures and strategies, including rules and regulations that could be implemented to reduce air pollutant emissions from rehabilitation equipment, on and off-road motor vehicles, and other sources. SBMCs shall be required to implement the Air Quality Management Plan (AQMP) included in Annexure XII. SBMCs shall implement the management strategies through rules and regulations, public education and outreach, and partnerships with other agencies and stakeholders.

7.8.4 Emergency Response and Incident Plan

In case of an emergency during the life span of the project, the SBMCs shall immediately activate the Emergency Response Procedure (ERP) which shall be known to all workers on site. Its objectives are:

- To ensure no loss of life;
- To ensure that the environment is protected;
- To ensure that manpower, equipment and funds are available, efficient, and effective and;
- To ensure that good record keeping is maintained and accurate information concerning emergencies is disseminated to the workers, public and government.

The ERPs shall cover the following situations and issues:

- Fugitive leakages;
- Fire outbreaks/explosions;
- Notification of authorities;
- Safety precautions and environmental protection;
- Repair methods and procedures;
- Emergency repair;
- SBMC arrangements.

The Plan shall provide necessary guidance for how to organize all workers on the school sites to respond to an incident and processes to manage the response through its successive stages. The Plan shall also document the combination of facilities, equipment, personnel, procedures, and communications existing within SBMC's organizational structure and designed to help in the management of resources during incident response.

7.9 ESMP Monitoring and Evaluation

The objectives of the monitoring and evaluation program are:

- To ensure that the measures suggested herein are carried out accordingly during project implementation;
- To evaluate the efficiency of the proposed mitigation and enhancement measures;
- To investigate the adequacy of the ESMP as well as suggest improvements to it;

- To generate data that could be incorporated in future ESMPs;
- To evaluate what additional enforcement is required for the effective project implementation.

For effective implementation of the ESMP, a monitoring program has been designed. The monitoring plan indicates the operational links between the impacts identified, indicators to be measured, the methods to be used, frequency of measurements and definition of thresholds indicating the need for corrective actions. The necessary costs and the responsibilities for all aspects of the monitoring arrangements are also identified.

7.9.1 Monitoring and Reporting

Project performance monitoring has the overall objective of achieving the desired outcomes through reporting of measurable events or parameters or aspects that can be monitored and verified. The following monitoring and reporting sequence is proposed for the ESMP implementation at the AGILE Schools intervention project.

- The respective SBMCs shall submit to SPIU a monthly monitoring report and the ESMP accomplishments during the project implementations,
- The SPIU shall prepare monthly ESMP monitoring and accomplishment reports to be submitted to NPCU and the WB.

This reporting cycle should be repeated as the feedback mechanism scheme to all key players consisting of the affected stakeholders, SBMCs, CBOs/CDOs, SPIU, etc.

7.9.2 Post Rehabilitation Monitoring

In the post-rehabilitation phase of the project, the respective SBMCs shall be required to maintain continuous monitoring of the intervention beyond the project completion. This will ensure that the AGILE Schools project rehabilitation/healing process and the associated livelihood programmes are sustained beyond the project closeout. Since the SBMCs will have a big role in sustaining the post rehabilitation (operations) phase of the project, necessary capacity building trainings will be required to provide its officers/leaders the needed capabilities for formulating necessary policies, systems and procedures. The SPIU and the SME will be required to ensure that the SBMCs and other monitoring Agencies, including the NGOs/CBOs are institutionally strengthened.

7.10 ESMP Implementation Schedule

The implementation and management of the ESMP schedule is designed to facilitate any necessary pre-rehabilitation issues associated with PAP compensation. The ESMP activities also need to be implemented within an agreed timeframe and budget. Appropriate timing should be adhered to in order to avoid project delays.

Execution of the ESMP activities is recommended in accordance with the schedule shown in Table 7.9. The period of the first week will be used to develop and set up all structures necessary to support all aspects of the programmes.

Table 7.9: Proposed ESMP Implementation Schedule

DESCRIPTION OF ACTIVITY	DURATION IN WEEKS																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Disclosure of ESMP Report	↔	↔																						
Formation of Project Grievance Redress Committees (GRCs)		↔	↔																					
Review and Approval of SBMCs Implementation Plan			↔	↔																				
Hold Stakeholders' Meetings and Consultations	←	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	→
Execute Capacity Building Programs			↔	↔																				
Implementation of Mitigation Measures			←	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	→
Supervision of ESMP Implementation																								
Monitoring & Reporting on ESMP Implementation	←	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	→
Conduct ESMP Implementation Audit																							↔	↔
Program Administration	←	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	→

CHAPTER EIGHT: PUBLIC AND STAKEHOLDERS' CONSULTATIONS

8.1 Communities and Stakeholders Consultations

A key element in sustaining public support for the AGILE project is to sustain stakeholders' consultations and communication process throughout the project phases (pre-rehabilitation, rehabilitation and post-rehabilitation). Community and stakeholders' participation in a project improves understanding of the project and communication between the SPIU, the consultants or SBMCs and the communities. The decision-making process for the project will also be enhanced by actively involving relevant stakeholders. As part of the ESMP process, the stakeholders relevant to the AGILE project were identified and their necessary inputs and engagements solicited for the overall project process. The stakeholders' engagement was structured to take place on a representation format based on the number of AGILE schools in the Local Government Educational Areas (LGEAs) of the state.

The public participation process is a critical component of this ESMP development and required identifying and working with all stakeholders and the project communities, including potentially affected individuals or group of persons, from the beginning of the process. The consultation process was driven in a manner that encouraged active and sustained participation of the community members, particularly the school communities. This was to promote community ownership of the project and to enhance sustainability. Consultations and stakeholder involvement in the project gave the school communities and the potentially PAPs the opportunity to make contributions aimed at strengthening the project while avoiding any negative impacts and reducing possible conflicts. The consultations will remain an ongoing exercise throughout the entire project to minimize chances of possible conflicts. This phase also involved the administration of pre-defined socio-economic questionnaires at the household level for the communities.

The education zones clearly provided the necessary framework for community/stakeholders' sensitization and consultations with the ESMP Consultant team. The consultation meetings were held at the respective zonal headquarters of the state education zones. Table 8.1 shows a matrix of the meetings held with the zones and the locations where the meetings were held. The initial consultation meeting was held on January 18, 2023 with the Argungu Zone. The Consultant team further met with the five other zones between January 19, 2023 and January 24, 2023 ensuring that all AGILE schools are covered. The meetings sought to gain knowledge of the community perspectives and concerns on the issues associated with the schools project for the different communities.

Additionally, Focus Group Discussions (FGD) were held with the women to gain an understanding of experiences and constraints that has faced the girl-child in schools in their respective LGEAs. Information in the following sections are based on responses from the stakeholders and documented reports from the LGEAs.

8.2 Community/stakeholders' Meetings

At each of the community/stakeholders zonal meetings, the ESMP Principal Consultant explained the purpose of the meeting and formally introduced members of the study team to the communities. He further provided an overview of the ESMP as related to the AGILE project and also highlighted the objectives, activities, outputs and work schedule of the assignment. He called upon the community members to render sustained support by providing any necessary information/data to the Consultant as well as other Consultants or SBMCs that may be associated with the project implementation. Thereafter, the Consultant called for questions, comments, observations or suggestions from the respective communities to which answers and necessary responses were provided. Summaries of the minutes of each of the meeting and photos are provided in Annexure IV.

Table 8.1: Schedule of Community/Stakeholder Meetings and Socioeconomic Documentation

COMMUNITY & STAKEHOLDERS (Education Zones)	LGAs COVERED	MEETING LOCATION	TYPE OF MEETING	DATE(S) HELD	NO OF ATTENDEES
ARGUNGU ZONE	**Augie LGA**	Argungu	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 18, 2023	30
	Arewa LGA	Argungu	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 18, 2023	33
	Argungu LGA	Argungu	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 18, 2023	56
	Augie LGA, Arewa LGA, & Argungu LGA	Argungu	Focal Group Discussions (Women)	January 18, 2023	58
	Augie LGA, Arewa LGA, & Argungu LGA	Argungu	Socioeconomic/Census Documentation	January 18, 2023	147
BIRNI KEBBI ZONE	**Gwandu LGA**	Birni Kebbi	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 19, 2023	31
	Kalgo LGA	Birni Kebbi	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 19, 2023	22
	Birni Kebbi LGA	Birni Kebbi	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 19, 2023	100
	Gwandu LGA, Kalgo LGA & Birni Kebbi LGA	Birni Kebbi	Focal Group Discussions (Women)	January 19, 2023	52
	Gwandu LGA, Kalgo LGA & Birni Kebbi LGA	Birni Kebbi	Socioeconomic/Census Documentation	January 19, 2023	161
YAURI ZONE	**Koko/Besse LGA**	Yauri	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 20, 2023	19
	Ngaski LGA	Yauri	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 20, 2023	30
	Shanga LGA	Yauri	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 20, 2023	19
	Yauri LGA	Yauri	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 20, 2023	33
	Koko/Besse LGA, Ngaski LGA, Shanga LGA & Yauri LGA	Yauri	Focal Group Discussions (Women)	January 20, 2023	38
	Koko/Besse LGA, Ngaski LGA, Shanga LGA & Yauri LGA	Yauri	Socioeconomic/Census Documentation	January 20, 2023	104
JEGA ZONE	**Aliero LGA**	Jega	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 21, 2023	26

COMMUNITY & STAKEHOLDERS (Education Zones)	LGAs COVERED	MEETING LOCATION	TYPE OF MEETING	DATE(S) HELD	NO OF ATTENDEES
	Jega LGA	Jega	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 21, 2023	36
	Maiyama LGA	Jega	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 21, 2023	30
	Aliero LGA, Jega LGA, & Maiyama LGA	Jega	Focal Group Discussions (Women)	January 21, 2023	31
	Aliero LGA, Jega LGA, & Maiyama LGA	Jega	Socioeconomic/Census Documentation	January 21, 2023	105
ZURU ZONE	**Danko Wasagu LGA**	Zuru	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 23, 2023	48
	Fakai LGA	Zuru	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 23, 2023	19
	Sakaba LGA	Zuru	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 23, 2023	16
	Zuru LGA	Zuru	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 23, 2023	66
	Danko Wasagu LGA, Fakai LGA, Sakaba LGA, Zuru LGA	Zuru	Focal Group Discussions (Women)	January 23, 2023	47
	Danko Wasagu LGA, Fakai LGA, Sakaba LGA, Zuru LGA	Zuru	Socioeconomic/Census Documentation	January 23, 2023	153
BUNZA ZONE	**Bagudo LGA**	Bunza	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 24, 2023	19
	Dandi LGA	Bunza	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 24, 2023	32
	Suru LGA	Bunza	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 24, 2023	28
	Bunza LGA	Bunza	Sensitization/Consultation with School Principals, District Heads & Community Members'	January 24, 2023	40
	Bagudo LGA, Dandi LGA, Suru LGA & Bunza LGA	Bunza	Focal Group Discussions (Women)	January 24, 2023	33
	Bagudo LGA, Dandi LGA, Suru LGA & Bunza LGA	Bunza	Socioeconomic/Census Documentation	January 24, 2023	119

8.3 Participants' Feedback – Comments and Concerns

Participants at the Stakeholders/community meetings expressed appreciation and gratitude of the various communities to the Kebbi State Government, the Federal Government and the World Bank for the AGILE intervention project considering the immense positive impacts that shall accrue to the communities with the project implementation.. Several participants expressed their views, and made comments and suggestions relating to the project. The key issues and concerns raised are summarized in Table 8.2 below. These issues and concerns were fully addressed during the meetings. All the speakers promised to give full cooperation and support to the activities of the Consultant and the project. Photos taken at the various community meetings are included in Annex V - VIII.

The key issues and concerns that were raised during the stakeholders'/community meetings include:

1. The most expressed concern in the meetings, had more to do with potential contract implementation shoddiness in this type of project. The fears are that the project may not receive the money's worth in the hands of some SBMC-contractors. The stakeholders generally wanted to know what to do in the event such SBMC-contractors begin to cut corners in the work such as using inferior materials;
2. Possible physical abuse of students, particularly female students if project implementation is carried out when school is in active session.

Table 8.2: Stakeholders' Feedback and Concerns

Community Feedback/Concern	SPIU/Consultant Comment
Contractor-Related Issues: Contractors who are inclined to cutting down trees during rehabilitation work need to be stopped as trees serves as windbreakers, provide coolness to the environment, and fresh air to the schools etc. There were concerns on the use of poor-quality building materials during rehabilitations or renovations. Contractors should be checked against such behaviors. What would be the disciplinary measures or sanctions that would be taken against any contractor who violates the norms and shows disregard for the values and customs of the people and what procedure should be taken? **Institution-Related Issues:** Most of the unity colleges have very degraded toilet facilities and many AGILE schools have no toilets. Constructing new or renovating existing toilets and other sanitary facilities in the schools should be made a priority. There is need to have AGILE secondary schools fenced for security reasons and to prevent loss of assets after the AGILE investments. For schools that have fenced off their boundaries in which there are foot pathways between the communities and their local farms, the communities need to provide alternative pathways for the farmers. **Desertification-Related Issues:** There is desert encroachment into the schools. Attention of the Project should be drawn to ensure planting of trees and catchment management issues to secure AGILE investments. The Principal of Dr. Aminu College, Birnin Kebbi, Dr. Salamatu Bala Tafida pleaded with the consultant to help advice on how to tackle issues of tree planting in their school, as most of the trees died after planting. She cited the example of despite collecting and planting about 500 seedlings from the Ministry of Environment for tree	The ESMP consultant noted that the concerns of the stakeholders, safeguards issues relating to protecting the environment is one of the reasons the ESMP is being prepared. The consultant will interact with the stakeholders to come up with best mechanisms to ensure that environment are well protected and improved during and after the project implementation. The ESO of the Kebbi AGILE Project Saidu Umar Yeldu specified that, before a contract is awarded to any contractor, there ais an agreement which needs to be signed by both parties, the memorandum of understanding contains code of conducts which needs to be adhered to strictly by SBMC. In any case that SBMC violates the code of conducts, then necessary legal actions shall be taken to either terminate his contract or suspend the project. Mallam Saidu Umar Yeldu further stated that AGILE is only concern with lands that belong to schools and does not take decisions on lands that belongs to the community. He suggested that if a school is fenced for security purposes, the community should provide alternative routes that will

Community Feedback/Concern	SPIU/Consultant Comment
planting, only very few struggled to grow due to the nature of the soil which has probably been covered with sand dunes. As a result, the school is situated in a very bare and open field with no wind breakers. She reported that the environment is dusty and windy and this is affecting the learning process in the school. **Erosion-Related Issues:** Some schools raised concerns that their schools are experiencing a very serious erosion problems. For some schools, the access roads to the schools have damaged by erosion gullies. Urgent attention should be given to addressed it to avoid destroying the investments made under this project. **GBV-Related Issues:** The SBMCs and Principals should always heed to the advice and suggestions coming from the women because it is the women and the children who are most vulnerable and more so, the bulk of the blame comes back to the women in any eventuality of GBV. Hence women opinion should not be taken for granted.	make farmers access their farms. On the issues of desertification and soil erosion including gullies, the ESO directed that the affected School Management and the community could to write to the AGILE office on the concerns for possible inclusion in the ACRESAL Project supported by World Bank To curb the issues sexual violence against their students during civil work, a committee should be setup by each school comprising members from the school, the representative of SBMC and that of the community to ensure that students are well protected against sexual violence by any contractors.

8.4 Public/Stakeholder Engagement Plan

A key element of sustaining stakeholders' support in the project is to sustain the consultations and communication process that has already been effectively established in the course of the preparation of this ESMP. Stakeholders' engagement needs to be enhanced and managed through a well-defined strategy. Table 8.3 provides a summary of the stakeholder consultation activities to be considered in the engagement plan. Public sensitization and consultation will continue throughout the project execution.

The SEP will provide specific engagement plan to ensure that all segments of the community and other stakeholders are fully and effectively involved in the project decision process.

Table 8.3: Summary of Stakeholder Engagement Plan

Activity	Stakeholders / Community	Timeline
Pre-Rehabilitation / Prior to Project Commencement		
Project briefings, site tours, personal meetings, community sessions, consultation meetings	State Government, Local Government, School committee, School members of affected areas/ Community and interest groups	As required, subject to project updates and feedback from the community
Development/dissemination of feedback and complaints mechanism and communications procedures	State Government, Local Government, School committee, School members of affected areas/ Community and interest groups	As required, subject to any updates on the project
Briefings, Site Tours and Community Sessions for flood control and intervention works	Government authorities, Local communities, Key/ relevant stakeholders	Prior to Work Plan approval
Rehabilitation and Operations		
Responding to issues and inquiries as per feedback and complaints mechanism	All stakeholders	Ongoing / as required
Monthly/Quarterly reporting on status of project	All stakeholders	Monthly/quarterly/as required.
Briefings, site tours and community sessions for intervention works closure plan	Government authorities, School & local communities, Key/relevant stakeholders	Prior to project completion
Prior to Project Post-Rehabilitation		
Project briefings, site tours, personal meetings, community sessions, consultation meetings with stakeholders	All stakeholders, State Govt , Local Govt, School committee, Affected school members/ Community/ interest groups	As required, subject to approvals and feedback from the community

CHAPTER 9: CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

The proposed rehabilitation/renovation works for the Kebbi State AGILE Schools project is in line with the development and socio-economic needs of Kebbi State as a whole. The project focuses on the human capital development for sustaining economic growth and poverty reduction through improvement in the quality and efficiency of social service delivery at the state level to promote social inclusion, strengthening governance, public sector management and gender equity. Indeed, the project have many positive socio-economic impacts both locally and regionally.

There are mostly positive and beneficial impacts identified for this project. The public consultations conducted also indicate huge support from the School communities for the project. The ESMP analysis indicate that it is unlikely that the proposed project will have overall significant adverse social and environmental impacts. The most adverse impacts will be temporary in nature during the rehabilitation phase and can be managed to acceptable levels through implementation of the recommended mitigation measures. Essentially, the overall benefits of the AGILE project will greatly outweigh the few adverse impacts.

The main social issues for the project will revolve around the temporary displacement of school personnel during the rehabilitation period and maybe students, only if the rehabilitation and rehabilitation works are carried out when the schools are actively in session. Kebbi State will compensate the PAPs with respect to the adverse impacts associated with temporary displacement and disturbance.

To assure conducive environment for learning and enhance overall effectiveness in achieving success with the AGILE program, there is a dare need to reconstruct and rehabilitate degraded sections of the AGILE Schools. The quality of life of residents within AGILE Schools communities will not be significantly and negatively impacted by the residual impacts of the infrastructural development component (Subcomponent 1.2) of the project following mitigation.

The public consultations indicate a widespread support for the AGILE Schools project as people desperately look forward to the positive impacts to their respective communities as well as the need to improve their quality of life. The most expressed concern in the meetings however, had more to do with potential contractor shoddiness in this type of project. The fears are that the project may not receive the money's worth in the hands of SBMCs. The stakeholders generally wanted to know what to do in the event that SBMCs begin to cut corners in the work – using inferior materials. Additionally, the issue of desertification and widespread landscape degradation observed at many of the AGILE schools were specifically called out as major concerns to the schools. The impacts of these ecological challenges were clearly visible in all the schools visited.

It is concluded that the AGILE Schools Project is, in essence, a mitigation measure that is gravely needed to improve the conditions of a great majority of the schools in Kebbi State currently endangered and blighted by the hazards of infrastructural degradation and lack of any incentives among the people for educational progression, particularly among the adolescent girls.

9.2 Recommendations

There is widespread public support for implementing an effective waste collection and disposal system. Many schemes have been tried in the past but have failed due to a lack of resources including infrastructure. The most commonly made comment, during the public consultation process, was that a community awareness program will be key to the success

of the waste collection and disposal system. It is therefore imperative that waste collection and disposal system that works on a regular basis is required so that the current problem of waste accumulation in water courses can be eliminated. It is therefore strongly recommended that the volumes of wastes that currently collect in stormwater drains should not be allowed to continue as they inhibit the effective flow through water courses thereby reducing the overall capacity of the drainage systems. Furthermore, it is recommended that the management of the Kebbi AGILE Project should liaise with the ongoing Kebbi ACReSAL Project to specifically ensure that the desertification and landscape degradation ravaging most of the AGILE schools are not further exacerbated.

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ANNEXURES

ANNEXURE I: Terms of Reference for Kebbi AGILE School Intervention Project

TERMS OF REFERENCE

ADOLESCENT GIRLS' INITIATIVE FOR LEARNING AND EMPOWERMENT (AGILE) PROJECT

KEBBI STATE MINISTRY OF EDUCATIONTERMS OF REFERENCE (ToR) FOR THE PREPARATION OF AN ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) FOR REHABILITATION/RENOVATION OF AGILE PROJECT SCHOOLS

1.0 BACKGROUND

The Federal Government of Nigeria (FGN) has requested World Bank support to undertake the Adolescent Girls Initiative for Learning and Empowerment (AGILE) Programme. The project aims to support the FGN through a holistic and multi-sectorial approach to unlock binding demand- and supply-side constraints to girls' empowerment, especially in northern Nigeria. The project will use secondary schools as a platform to empower girls through education, life skills, health education (e.g., nutrition, reproductive health), GBV awareness and prevention, negotiations skills, self-agency and digital literacy skills.

The AGILE Programme was developed by the Federal Ministry of Education (FME) in collaboration with the World Bank as part of the FGN's long-term education reform agenda, to adequately address the identified constraints of accessing and completing secondary education facing adolescent girls in Nigeria. The project is in line with the FGN's commitment to promote gender equality and girls' empowerment by introducing a number of initiatives including putting forward a set of prioritized policy and programmatic actions on doubling girls' secondary education enrolment and completion rates.

The Project which consists three components, seeks among others to improve the quality and efficiency of social service delivery at the state-level thereby promoting social inclusion and strengthening governance and public sector management, with gender equity and conflict sensitivity as essential elements of good governance. The project will work with the federal government and support the education programs of participating states of Borno, Ekiti, Kaduna, Kano, Katsina, Kebbi and Plateau to improve secondary education opportunities amongst girls.

1.1 PROJECT DEVELOPMENT OBJECTIVE

The Project Development Objective (PDO) of AGILE aims to improve secondary education opportunities among girls, with particular attention to adolescent girls, in targeted areas in participating states. The project focuses on the human capital development for sustaining economic growth and poverty reduction through improvement in the quality and efficiency of social service delivery at the state level to promote social inclusion, strengthening governance, public sector management and gender equity. As building blocks for empowering adolescent girls to reach their full potential, the project will use schools as a platform to deliver multi-sectorial services, which include:

(a) Education
(b) Financial incentives to the poorest households
(c) Life-skills training (self-determination, gender awareness, confidence)
(d) GBV and health awareness (RH, hygiene and nutrition) and
(e) Digital literacy and Remote Learning Platforms.

1.2 PROGRAMME COMPONENTS

The AGILE Programme is structured into three components consisting of interventions aimed at keeping girls in school and providing opportunities for them to acquire critical life skills and market relevant skills not currently offered in schools.

Component 1: Safe and Accessible Learning Spaces

- **Subcomponent** 1.1. Creating new safe learning spaces in Secondary Schools
- Subcomponent 1.2. Improving existing infrastructure in Secondary Schools i.e., School Improvement Grant (SIG)

Component 2: Fostering an enabling environment for Girls

- Subcomponent 2.1: Promoting social and behavioral change through communications campaigns, engagement with traditional rulers, and advocacy;
- Subcomponent 2.2a: Empowering girls with critical life skills and knowledge for navigating adulthood
- Subcomponent 2.2b. Digital Literacy Skills and Remote Learning Platforms
- Subcomponent 2.3: Providing financial incentives to the poorest households

Component 3: Project Management and System Strengthening

- Sub-component 3.1: System strengthening for sustainability and technical Assistance
- Sub-component 3.2: Project Management, Monitoring and Evaluation (M&E)

1.3 RATIONALE FOR THE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

Prior to implementation of civil works in rehabilitation sub-projects, there is need for the assessment of the environmental and social impacts of the sub-project interventions involving construction works. The Environmental and Social Management Plan (ESMP) will provide technical guidance for identification and management of the social and environmental risks and impact that will be associated with the proposed construction activities. The envisaged negative impacts will be site specific, reversible, and manageable through appropriate mitigation measures.

The ESMP will be prepared in line with international good practice and the World Bank's Environmental and Social Framework requirements and take into consideration National Environmental legislation, as far as applicable.

Due to the potential environmental and social risks and impacts associated with the AGILE project, the following Environmental and Social Standards applies:

- ESS1: Assessment and Management of Environmental and Social Risks and Impacts;
- ESS2: Labour and Working Conditions: Potential environmental, social risks and impacts relevant to the project could emerge from contractor workers brought in for the construction of 90 junior and 60 senior secondary schools;
- ESS3: Resource Efficiency and Pollution Prevention and Management;
- ESS 4: Community Health and Safety;
- ESS5: Land acquisition, Restriction of land use and Involuntary Resettlement; and
- ESS10: Stakeholder Engagement and Information Disclosure.

1.4 OBJECTIVES OF THE ASSIGNMENT

The objective of this assignment is to prepare an Environmental and Social Management Plan which should consist of a well-documented set of mitigation measures, monitoring, and institutional actions to be taken before and during sub-project implementation to eliminate adverse environmental and social impacts, offset or reduce them to acceptable levels. It should also include the measures required to implement these actions, addressing the adequacy of the monitoring and institutional arrangements in the intervention site(s).

2. BACKGROUND OF THE PROJECT AREA

The project area is Kebbi State, occupying about 23,939km^2 with a population of 8,252,366 (NPC, 2016), and is projected at 9,639,059 (**NPOPc2020)**. The State consists of 34 Local Government Areas.
The Education sector is spearheaded by the State Ministry of Education, while SUBEB is responsible for Qualitative Basic Education. The challenges with respect to Girl child education in the state includes Access, Poverty, Early Marriage, Infrastructure, cultural and religious misconceptions.
AGILE intends to rehabilitate new 578 secondary schools across the state

2.1 DESCRIPTION OF FACILITIES (SCHOOLS)

Table 1 Annex 1 lists the proposed secondary schools intended for rehabilitation in the 34 local government areas of Kebbi State. The rehabilitation activities will include Renovation of toilets, major and minor rehabilitation e.g repairs of floor, roofing, Doors and Windows and provision of water tank to promote hygiene and sanitation.

2.2 SCOPE OF WORKS

The scope of work for the consultancy service is to develop an environmental and social management plan that covers the identified sub-projects in table 1 Annex 1 which would detail the potential impacts associated with the proposed rehabilitation works and set out mitigation measures required to mitigate any potential impacts in the project activities. The ESMP will be utilized by the contractor(s) to be commissioned by Kebbi State AGILE in the preparation of the required Contractor's ESMP (C-ESMP), which will form the basis of the site-specific management plan prior to works commencing.
The ESMP will be used by the contractor to address all occupational health and safety (OHS) issues and community health and safety (CHS) issues associated with the proposed construction works. The preparation of this ESMP is an obligation under the World Bank's Environmental and Social Standard requirements as outlined in the Project's ESMF. Generally, it is expected to provide guidance and recommendations for environmental and social safeguards as well as monitoring throughout the construction of the proposed project.

The consultant will work in close collaboration with the Kebbi SPIU environmental, social, GRM, GBV officers as well as the infrastructure engineers and other stakeholders as identified by the SPIU.

In that respect the sequencing of the technical/feasibility studies and the ESMP will be critical. The consultant (firm) will have to receive the draft technical/feasibility studies in order to take into account the technical variants of the proposed activities and also bring out clearly any major constraint that may arise due to the social and environmental situation on the ground for design consultant to consider while finalizing documents for the rehabilitation activities.

In each project site, the consultant (firm) will visit the schools. The consultant will take into account the proposed draft engineering designs or building designs. The consultant will consider all the Environmental and Social Standards relevant to the AGILE project as highlighted above and selects the management strategies needed to ensure that environmental risks are appropriately mitigated.

Tasks of the consultancy assignment include the following:

I. Review the existing Project Appraisal Document (PAD), Environmental and Social Management Framework (ESMF), Environmental and Social Commitment Plan (ESCP) and Resettlement Policy Framework (RPF) prepared for the AGILE project.
II. Review Environmental and Social Standards that are applicable to the AGILE Project.
III. Review of preliminary engineering designs and technical /feasibility studies for the proposed project.

IV. Describe the existing status of the schools include schematic diagrams, maps, figures, tables and pictures.

V. Describe the physical, biological, and social conditions in the study areas before project implementation. This analysis shall include the interrelations between environmental and social components and the importance that the society and local populations attach to these components, in order to identify the environmental and social components of high value or presenting a particular interest.

VI. Identify the policy, legal, administrative, institutional framework relevant to the sub-projects.

VII. identify and summarize all anticipated significant adverse environmental and social impacts from the proposed activities; including the impacts of the proposed civil works/labour influx and associated impacts such as Sexual exploitation and abuse/sexual harassment (SEA/SH); Occupational Health and Safety; Community Health and Safety; Displacement and conflict/fragility; other broader social issues such as risk of elite capture; social exclusion of the most marginalized/vulnerable (e.g. persons with disabilities, IDPs, survivors of sexual violence); etc.

VIII. Identify and summarize all occupational health and safety/ public health and safety issues at the sites

IX. Describe each mitigation measure to prevent, minimize, mitigate or compensate for adverse impacts or to enhance the project environmental and social benefits, including responsibilities and associated costs.

X. establish a method of monitoring and auditing environmental and social management practices during all phases of the activities inform the contractor bidding documents for the implementation

XI. Select and measure appropriate baseline indicators

XII. Develop a plan for mitigating environmental and social risks associated with construction and operation of the sub-projects in consultation with the relevant public and government agencies;

XIII. Define details of feasible and cost-effective measures that may reduce potentially significant adverse environmental and social impacts to acceptable levels;

XIV. Develop a time-bound plan for mitigating environmental and social risks associated with the scope of works in consultation with the relevant public and government agencies;

XV. Identify monitoring objectives and specifies the type of monitoring, with linkages to the impacts assessed and the mitigation measures described above;

XVI. Provide a specific description of institutional arrangements: the agencies responsible for carrying out the mitigation and monitoring measures (e.g. for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and training) and the contractual arrangements for assuring the performance of each implementation agency;

XVII. Define technical assistance programs that could strengthen environmental management capacity in the agencies responsible for implementation;

XVIII. Provide an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and

XIX. Provide the expected capital and recurrent cost estimates and sources of funds for implementing the ESMP and inform accordingly the design consultants so that these costs are duly taken into consideration in the designs.

XX Some socio-economic issues to be addressed in the ESMP:

- A summary of the impacted communities for the project: location, access, population (number, demographic and social characteristics); economy (employment rate, income distribution); services (types, capacity, and adequacy) and housing. Concern is the ability to provide work force, service new development and absorb and adjust to growth (worker/family).

- A summary of the views of the principals, students, teachers and other population including vulnerable groups, determined through documented discussions with local communities. These meetings and discussions must be documented and should show how issues and problems raised are or will be resolved (note that an Abbreviated Resettlement Action Plan (ARAP) could be developed for the Site, and this is covered under separate TORs).
- Cultural: Summarize the possible effects of the project on historical/archaeological sites, heritage/artefacts, native religious or harvest sites of the affected communities and identification or development of mechanisms for handling chance findings.

XXI Carry out consultations with primary and secondary stakeholders in order to obtain their views about the project. These consultations shall occur during the preparation of the ESMP to identify key environmental and social issues and impacts, and after completion of the draft ESMP to obtain comments from stakeholders on the proposed mitigation/enhancement measures

XXII As appropriate, prepare an environmental hazard plan including an analysis of the risk of accident, the identification of appropriate security measures and the development of a preliminary contingency plan.

XXIII Develop a Labor Influx, Sexual Exploitation and Abuse, and Occupational Health and Safety Response Plan

XXIV ESMPs to capture the socio-economic, cultural and risk context for women, they should consider:

- Existing gender country diagnostics/country action plans;
- Data on partner/non-partner physical violence against women;
- Data and/or information on cultural practices vis-à-vis women (early marriage, physical practices);
- Existing services available from GBV Services Providers;
- Where health centres are located and what types of services are offered (e.g., whether they treat sexually transmitted diseases, provide reproductive health services, have supplies of rape kits including post-exposure prophylactics and emergency contraception, etc.);
- Whether women have easy access to these services, and if they have mobility and/or economic constraints that may impede access; and,
- Information obtained from consultations carried out in the preparation of the project.

Prepare an Environmental and Social Management Plan (ESMP). The ESMP should capture:

- The potential environmental and social impacts resulting from project activities
- The proposed mitigation measures;
- The institutional responsibilities for implementation;
- The monitoring indicators;
- The institutional responsibilities for monitoring and implementation of mitigation measures;
- The costs of activities

3.0 CRITERIA FOR EXPERTISE QUALIFICATION

The consultant (firm) required for the preparation of the ESMP will have at least 7years experience in environmental and social management, Occupational Health and safety issues/public and must have an advanced degree earned in relevant fields including but not limited to environmental sciences, or the social sciences.

The consultant(s) must have on his team a Baseline data specialists, social scientists, environmental analysts, OHS Specialist and stakeholder consultation expert.

The consultant(s) must have a working knowledge of World Bank Environmental and Social Framework, Operational safeguards policies gained through hands-on experience in the preparation and implementation of environmental and social management plans in an

urban/rural areas.
Five years-experience of working with communities, stakeholder engagement, management and practical project experience working for similar projects in Nigeria or West Africa

Excellent writing and organizational skills

DELIVERABLES AND TIMING
The consultant will work in close coordination with the SPIU Project team. In addition, the Consultant will liaise with the State Ministry of Education and other Departments during preparation of the ESMP document. The SPIU will provide to the Consultant all available documents that would facilitate completion of the ESMP including any studies on environmental and social impacts. The key output of the services is an ESMP prepared based on the scope of work under this consultancy. The following report shall be submitted through the SPIU for review and approval of the World Bank Team as detailed below

S/No	Report	Due Date (N= Commencement of Contract)
1.	**Inception Report** Inception Report shall be submitted presenting the Consultant's Work Plan, defines the Implementation Schedule by task, and methodology should be submitted. This will include the table of content of the final report. Five (4) hard copies and one electronic copy shall be submitted	N+ 1week
2.	Draft Report Five Hard Copies and an electronic copy	N+4 weeks
3.	Draft Final Report	N+6 weeks
3	Final ESMP Report 10 Hard Copies and an electronic copy	N+8weeks

ETHICAL REQUIREMENTS
Before undertaking any activity, the team will make sure that it understands all ethical considerations related to working GBV (in particular Sexual Exploitation and Abuse). The consultant should not collect any primary data, they should NOT conduct interviews or research using the SEA survivors and will only make use of secondary sources and data. This with the objective to minimize harm to women and children.

OUTLINE AND SUBSTANCE OF THE ESMP REPORT
The ESMP Report shall be presented in a concise format containing all studies, processes, analyses, tests and recommendations for the proposed intervention. The report shall focus on the findings, conclusions and any recommended actions, supported by summaries of the data collected and citations for any references used. The ESMP report will include the following topics, organized in a suggested outline that can be adjusted for local needs:
Coverage
Table of contents
List of acronyms and their definitions
Executive Summary
CHAPTER ONE: INTRODUCTION
- Description of the proposed intervention
- Scope of the assignment
- Rationale for ESMP
- Objectives of the ESMP

CHAPTER TWO: ADMINISTRATIVE & REGULATORY FRAMEWORK
- Discussion of the World Bank safeguard policies triggered by AGILE and the proposed activity

- Summary of relevant local and federal policy, legal, regulatory, and administrative frameworks

CHAPTER THREE: PROJECT DESCRIPTION

- Description of the Proposed Project, Project Component and Activities

CHAPTER FOUR: DESCRIPTION OF PROJECT ENVIRONMENT

- Description of the area of influence and environmental baseline conditions
- Analysis of existing livelihoods opportunities, income, gender characteristics, age profile, health, transport access, existing community structures - at community, household, and individual levels

CHAPTER FIVE: POTENTIAL IMPACTS AND MITIGATION

- Methods and techniques used in assessing and analyzing the environmental and social impacts of the proposed project
- Discussion of the potentially significant adverse environmental and social impacts of the proposed project
- Labour influx
- Description of the GBV risk (including a GBV Action Plan), and more broadly the ESHS expectations, and include appropriate mitigation =measures. The basis of the GBV Action Plan should be provided as part of the ESMP.

CHAPTER SIX: GRIEVANCE REDRESS MECHANISM

CHAPTER SEVEN: ENVIRONMENTAL & SOCIAL MANAGEMENT PLAN

- Discussion of the proposed mitigation measures
- Institutional responsibilities and accountabilities
- Capacity building plan
- Public consultation plan
- Description of grievance redress mechanism (in alignment with the ESMP and Project Implementation Manual) to address situations of conflicts or disagreements about some of the project activities
- Monitoring and evaluation plan, including suitable indicators for the proposed project
- Costs of implementing the ESMP

CHAPTER EIGHT: PUBLIC CONSULTATION

- Presentation of consultations with relevant stakeholders and affected persons

CHAPTER NINE: CONCLUSION AND RECOMMENDATIONS

REFERENCES

APPENDIX 1: TERMS OF REFERENCE

APPENDIX 2: SOCIO-ECONOMIC ASSESSMENT INSTRUMENT

APPENDIX 3: ATTENDANCE AT COMMUNITY CONSULTATIONS

APPENDIX 4: GENERAL ENVIRONMENTAL MANAGEMENT CONDITIONS FOR CONSTRUCTION CONTRACTS

APPENDIX 5: WASTE MANAGEMENT PLAN

APPENDIX 6: PROJECT OCCUPATIONAL HEALTH AND SAFETY (OHS) PLAN

APPENDIX 7: TRAFFIC MANAGEMENT PLAN

APPENDIX 8: SAMPLE CODES OF CONDUCT

APPENDIX 9 Screening checklist

APPENDIX 10: OHS/CHS management plan

1. Eligibility and How to Apply

i. Firm/Service provider meeting the criteria set above are eligible to apply

ii. The selection method of consultants for this assignment will be by Firm/Service Provider Qualification.

iii. All qualified Firms/Service Providers are hereby invited to submit their intentions to undertake this assignment to: The State Project Coordinator, AGILE Secretariat Kebbi State at Abdullahi Fodio Islamic Institute Opposite Emir's Palace Birnin Kebbi, Kebbi State

iv. The Consultant will be selected in accordance with the Selection Based on Consultants Qualification (CQS) Method set out in the Procurement Regulations for

IPF Borrowers dated July 2016 available and revised November, 2017, revised August, 2018 on www.worldbank.org/procure

The Project Coordinator
AGILE Project, Kebbi
Attention: E&S team

ANNEXURE II: Kebbi AGILE Schools for Rehabilitation/Renovations

PROPOSED KEBBI AGILE SCHOOLS FOR REHABILITATION/RENOVATION

S/N	SCHOOL CODE	LGA	NAME OF SCHOOL	LEVEL
1	112202200033	ALIERO	JSS (GIRLS) ALIERO	JSS
	112202200051	ALIERO	JSS DANWARAI	JSS
	112202200098	ALIERO	JSS RAFI MAI FANFO	JSS
	112202200101	ALIERO	JSS KAURAR LABA	JSS
	112202200133	ALIERO	GSC ALIERO (BOYS ONLY)	JSS & SSS
	112202200134	ALIERO	GGCSS ALIERO (GIRLS ONLY)	JSS & SSS
	112202200135	ALIERO	GDSS KASHIN ZAMA	JSS & SSS
	112202200136	ALIERO	JSS SABIYAL	JSS
	112202200137	ALIERO	GDSS JIGA BIRNI	JSS & SSS
	112202200138	ALIERO	GDSS BAKANBARE BOYS ALIERO	JSS & SSS
	112202200292	ALIERO	BAKAMBARE GIRLS DAY SEC. SCHOOL	JSS & SSS
2	112202200028	AREWA	JSS DAURAN	JSS
	112202200046	AREWA	JSS LAIMA	JSS
	112202200047	AREWA	JSS JARKUKA	JSS
	112202200048	AREWA	JSS GUMUNDAI	JSS
	112202200049	AREWA	JSS GORUN DIKKO	JSS
	112202200050	AREWA	JSS CHIBIKE	JSS
	112202200099	AREWA	JSS FALDE	JSS
	112202200127	AREWA	GSS YELDU (BOYS ONLY)	JSS & SSS
	112202200128	AREWA	GSS RAFIN-TSAKA (BOYS ONLY)	JSS & SSS
	112202200129	AREWA	GSS KARE JANTULLU (BOYS ONLY)	JSS & SSS
	112202200130	AREWA	ZANGO SULE SEC. SCH. KANGIWA (BOYS ONLY)	JSS & SSS
	112202200131	AREWA	GSS BUI (BOYS ONLY)	JSS & SSS
	112202200132	AREWA	GSS BACHAKA (BOYS ONLY)	JSS & SSS
	112202200289	AREWA	GGAISS KANGIWA	JSS & SSS
3	112202200100	ARGUNGU	JSS WALI	JSS
	112202200103	ARGUNGU	EMIR MUH'D MERA COLLEGE ARG. (BOYS ONLY)	JSS & SSS
	112202200104	ARGUNGU	KANTA UNITY COLLEGE, ARGUNGU (BOYS ONLY)	JSS & SSS
	112202200105	ARGUNGU	GSS NATSINI (BOYS ONLY)	JSS & SSS
	112202200106	ARGUNGU	GGCSS ARGUNGU	JSS & SSS
	112202200107	ARGUNGU	GGSS ALWASA (GIRLS ONLY)	JSS & SSS
	112202200108	ARGUNGU	GDSS ALWASA	JSS & SSS
	112202200109	ARGUNGU	GDSS LAILABA	JSS & SSS
	112202200110	ARGUNGU	GDSS TUNGAR ZAZZAGAWA	JSS & SSS
	112202200111	ARGUNGU	GSS GULMA (BOYS ONLY)	JSS & SSS
	112202200112	ARGUNGU	SAMA DAY SEC. SCH. ARGUNGU (GIRLS ONLY)	JSS & SSS
	112202200113	ARGUNGU	GDSS KAURAR-SANI	JSS & SSS
	112202200114	ARGUNGU	GDSS FELANDE	JSS & SSS
	112202200115	ARGUNGU	JSS (GIRLS) GULMA	JSS
	112202200116	ARGUNGU	JSS GOTOMO	JSS
	112202200117	ARGUNGU	JSS SAUWA	JSS
	112202200118	ARGUNGU	JSS TUNDUN-WADA	JSS
	112202200291	ARGUNGU	JSS SABON GARIN BARIKI	JSS
	112202200294	ARGUNGU	JSS DANKOJI	JSS
4	112202200001	AUGIE	JSS BAGAYE	JSS
	112202200093	AUGIE	JSS BUBUCHE	JSS
	112202200097	AUGIE	JSS DUNDAYE	JSS
	112202200119	AUGIE	GSC BAYAWA (BOYS ONLY)	JSS & SSS
	112202200120	AUGIE	ABDULLAHI RAFI AUGIE SS (BOYS ONLY)	JSS & SSS
	112202200121	AUGIE	GDSS KWAIDO	JSS & SSS
	112202200122	AUGIE	JSS YOLA (BOYS ONLY)	JSS
	112202200123	AUGIE	GDSS B/TUDU	JSS & SSS
	112202200124	AUGIE	GGSS AUGIE (GIRLS ONLY)	JSS & SSS
	112202200125	AUGIE	GDSS BAYAWA	JSS & SSS
	112202200126	AUGIE	GDSS TIGGI	JSS & SSS
5	112202200002	BAGUDO	GDSS KWASARA	JSS & SSS

	112202200052	BAGUDO	JSS DARANNA	JSS
	112202200053	BAGUDO	GDSS GWAMBA	JSS & SSS
	112202200054	BAGUDO	JSS LAFAGU	JSS
	112202200055	BAGUDO	JSS (G) MUH'D DATTIJO KA'OJE	JSS
	112202200056	BAGUDO	GDSS BAHINDI	JSS & SSS
	112202200139	BAGUDO	GSS BAGUDO	JSS & SSS
	112202200140	BAGUDO	GDSS ZAGGA	JSS & SSS
	112202200141	BAGUDO	GDSS KENDE	JSS & SSS
	112202200142	BAGUDO	GGSS ZAGGA	JSS & SSS
	112202200143	BAGUDO	GSS ILLO	JSS & SSS
	112202200144	BAGUDO	GSS KA'OJE	JSS & SSS
	112202200145	BAGUDO	GGDSS BAGUDO	JSS & SSS
	112202200146	BAGUDO	GDSS TSAMIYA	JSS & SSS
	112202200147	BAGUDO	GDSS LOLO	JSS & SSS
	112202200148	BAGUDO	GDSS BANI	JSS & SSS
	112202200150	BAGUDO	JSS (G) ILLO	JSS
6	112202200003	BIRNIN KEBBI	SCHOOL FOR SPECIAL NEEDS, B/K	JSS & SSS
	112202200004	BIRNIN KEBBI	JSS JANZOMO	JSS
	112202200005	BIRNIN KEBBI	JSS YAMAMA	JSS
	112202200006	BIRNIN KEBBI	JSS GAYI	JSS
	112202200034	BIRNIN KEBBI	GDSS LAGGA	JSS & SSS
	112202200035	BIRNIN KEBBI	JSS GUDI	JSS
	112202200057	BIRNIN KEBBI	AFIC BIRNIN KEBBI	JSS & SSS
	112202200058	BIRNIN KEBBI	GDSS KOLA	JSS & SSS
	112202200059	BIRNIN KEBBI	JSS EASTERN BYE-PASS B/K	JSS
	112202200060	BIRNIN KEBBI	JSS DAGERE	JSS
	112202200061	BIRNIN KEBBI	GDSS BAYAN TASHA	JSS & SSS
	112202200062	BIRNIN KEBBI	JSS (G) HAJIYA KUBURA B/K	JSS
	112202200151	BIRNIN KEBBI	EHRC B/KEBBI	JSS & SSS
	112202200152	BIRNIN KEBBI	GGUC BIRNIN KEBBI	JSS & SSS
	112202200153	BIRNIN KEBBI	ADSS (BOYS) BIRNIN KEBBI	JSS & SSS
	112202200154	BIRNIN KEBBI	ADSS (GIRLS) BIRNIN KEBBI	JSS & SSS
	112202200155	BIRNIN KEBBI	DR. AMINA GC BIRNIN KEBBI	JSS & SSS
	112202200156	BIRNIN KEBBI	NAGARI COLLEGE BIRNIN KEBBI	JSS & SSS
	112202200157	BIRNIN KEBBI	GSC KARDI	JSS & SSS
	112202200158	BIRNIN KEBBI	GAISS AMBURSA	JSS & SSS
	112202200159	BIRNIN KEBBI	SHGGDSS BIRNIN KEBBI	JSS & SSS
	112202200160	BIRNIN KEBBI	AFDSS BIRNIN KEBBI	JSS & SSS
	112202200161	BIRNIN KEBBI	GDSS GESSE	JSS & SSS
	112202200162	BIRNIN KEBBI	GDSS ZAURO	JSS & SSS
	112202200163	BIRNIN KEBBI	GDSS AMBURSA	JSS & SSS
	112202200164	BIRNIN KEBBI	GDSS GWADANGAJI	JSS & SSS
	112202200165	BIRNIN KEBBI	GDSS GAWASU	JSS & SSS
	112202200166	BIRNIN KEBBI	GDSS JUNJU	JSS & SSS
	112202200167	BIRNIN KEBBI	GDSS BADARIYA	JSS & SSS
	112202200168	BIRNIN KEBBI	GDSS GULUMBE	JSS & SSS
	112202200169	BIRNIN KEBBI	GDSS MAKERA	JSS & SSS
	112202200170	BIRNIN KEBBI	GDSS MAKERAR GANDU	JSS & SSS
	112202200171	BIRNIN KEBBI	GDSS (GIRLS) TUDUN WADA	JSS & SSS
	112202200172	BIRNIN KEBBI	JSS GULMARE	JSS
	112202200173	BIRNIN KEBBI	JSS KARDI	JSS
	112202200174	BIRNIN KEBBI	JSS ATIKU BAGUDU B/K (GIRLS ONLY)	JSS
7	112202200063	BUNZA	JSS SABON BIRNI	JSS
	112202200176	BUNZA	GSTC BUNZA	JSS & SSS
	112202200177	BUNZA	GGSS BUNZA	JSS & SSS
	112202200178	BUNZA	GSS TILLI	JSS & SSS
	112202200179	BUNZA	GSS ZOGIRMA	JSS & SSS
	112202200180	BUNZA	GSS BUNZA	JSS & SSS
	112202200181	BUNZA	GDSS TUNGAR DANNUFE	JSS & SSS
	112202200182	BUNZA	GDSS RAHA	JSS & SSS
	112202200183	BUNZA	JSS GWADE	JSS
	112202200184	BUNZA	GDSS MAIDAHINI	JSS & SSS
8	112202200036	DANDI	JSS GEZA	JSS
	112202200064	DANDI	JSS BANIZUMBU	JSS
	112202200065	DANDI	JSS KWAKKABA	JSS
	112202200066	DANDI	JSS SHIKO	JSS

	112202200067	DANDI	JSS MAI GWAZA	JSS
	112202200185	DANDI	GSS FANA	JSS & SSS
	112202200186	DANDI	GSS KAMBA	JSS & SSS
	112202200187	DANDI	GGSS KAMBA (NANA ASMA'U)	JSS & SSS
	112202200188	DANDI	GDSS DOLE-KAINA	JSS & SSS
	112202200189	DANDI	GDSS KYANGAKWAI	JSS & SSS
	112202200190	DANDI	GDSS MUDI KAMBA	JSS & SSS
	112202200191	DANDI	JSS MALLAMAWA KAMBA	JSS
	112202200192	DANDI	GGDSS FANA	JSS & SSS
9	112202200007	DANKO WASAGU	JSS MAI RAI-RAI	JSS
	112202200008	DANKO WASAGU	JSS RAMBO	JSS
	112202200009	DANKO WASAGU	JSS GWAZAWA	JSS
	112202200010	DANKO WASAGU	JSS DAN-UMMARU	JSS
	112202200011	DANKO WASAGU	JSS TUNBURKU	JSS
	112202200012	DANKO WASAGU	JSS KANGO WASAGU	JSS
	112202200037	DANKO WASAGU	GDSS SHANGEL	JSS & SSS
	112202200038	DANKO WASAGU	JSS YAR'ALI	JSS
	112202200068	DANKO WASAGU	JSS TUDUN BICHI	JSS
	112202200069	DANKO WASAGU	JSS KYABU	JSS
	112202200071	DANKO WASAGU	JSS CHONOKO	JSS
	112202200072	DANKO WASAGU	GGDSS DANKO	JSS & SSS
	112202200193	DANKO WASAGU	GGSC RIBAH	JSS & SSS
	112202200194	DANKO WASAGU	GGCSS MAGA	JSS & SSS
	112202200195	DANKO WASAGU	GSS UNASHI	JSS & SSS
	112202200196	DANKO WASAGU	GGDSS WASAGU	JSS & SSS
	112202200197	DANKO WASAGU	GDSS MACHIKA	JSS & SSS
	112202200199	DANKO WASAGU	GDSS KANYA	JSS & SSS
	112202200200	DANKO WASAGU	GDSS (BOYS) RIBAH	JSS & SSS
	112202200201	DANKO WASAGU	GDSS (GIRLS) RIBAH	JSS & SSS
	112202200202	DANKO WASAGU	GDSS MAGA	JSS & SSS
	112202200203	DANKO WASAGU	GAISS WASAGU	JSS & SSS
	112202200204	DANKO WASAGU	GSS BENA	JSS & SSS
	112202200205	DANKO WASAGU	GSS AYU	JSS & SSS
10	112202200013	FAKAI	JSS KANGI	JSS
	112202200039	FAKAI	GDSS BAJIDA	JSS & SSS
	112202200070	FAKAI	JSS KELE	JSS
	112202200073	FAKAI	GDSS MAGORO	JSS & SSS
	112202200074	FAKAI	GDSS KUKUM	JSS & SSS
	112202200075	FAKAI	GDSS KUKA ZUSSUN	JSS & SSS
	112202200076	FAKAI	GDSS YOKO PENI	JSS & SSS
	112202200206	FAKAI	GGSS MAHUTA	JSS & SSS
	112202200207	FAKAI	GSS B/TUDU MATSERI	JSS & SSS
11	112202200014	GWANDU	JSS YOLE BIRNI	JSS
	112202200029	GWANDU	JSS WARARIN MAGAJI	JSS
	112202200030	GWANDU	JSS DODORU	JSS
	112202200031	GWANDU	JSS TARI	JSS
	112202200077	GWANDU	JSS NAMAN-GOMA	JSS
	112202200078	GWANDU	JSS GWABARE	JSS
	112202200079	GWANDU	JSS MARUDA	JSS
	112202200208	GWANDU	GDSS GWANDU	JSS & SSS
	112202200209	GWANDU	GDSS MALISA	JSS & SSS
	112202200210	GWANDU	GDSS MASAMA	JSS & SSS
	112202200211	GWANDU	GDSS DALIJAN	JSS & SSS
	112202200212	GWANDU	GDSS KAMBAZA	JSS & SSS
	112202200213	GWANDU	GGDSS GWANDU	JSS & SSS
	112202200214	GWANDU	GDSS MADADI	JSS & SSS
12	112202200015	JEGA	JSS GIWATAZO	JSS
	112202200032	JEGA	JSS GUMBINKURE	JSS
	112202200040	JEGA	GDSS JANDUTSE	JSS & SSS
	112202200080	JEGA	GDSS DUMBEGU	JSS & SSS
	112202200081	JEGA	GDSS KIMBA	JSS & SSS
	112202200082	JEGA	JSS KATANGA	JSS
	112202200096	JEGA	JSS ALELU	JSS
	112202200102	JEGA	JSS GEHURU	JSS
	112202200215	JEGA	HAASS JEGA	JSS & SSS
	112202200216	JEGA	GSC BASAURA	JSS & SSS

	112202200217	JEGA	GDSS BOYS JEGA	JSS & SSS
	112202200218	JEGA	GDSS GIRLS JEGA	JSS & SSS
	112202200219	JEGA	GDSS OKE JEGA	JSS & SSS
	112202200220	JEGA	GGDSS JEGA	JSS & SSS
	112202200290	JEGA	JSS (GIRLS) BASAURA	JSS
13	112202200016	KALGO	JSS NAYELWA	JSS
	112202200083	KALGO	JSS ETENE	JSS
	112202200221	KALGO	GDSS DIGGI	JSS & SSS
	112202200222	KALGO	GDSS KUKA	JSS & SSS
	112202200223	KALGO	GGDSS KALGO	JSS & SSS
	112202200224	KALGO	GDSS KALGO	JSS & SSS
	112202200225	KALGO	GDSS DANGOMA	JSS & SSS
	112202200226	KALGO	USMAN M.L.A.I.S. DIGGI	JSS & SSS
14	112202200017	KOKO BESSE	JSS DUTSIN-MARI	JSS
	112202200084	KOKO BESSE	JSS LAINI (MAKERA)	JSS
	112202200085	KOKO BESSE	JSS KARAMAR DAMBA	JSS
	112202200149	KOKO BESSE	GDSS ZARIA KALA-KALA	JSS & SSS
	112202200227	KOKO BESSE	GDSS KOKO	JSS & SSS
	112202200228	KOKO BESSE	GSC KOKO	JSS & SSS
	112202200229	KOKO BESSE	GDSS BESSE	JSS & SSS
15	112202200021	MAIYAMA	JSS LIBA	JSS
	112202200022	MAIYAMA	JSS DOGON DAJI	JSS
	112202200023	MAIYAMA	JSS KAWARA	JSS
	112202200087	MAIYAMA	JSS MAISHIKA	JSS
	112202200088	MAIYAMA	JSS JARGABA	JSS
	112202200240	MAIYAMA	GDSS MAIYAMA	JSS & SSS
	112202200241	MAIYAMA	GDSS ANDARAI	JSS & SSS
	112202200242	MAIYAMA	JSS GIRLS SAMBAWA	JSS
	112202200243	MAIYAMA	GDSS MUNGADI	JSS & SSS
	112202200244	MAIYAMA	GDSS BOYS SAMBAWA	JSS & SSS
	112202200288	MAIYAMA	BAGUDU IBRAHIM B/K SECONDARY SCHOOL KARAYE	JSS & SSS
	112202200293	MAIYAMA	GDSS MAYALO	JSS & SSS
16	112202200019	NGASKI	JSS GARIN BAKA	JSS
	112202200020	NGASKI	JSS RIKOFE	JSS
	112202200086	NGASKI	JSS CIPAMINI	JSS
	112202200230	NGASKI	SARKI ABDULLAHI SS B/YAURI	JSS & SSS
	112202200231	NGASKI	GSS KAMBUWA	JSS & SSS
	112202200232	NGASKI	GDSS LIBATA	JSS & SSS
	112202200233	NGASKI	GDSS NGASKI	JSS & SSS
	112202200234	NGASKI	GSC WARRAH	JSS & SSS
	112202200235	NGASKI	GSS WARRAH	JSS & SSS
	112202200236	NGASKI	GDSS UTONO	JSS & SSS
	112202200237	NGASKI	GGDSS WARRAH	JSS & SSS
	112202200238	NGASKI	GDSS MAKIRIN	JSS & SSS
	112202200239	NGASKI	GDSS KIMO	JSS & SSS
17	112202200024	SAKABA	JSS MAGANDA	JSS
	112202200025	SAKABA	JSS MAZA-MAZA	JSS
	112202200041	SAKABA	GDSS MAKUKU	JSS & SSS
	112202200042	SAKABA	GDSS SAKABA	JSS & SSS
	112202200089	SAKABA	GDSS DANKOLO	JSS & SSS
	112202200245	SAKABA	GGDSS DIRIN DAJI	JSS & SSS
	112202200246	SAKABA	GSS DIRIN DAJI	JSS & SSS
18	112202200018	SHANGA	JSS ATUWO	JSS
	112202200026	SHANGA	JSS KWANJI	JSS
	112202200045	SHANGA	GDSS DUGU	JSS & SSS
	112202200090	SHANGA	JSS SAKACE	JSS
	112202200247	SHANGA	GDSS SHANGA	JSS & SSS
	112202200248	SHANGA	GSTC SAMINAKA	JSS & SSS
	112202200249	SHANGA	JSS TUNGAR GIWA	JSS
	112202200250	SHANGA	GDSS GIRON MASA	JSS & SSS
19	112202200044	SURU	JSS SANGELU	JSS
	112202200091	SURU	JSS BANDAM	JSS
	112202200092	SURU	JSS BAKUWAI	JSS
	112202200251	SURU	GSS SURU	JSS & SSS
	112202200252	SURU	GDSS ALJANNARE	JSS & SSS

	112202200253	SURU	GDSS BAKOSHI	JSS & SSS
	112202200254	SURU	GSC DAKINGARI	JSS & SSS
	112202200255	SURU	GGCSS SURU	JSS & SSS
	112202200256	SURU	GGSC DAKINGARI	JSS & SSS
	112202200257	SURU	GDSS GIRON KABI	JSS & SSS
	112202200258	SURU	JSS (G) DAKINGARI	JSS
20	112202200259	YAURI	GGSC YAURI	JSS & SSS
	112202200260	YAURI	GDSS ZAMARE	JSS & SSS
	112202200261	YAURI	GDSS TONDI TSAMIYA	JSS & SSS
	112202200262	YAURI	GDSS GEBBE	JSS & SSS
	112202200263	YAURI	GSS YAURI	JSS & SSS
	112202200264	YAURI	ASS (BOYS) YAURI	JSS & SSS
	112202200265	YAURI	ASS (GIRLS) YAURI	JSS & SSS
	112202200266	YAURI	GDSS RIKUBOLO	JSS & SSS
	112202200267	YAURI	JSS SABON GARI	JSS
	112202200268	YAURI	MAKAMA BAWA GDSS	JSS & SSS
	112202200269	YAURI	GDSS GUMBI	JSS & SSS
	112202200270	YAURI	MURTALA GDSS YAURI	JSS & SSS
21	112202200027	ZURU	JSS ZODI	JSS
	112202200043	ZURU	GDSS GILWASA	JSS & SSS
	112202200094	ZURU	GDSS KYEZGE	JSS & SSS
	112202200095	ZURU	JSS DONGO ZURU	JSS
	112202200175	ZURU	ISDSS (GIRLS) DABAI	JSS & SSS
	112202200198	ZURU	MAL-HAMIDU LADAN ZURU GDSS	JSS & SSS
	112202200271	ZURU	MACHSS (BOYS) SENCHI	JSS & SSS
	112202200272	ZURU	MACHSS (GIRLS) SENCHI	JSS & SSS
	112202200273	ZURU	BAHAGO GOMO SEC. SCH. (B) ZURU	JSS & SSS
	112202200274	ZURU	BAHAGO GOMO SEC. SCH. (G) ZURU	JSS & SSS
	112202200275	ZURU	GSTC ZURU	JSS & SSS
	112202200276	ZURU	GSC ZURU	JSS & SSS
	112202200277	ZURU	ADSS (BOYS) ZURU	JSS & SSS
	112202200278	ZURU	ADSS (GIRLS) ZURU	JSS & SSS
	112202200279	ZURU	ISDSS (BOYS) DABAI	JSS & SSS
	112202200280	ZURU	GDSS ISGOGO	JSS & SSS
	112202200281	ZURU	GGDSS ZANGO	JSS & SSS
	112202200282	ZURU	GDSS BEDI	JSS & SSS
	112202200283	ZURU	GDSS ZODI/TADURGA	JSS & SSS
	112202200284	ZURU	GDSS SAMI GOMO	JSS & SSS
	112202200285	ZURU	GDSS TUDUNWADA ZURU	JSS & SSS
	112202200286	ZURU	GDSS ELENBELU	JSS & SSS
	112202200287	ZURU	GDSS RIKOTO	JSS & SSS

ANNEXURE III: Template of Socioeconomic Survey Forms Used for Kebbi AGILE ESMP

ESMP QUESTIONNAIRE

QUESTIONNAIRE NUMBER	

KEBBI STATE ADOLESCENT GIRLS INITIATIVE FOR LEARNING & EMPOWERMENT (AGILE) PROGRAMME
[Rehabilitation/Renovation of Junior and Senior Secondary Schools]

NAME OF COMMUNITY: _____
DATA COLLECTION CONSENT & SURVEY FORM

CONSENT:
We are conducting/preparing an Environmental and Social Management Plan (ESMP) for the above rehabilitation/renovation project under the Kebbi State Adolescent Girls Initiative for Learning and Empowerment (AGILE) Programme. The data collected will help to assess the environmental and social impacts that may occur as a result of these rehabilitation and renovation works at the Kebbi State Junior and Senior Secondary Schools. To enable us achieve this objective, this socioeconomic survey and your voluntary consent for the survey are required.

Gender		Your Village/ Community School									
No of years lived in area?:											
Do you live in area?	YES	NO	Do you desire to see this project happen?			YES	NO				
No. of Persons in Your Household:		MALE		FEMALE		Highest Education	NS/F/S/UG/G/PG				
What is your age range?		0-21 yrs	22-45 yrs	46-60 yrs		61-70 yrs	Above 70 yrs				
Are you married?	YES	NO	Your Occupation								
Household Age Distribution		0-21 yrs	22-45 yrs	46-60 yrs		61-70 yrs	Above 70 yrs				
Household Educational Distribution	No School (NS)	FSLC (F)	SSCE (S)	Undergrad (UG)		Graduate (G)	Post Grad (PG)				
Household Marital Status:	Child	Single	Married	Widowed		Separated	Divorced				
Household Occupational Distribution:	Student	Farmers	Daily Labor	Civil Servant		Trader/ Business	Industrial Worker	Unemployed			
Monthly Income (Household):	Below N21,000	N21,000-30,000	N31,000-45,000	N46,000-60,000		N60,000-120,000	Above N120,000				
How will this project affect you, your household or your community?		Improve Learning	Improve Community Vibrancy	Increase Businesses		Improve Communication	Others				
What was the frequent illness(es) in your family in the past one year?											
Where does your family seek medical treatment from?			Hospital	Pharmacy/ Chemist		Native Drugs	Self-Medication				
How far is this facility from your place?			Walking Distance	Upto 2.0km		Over 2.0km	Outside Community				

Household Composition and Personal Information

Household Members	Surname	Other Names	Relationship With H.H	Gender	Age	Disability	Educational Level	Occupation
Head of Household								
Spouse								
Member 1								
Member 2								
Member 3								
Member 4								
Member 5								
Member 6								
Member 7								

Disability = Blind-1; Crippled-2; Mentally Disabled-3; Physically Challenged-4, Other-5
Relationship = Self -1; Wife-2; Son/Daughter-3, Nephew/Niece-4, Son-in-law/Daughter-in-law-5, Grand Child-6, Parent-7, House Help-8, Others-9
Marital Status = Single-1, Married-2, Widow-3, Widower-4, Divorcee-5, Separated-6, Single Parent-7.
Literacy Level = Illiterate-1, Primary School-2, Secondary School-3, Undergraduate-4, Graduate-5, Post Graduate-6, Others-7.
Occupation = Crop Farming-1, Animal Husbandry-2, Service Provider-3, Civil Servant-4, Craftsmanship/Artisanship-5, Trade/Business-6, Industrial Worker-7, Daily Wage Labour-8, Other-9.

About the Schools

S/N	QUESTION	ANSWER	COMMENT
1	Do your school compounds have secured walls and security personnel on patrol in the evenings?	Yes ☐ No ☐	
	If yes, how many security personnel are always on duty?	Yes ☐ No ☐	
2	Are your schools easily accessible to persons with disability?	Yes ☐ No ☐	
	If no, what are the alternatives?		
3	Does your school have adequate and functioning latrines and bathrooms?	Yes ☐ No ☐	
	If no, what are the alternatives?		
4	Are boys' and girls' latrines and bathhouses separated?	Yes ☐ No ☐	
5	Are the latrines and bathhouses easily accessible?	Yes ☐ No ☐	
5	Are the latrines and bathhouses safe and secure for girls?	Yes ☐ No ☐	
6	Are pathways to the female latrines and bathrooms in the schools well lit?	Yes ☐ No ☐	
7	Does the school have functioning water collection points inside their compounds?	Yes ☐ No ☐	
8	Are the water collection points safe and easily accessible to girls?	Yes ☐ No ☐	
9	Are the male and female dormitory facilities separated from each other by well-built walls?	Yes ☐ No ☐	

11	Are there separate reading/dining halls for male and female students	Yes ☐ No ☐	
12	If yes, are female reading/dining halls easily accessible and safe?	Yes ☐ No ☐	
13	Is the environment well-lit at night?	Yes ☐ No ☐	
14	Are there burglary proofs in the windows and are there well protected doors for the female dormitories?	Yes ☐ No ☐	
	If yes are they always locked at night?	Yes ☐ No ☐	
15	Are there known danger zones in the school?	Yes ☐ No ☐	
16	Does your school have a protection focal point? If yes please name the organization responsible for it _____	Yes ☐ No ☐	
17	Are there focal persons students can report to when GBV issues arise?	Yes ☐ No ☐	
18	If yes what are the mechanisms?		

For School/Community Leaders

S/N	QUESTION	ANSWER	COMMENT
1	Is there any existing teenage friendly complaint/reporting mechanisms within the community for survivors of GBV?	Yes ☐ No ☐	
2	If yes what are the mechanisms?	Yes ☐ No ☐	
3	Are there any existing punitive measures for perpetrators of GBV in your community?	Yes ☐ No ☐	
4	Do NGOs/government raise GBV awareness among teachers and parents in the community?	Yes ☐ No ☐	
5	Are there any existing code of conduct for teachers/admin staff in the schools?	Yes ☐ No ☐	
6	Does the community where the school is located have easy access to water collection (well, tap water, etc.)	Yes ☐ No ☐	
	If no, do they fetch water from an isolated place/stream	Yes ☐ No ☐	
7	Do students assist their parents in farm work or in their private business?	Yes ☐ No ☐	
	If yes, are the roads to farms far or isolated from the residential houses?	Yes ☐ No ☐	
8	Are there construction sites near school routes that female students follow to school?	Yes ☐ No ☐	
9	Are there sexual assault counselling/referral centres in the community where the schools are	Yes ☐ No ☐	
10	Are there known danger zones around the community?	Yes ☐ No ☐	
11	Are community members aware of how to report a case of sexual	Yes ☐ No ☐	

	violence against a girl living in your community?		
	If yes, ask: Who would they report the case to?		
14	Are there female health workers available in the health centre to treat girls who have experienced sexual violence?	Yes ☐ No ☐	
15	Are there other services available in your community to assist girls who have experienced violence?	Yes ☐ No ☐	
	If yes, ask the following: What services are available?		
16	Is there an interagency GBV committee in your community?	Yes ☐ No ☐	
19	Are there any existing code of conduct for teachers/admin staff in the schools?	Yes ☐ No ☐	
20	Is there any existing teenage friendly complaint/reporting mechanisms within the community for survivors of GBV?	Yes ☐ No ☐	
21	Are there any existing punitive measures for perpetrators of GBV in your community?	Yes ☐ No ☐	
22	Do NGOs/government raise GBV awareness among teachers and parents in the school?	Yes ☐ No ☐	

INTERVIEWER: (Full Names)		PHONE NO.			
SIGNATURE		DATE:	D:	M:	2023

ANNEXURE IV: Attendance at Community/Stakeholders' Consultations

Consultation Meeting with Argungu School Zonal Communities/Stakeholders

STAKEHOLDERS SENSITIZATION AND CONSULTATION MEETING HELD AT KANTA UNITY COLLEGE, ARGUNGU ON WEDNESDAY, JANUARY 18, 2023

ITEMS	DESCRIPTION
1. Project:	Kebbi State AGILE: ESMP
2. Name of Zone:	Argungun, Kebbi
3. Date:	January 18, 2023
4. Language of Communication:	Hausa and English
5. Protocols and Introductions:	• The meeting with the zonal stakeholders started at about 11:41am at the hall of the Kanta Unity College with an opening prayers made by mallam Garba Adamu Argungu, after which, introduction, introduction of members of the SPIU as well as the consultants where made. The meeting was attended by a large delegation of the SPIU led by the Project Coordinator who was represented by the Environmental Safeguard Officer– Mallam Saidu Umar Yeldu. The consulting firm, led by the principal consultant – Dr. Odili Ojukwu. • The attendees were welcomed by the zonal education director, Umar Hima Augie as the meeting commences..
6. Remarks of the SPIU:	• The representative of the project coordinator (PC) Mallam Saidu Umar Yeldu spoke on behalf of the SPIU. • He welcomed and appreciated the stakeholders which is composed of the traditional leader /village head, women leaders, as well as the Secretaries/principals of the various Junior and Secondary schools of the Argungu Educational Zone, for the privilege of having a meeting with them, stating that the consultant have come to carry out an ESMP for the rehabilitation /renovation of the junior and senior secondary schools in the zone under the AGILE Project, urging them to give their support and maximum cooperation for the success of the project. • After his remark, he introduced the principal consultant, Dr. Odili Ojukwu and team.
7. Remarks of the Principal Consultant:	• Dr. Odili Ojukwu who spoke in English language and was interpreted in the local dialect (Hausa) by Dr Abdulrahaman, appreciated the stakeholders and went on to inform them that the team is on ground for the environmental and social management plans (ESMPs) for rehabilitation /renovation of the junior and senior secondary schools in the zone under the Kebbi State AGILE, with funding assistance from the World Bank. • He emphasized 3 major aspect of the project which includes; sensitization, consultation (getting feedback from the people on what we need to know to carry out the project effectively through questions and suggestions) as well as Documentation. • Dr Odili explained that ESMP consultancy is aimed at finding out and documenting the impacts of the proposed civil rehabilitation works on the elements of the bio-physical and socio-economic environment around the schools. • He noted that a baseline survey and site characterization would be carried out, this will involve biodiversity characterization, taking of samples of Air, water, soil, sound to determine its quality before and after the project. This is to ensure that the environment is not degraded by the project, rather world bank demands that the environment must be better off after the project. • He emphasized that the stakeholders must see the project as their own and must take full ownership. Therefore it is their right to ask questions at all stages of the project. More so, they need to be aware of whatever that is going on with respect to the project.

	Therefore their maximum support and cooperation is highly needed. • The stakeholders were further informed by Dr Odili, that documentation on their socioeconomics using the questionnaire would commence immediately after the meeting by a team of enumerators. • More so, a women focus group discussion would also be held to ascertain their specific perspectives and perceptions about the project. • He thanked the community for their time and requested that questions be asked
8. Questions/Concerns/ Suggestion of Stakeholders:	• Reacting to the remarks above, the stakeholders asked several questions: • Umar Garba, Secretary, GSS Alwasa asked, "why is AGILE concentrating on only secondary schools, not including the primary schools where the level of dilapidation is more than that of the secondary schools"? • Saratu Muhammed, Senior Mistress JSS Bariki, asked that, "is the project limited to the school environment or does it extend to residential areas surrounding the school"? • Halima Hassan asked that, "What measure would be put in place to ensure that the girl students are not molested or abused by the males especially the male workers during the project implementation"? She however suggested that, projects should be carried out only during the holidays to ensure that the girl students are not in school. This would curb incidence of molestations, abuse and Gender base violence. • Musa Alkali Yusuf noted that most AGILE schools have no fence, nor security personnel, nor watchmen and as a result, most of the schools assets are being vandalized. Hence, he suggested that the project should emphasis on provision of security as well as building of fences. • Alhaji Bello Magaji, The village head and Chairman GSS Gage, urge the project to extend from building of classrooms to hostels and sanitary facilities which are lacking in most of the schools. • Murtala Muhammed suggested that trees be planted as part of the project intervention to minimize destruction of classrooms and school buildings by wind storm. • Muhammed Tukur Hassan suggested that water supply should be part of the AGILE intervention.
9. Responses to the Questions and Concern Respectively:	• In response to Umar Garba's question, Dr. Odili stated that the question is noted and would be appropriately conveyed to those concern. However, he advised the stakeholders to think in the direction of how the project will affect their immediate environment as well as the people. • In response to Saratu Muhammed's question, Dr Abdulrahman noted that the project covers both the school environment as well as the residence surrounding the school. • In response to Saratu Muhammed's question, Dr Odili noted that adequate measures would be put in place to forestall such occurrences. However, he advised stakeholders to adequately sensitize the girl students to avoid activities that may predispose them to abuse, molestation or violence during the project implementation. • Various suggestions made by stakeholders were also noted.
10. Closing:	• The meeting came to a close at about 1:17pm.
12. Attendees:	• The meeting was attended by 147 persons composed of 90 males and 57 females.

Details on persons contacted during the stakeholders engagements are available with the Kebbi SPIU

Consultation Meeting with Birni Kebbi Zonal Communities/Stakeholders

STAKEHOLDERS SENSITIZATION AND CONSULTATION MEETING HELD AT NAGARI COLLEGE BIRNIN KEBBI ON THURSDAY, JANUARY 19, 2023

ITEMS	DESCRIPTION
1. Project:	Kebbi State AGILE: ESMP
2. Name of Zone:	Birnin Kebbi (Gwandu, Birnin Kebbi and Kalgo LGAs)
3. Date:	January 19, 2023
4. Language of Communication:	Hausa and English
5. Protocols and Introductions:	• The meeting with the zonal stakeholders started at about 11:30am at the hall of the Nagari College. The meeting was attended by a large delegation of stakeholders which included: Three (3) representatives from the School-Based Management Committees (SBMCs) –(i)Traditional rulers, (ii) Principals of schools and (iii) women leaders from all the AGILE schools under Birnin Kebbi educational zone that comprises; Gwandu, Birnin Kebbi and Kalgo LGAs. Also members of SPIU led by the Project Coordinator who was represented by the Environmental Safeguard Officer– Mallam Saidu Umar Yeldu were also present. The consulting firm, were led by the principal consultant – Dr. Odili Ojukwu
6. Remarks of the SPIU:	• The representative of the project coordinator (PC) Mallam Saidu Umar Yeldu spoke on behalf of the SPIU. • He welcomed and appreciated the stakeholders for being present, stating that the consultant have come to carry out an ESMP for the rehabilitation /renovation of the Junior and Senior secondary schools in the zone under the AGILE Project, urging them to give their support and maximum cooperation for the success of the project. • After his remark, he introduced the principal consultant, Dr. Odili Ojukwu and his team.
7. Remarks of the Principal Consultant:	• The Principal consultant, Dr. Odili Ojukwu who spoke in English language while Dr Abdulrahaman gave the interpretation in the local dialect (Hausa), having thanked the stakeholders for honoring the meeting, also notified them that they were carefully selected because they represent the people and such, they are the critical stakeholders because the project belongs to the people. • He informed them that the team of consultants are on ground for the environmental and social management plans (ESMPs) for rehabilitation /renovation of the junior and senior secondary schools in the zone under the Kebbi State AGILE, with funding assistance from the World Bank. • Dr Odili explained that ESMP consultancy is aimed at finding out and documenting the impacts of the proposed civil rehabilitation works on the elements of the physical and socio-economic environment of the schools as well as the project corridors. • He asked, how many of the stakeholders witnessed the rehabilitation of their school buildings before 1968, 1972. In response to that, it was reported that the Nagari college was erected in 1966, Unity college, 1968 while the first Day Secondary School formerly known as Abdullahi Fodio Secondary school was built in 1979. • Noting the above, he pointed out that a baseline survey and site characterization would be carried out, this will involve biodiversity characterization, taking of samples of Air, water, soil, sound to determine its quality before and after the project. This is to ensure that the environment is not degraded by the project, rather World Bank demands that the environment must be better off after the project. Therefore, he solicited that they make sure the consultants gets the samples needed and encouraged them

	to open most of the water collection points in the project sites so that water samples can be collected with ease. • He emphasized that the stakeholders must see the project as their own and must take full ownership. Therefore it is their right to ask questions at each stage they deem fit to ask. More so, they need to be aware of whatever that is going on with respect to the project. Therefore their maximum support and cooperation is highly needed. • The stakeholders were further informed by Dr Odili, that documentation on their socioeconomics using the questionnaire would commence immediately after the meeting by a team of enumerators. • More so, women focus group discussion would be held to ascertain their specific perspectives and perceptions about the project. • He encouraged the stakeholders to individually attend to the questionnaire with their possible honest opinions. • He thanked the community for their time and requested that questions be asked.
8. Questions/Concerns/ Suggestion of Stakeholders:	• Alhaji Abdullahi Umar, Waziri Gwandu and SBMC chairman (unity college and Girls Science Secondary school) having thanked the members of the SPIU and consultants, emphasized on the need to use durable materials during rehabilitations or renovations as the case may be. He pointed out that the toilet facilities at the unity colleges are bad, that while AGILE is looking at the rehabilitations of classrooms they should also consider building toilets and other sanitary facilities in the schools. • Sardauna Muhammed Daula, SBMC Government Secondary School Gesse noted that both primary school and the secondary school are located in one compound, he wish that the schools be physically separated by erecting a fence to demarcate the primary from the secondary. More so, he solicited for provision of more desk and computers as well as also building laboratory in the school to aid learning. He also added that the school has no play-ground for the students and solicited that it should be made available. • Alhaji Muhammad Liman Gwadangwaji, Principal, UMGAISS Diggi raised a concern that as a result of rehabilitations, most trees which serves as wind breaks are being felled and this poses a serious environmental threat considering the location of the state which is close to the sahara desert. He suggested that before rehabilitation is carried out or buildings erected, that trees should be planted to conserve the environment and to prevent the built classrooms from collapsing as a result of windstorm. In the same vein, he solicited to AGILE that while they build classrooms, they should also consider building drainage systems. He also encouraged AGILE to be timely in disbursement of approved funds due to inflation. Alhaji Muhammad Liman asked a question, that what would be the disciplinary measures or sanctions that would be taken against any contractor who violates the norms and desecrate the values of the people and what procedure should be taken? • Dr Salamatu Bala Haruna, Principal Dr, Aminu College raised a concern that despite collecting about 1500 seedlings from the Ministry of Environment for tree planting, only very little struggled to grow owing to the nature of the soil in the school which has probably been

	covered with sanddunes. As a result, the school is situated in a very bare and open field with no wind breaks. She reported that the environment is dusty and windy and this is affecting the learning process in the school. She also noted that as a result of the environmental condition of the school, the renovated 2 block classrooms were raised by fire outbreak. Hence she is soliciting that something be done to rescue the situation. • Aliyu Muhammed Ambursa. SBMC Chairman, Ambursa asked a question stating that, what would be the solution when the path to the farms of the community members are blocked as a result of fencing the school premises thereby preventing them from accessing there farmlands? • Aisha Bello Diggi, Principal Abdullahi Fodio Islamic School of Boys, noted that the school is experiencing a very serious erosion problem. She solicited that urgent attention be giving to it.
9. Responses to the Questions and Concern Respectively:	• Reacting to Alhaji Abdullahi Umar's concern, Dr. Odili noted that sanitary facility is a major social issue of concern and that will be looked into. However, other issues would be adequately conveyed to those concern. • In response to Muhammad Liman Gwadangwaji's question, the ESO, Mal. Saidu Umar Yeldu specified that, before a contract is awarded to any contractor, there are agreements which needs to be signed by both parties, the memorandum of understanding contains code of conducts which needs to be adhered to strictly by SBMC. In any case that SBMC violates the code of conducts, then necessary legal actions shall be taken to either terminate his contract or suspend the project. • Reacting to Dr Salamatu Bala's concern, Dr Odili Ojukwu assured that adequate recommendations shall be made based on the analysis of the soil sample that will be collected from the school and others wwith similar challenges of the soil not supporting agricultural activities. • In Responds to Aliyu Muhammed Ambursa's question, the ESO Mal. Saidu Umar Yeldu, stated that AGILE is only concern with lands that belongs to the schools and does not take decisions on lands that belongs to the community. He suggested that if a school is fenced for security purposes, the community should provide alternative routes that will make farmers access their farms.
10. Closing:	• The meeting came to a close at about 1:05pm.
12. Attendees:	• The meeting was attended by 161 persons composed of 109 males and 52 females.

REPORT OF THE ARGUNGU ZONE WOMEN FOCUS GROUP DISCUSSIONS (FGD)

ITEMS	DESCRIPTION
1. Project:	Kebbi State AGILE: ESMP
2. Title	Women Focus Group Discussion (FGD)
3. Zone:	Birnin Kebbi Educational Zone
4. Date:	Jan 19, 2023
5. Language of Communication:	Hausa and English
6. Introductions:	• The meeting started at about 1:10pm with an opening prayer by Hajia Rukkaya . It was a follow-up to the general community sensitization held same day at the Nagari college, Birnin Kebbi .
7. Remarks of the Consultant:	• The Principal Consultant Dr Odili Ojukwu, was represented by Miss Ngozi Okoro • She explained to the attendees that the proposed ESMP for the rehabilitation /renovation of the junior and senior secondary schools in the zone under the AGILE Project are likely to have adverse impacts on the elements of the physical environment and socio-economic lives of the community. There is therefore the need to recommend appropriate mitigation and compensatory measures to deal with these impacts; and this is the main purpose of the ESMP consultancy. • Women-specific perspectives to the study and their perception about the project are considered important. Hence the need for the meeting. • She mentioned the following likely adverse impacts to be experienced temporary during the engineering rehabilitation such as; Dusts; Lost of topsoil and vegetation; Noise; Soil/ground water contamination; Traffic disruptions; and creation/limiting of operational routes; Disruptions to livelihood as well as Sexual risks (HIV/AIDs). • She urged the women to be patient as some of this effects are temporal. However, the women were advised to restrain their wards against restiveness during the engineering rehabilitation as well as sensitizing their female wards to avoid sexual molestation. • Miss Ngozi Okoro also reminded the women group of the socioeconomic survey which will commence immediately after the FGD meeting.
8. Perceptions of the Project and Questions:	• The women were well pleased with the prospect of the project being implemented soon. They pledged their support, prayers and cooperation. • Dr Salamatu Bala Haruna, Principal Dr, Aminu College raised a concern that despite collecting about 1500 seedlings from the ministry of Environment for tree planting, only very little struggled to grow owing to the nature of the soil in the school which has probably been covered with sand dooms. As a result, the school is situated in a very bare and open field with no wind breaks. She reported that the environment is dusty and windy and this is affecting the learning process in the school. She also noted that as a result of the environmental condition of the school, the renovated 2 block classrooms were raised by fire outbreak. Hence she is soliciting that something be done to rescue the situation. • Aisha Bello Diggi, Principal Abdullahi Fodio Islamic School of Boys, noted that the school is experiencing a very serious erosion problem. She solicited that urgent attention be giving to it.
9. Response of the Consultant:	• Reacting to Dr Salamatu Bala's concern, Dr Ojukwu assured that adequate recommendations shall be made based on the analysis of the soil sample that will be collected from the school and others with similar challenges of the soil not supporting agricultural activities.
10. Attendees:	• The meeting was attended by 48 women.
11. Closing:	• The meeting came to a close at about 1:40pm

Consultation Meeting with Yauri School Zonal Communities/Stakeholders

STAKEHOLDERS SENSITIZATION AND CONSULTATION MEETING HELD AT GOVERNMENT SCIENCE SECONDARY SCHOOL YAURI, ON
FRIDAY, JANUARY 20TH, 2023

ITEMS	DESCRIPTION
1. Project:	Kebbi State AGILE: ESMP
2. Name of Zone:	Yauri
3. Date:	January 20th, 2023
4. Language of Communication:	Hausa and English
5. Protocols and Introductions:	• The meeting with the zonal stakeholders began at about 11:15am at the hall of the Government Science Secondary School, Yauri. The meeting was attended by a large delegation of stakeholders which includes, Traditional rulers, Principals of schools, women leaders, members of SPIU led by the Project Coordinator who was represented by the Environmental Safeguard Officer– Mallam Saidu Umar Yeldu and the team of consultants, led by Dr. Odili Ojukwu, the principal consultant.
6. Remarks of the SPIU:	• The representative of the project coordinator (PC) Mallam Saidu Umar Yeldu spoke on behalf of the SPIU. • He welcomed and appreciated the stakeholders for their presence, stating that the consultant have come to carry out an ESMP for the rehabilitation /renovation of the junior and senior secondary schools in the zone under the AGILE Project, urging them to give their support and maximum cooperation for the success of the project. • After his remark, he introduced the principal consultant, Dr. Odili Ojukwu and team.
7. Remarks of the Principal Consultant:	• The Principal consultant, Dr. Odili Ojukwu welcomed and thanked the stakeholders for honouring the invitation for the meeting, after which, he introduced Dr Abdulrahaman, who spoke in the local dialect (Hausa) for a better understanding. • Dr Abdulrahaman continued by notifying them that they were carefully selected because they represent the people to which the project belongs to and as such, they are the critical stakeholders. • He informed them that the team of consultants are on ground for the environmental and social management plans (ESMPs) for rehabilitation /renovation of the junior and senior secondary schools in the zone under the Kebbi State AGILE, with funding assistance from the World Bank and it is important that the stakeholders are aware of it. • He explained that ESMP consultancy is aimed at finding out and documenting the impacts of the proposed civil rehabilitation works on the elements of the physical and socio-economic environment of the schools as well as the project corridors. • He added that a baseline survey and site characterization would be carried out, this will involve biodiversity characterization, taking of samples of Air, water, soil, sound elements to determine its quality before and after the project. This is to ensure that the environment is not destroyed by the project, it is expected that the environment should be better off after the project. Therefore, he solicited that they make sure the consultants gets the samples needed and encouraged them to open most of the water collection points in the project sites so that water samples can be collected with ease. • He emphasized that the stakeholders must see the project as their own and must take full ownership. Therefore it is their right to ask questions at each stage they deem fit to ask. More so, they need to be aware of whatever that is going on with respect to the project. Therefore their maximum support and cooperation is highly needed. • The stakeholders were further informed that documentation on their socioeconomics using the questionnaire would commence immediately after the meeting by a team of enumerators. • More so, women focus group discussion would be held to ascertain their

	specific perspectives and perceptions about the project. • He encouraged the stakeholders to individually attend to the questionnaire with their possible honest opinions. • He thanked the community for their time and requested that questions be asked.
8. Questions/Concerns/ Suggestion of Stakeholders:	• Alhaji Ahmed Wali, SBMC chairman Makama Bawa Emirate School thanked the members of the SPIU and consultants, in his remark, he emphasized on the need for the principals of schools to be honest in the use of funds disbursed. He highlighted that, there were reports of misappropriation of funds by some principals. He stated that anyone found culpable, shall face its severe consequences. He therefore encouraged all stakeholders to give their maximum support and not to misuse this opportunity given by the AGILE project in erecting structures when some of the students are studying under the trees. • Alhaji Bako Aliyu, Sarkin Kudan, Zamani raised a concern that, AGILE should make the Emirate council or their focal person their first line of contact before bringing in any project. He pointed out that there are some consultants that comes to seek for gratifications from the community member, so he asked, hope this would not be like that? • Alhaji Adamu Abubakar, the district head of Kambuwa asked a question stating that, if a contractor violates the social norms or desecrate their belief, who would the community report to, what are the procedures for reportage as well as, what would be the measures that would be taken against this contractor? • Dr Suwaba Salihu Kangiwa, Principal Government Girls Science College asked if there were any new intervention project by AGILE and what is the reason for continuous gathering? • Sani Alhaji Kalakal Government Day Secondary School, Kalakal asked if AGILE has targeted plot size needed as a criteria for implementation. He raised a concern that the land mapped out and kept for AGILE project tend to stay fallow for too long and eventually may be lost to land grabbers due to delay in project implementation. He therefore advised that AGILE should ensure timeliness in project implementation. • Mallam Abdulkadir Musa, Principal, GDSS Bubu expressed a concern that, the total funds disbursed to him by AGILE were less than the amount approved. He noted that after exhausting the funds on the project, he continued with his personal funds to the extent he got exhausted yet the project could not be completed as a result of paucity of funds.
9. Responses to the Questions and Concern Respectively:	• Reacting to Alhaji Ahmed Wali's concern, Dr. Odili noted that part of the work is to ensure that every penny put in the process of this project is adequately utilized. He appreciated the fact that this emphasis is coming from the stakeholders and urged them to take the project seriously and convey the message back to the people they represent. • Reacting to Alhaji Bako Aliyu's Concern, Dr Odili assured stakeholders of not cutting corners, he noted that there are environmental and social consequences and the role of ESMP is to ensure that every effect the project will cause is captured and documented and the report would be sent to the state, federal and worldbank for certification. • In response to Alhaji Adamu Abubakar's question, the ESO, Mal. Saidu Umar Yeldu specified that, before a contract is awarded to any contractor, there are agreements which needs to be signed by both parties, the memorandum of understanding contains code of conducts which needs to be adhered to strictly by the contractor. In any case that the contractor violates the code of conducts, report back to AGILE, then necessary legal actions shall be taken to either terminate his contract or suspend the project. Alhaji Adamu Abubakar suggested that immediate suspension should be

	given pending the determination of the decisions of the court. Dr Abdulrahman added that there are gender based violence desk office as well as grievance redress office at AGILE where such complaint can be directed. • Reacting to Dr Suwaba Salihu Kangiwa's concern, Dr Abdulrahman explained that the AGILE project is a five year project and there are certain expectations from worldbank which needs to be met in order not to hinder the progress of the project through delay or paucity of fund. Hence, the reason the gathering. More so if these criteria are not met, more interventions may not be implemented, he added. • In Responds to Sani Alhaji Kalakal's question, the ESO Mal. Saidu Umar Yeldu, stated that AGILE is only concern with lands that belongs to the schools and does not take decisions on lands that belongs to the community. He suggested that if the land size needed is not met, then the community surrounding the school should voluntarily provide more land for the AGILE project. He however expressed regrets for delayed implementation if there was any. • Reacting to Mallam Abdulkadir's concern, the ESO Mal. Saidu Umar Yeldu, advised individuals not to use their personal money for the AGILE project. He explained that disbursements are done in tranches, and that once the first tranche is retired and certified, then the second tranche of funds will be released.
10. Closing:	• The meeting came to a close at about 12:45pm.
12. Attendees:	• The meeting was attended by 103 persons composed of 65males and 38 females.

Consultation Meeting with Jega School Zonal Communities/Stakeholders

STAKEHOLDERS SENSITIZATION AND CONSULTATION MEETING HELD AT HALIRU ABDUL ARABIC SECONDARY SCHOOL JEGA, ON SATURDAY, 21ST JANUARY, 2023

ITEMS	DESCRIPTION
1. Project:	Kebbi State AGILE: ESMP
2. Name of Zone:	JEGA (Maiyama, Alieru and Jega LGAs)
3. Date:	21ST January, 2023
4. Language of Communication:	Hausa and English
5. Protocols and Introductions:	• The meeting started at about 11:26am at the hall of the Haliru Abdul Arabic Secondary School. In attendance were large delegation of stakeholders which included; Three (3) representatives from the School-Based Management Committees (SBMCs) –(i)Traditional rulers, (ii) Principals of schools and (iii) women leaders from all the AGILE schools under Jega educational zone that comprises; Alieru, Maiyama and Jega LGAs. Also members of SPIU led by the Project Coordinator who was represented by Communication Officer– Rakiya Shehu were also in attendance. The team of consultants were led by the principal consultant – Dr. Odili Ojukwu ably represented by Dr. Abdulrahman Umar
6. Remarks of the SPIU:	• Rakiya Shehu, the communication officer spoke on behalf of the SPIU. • She welcomed the stakeholders and appreciated them for making out time to attend the meeting. She stated that the consultant have come to carry out an ESMP project for the rehabilitation /renovation of the junior and senior secondary schools in the zone under the AGILE Project, urging them to give their support and maximum cooperation for the success of the project. • After her remark, she introduced the principal consultant who was represented by Dr Abdulrahaman.
7. Remarks of the Principal Consultant:	• Dr Abdulrahaman who spoke in the local dialect (Hausa), thanked the stakeholders for their presence, and also notified them that they were invited because they represent the people and such, they are the critical stakeholders because the project belongs to the people. • He informed them that the team of consultants have come to embark on an environmental and social management plans (ESMPs) for rehabilitation /renovation of the junior and senior secondary schools in the zone under the Kebbi State AGILE Project, with funding assistance from the World Bank and it is important that the stakeholders are aware of it. • He explained that ESMP consultancy is aimed at finding out and documenting the impacts of the proposed civil rehabilitation works on the elements of the physical and socio-economic environment of the schools as well as the project corridors. • He further noted that a baseline survey and site characterization would be carried out, this will involve biodiversity characterization, taking of samples of Air, water, soil and sound, to determine their, quality before and after the project. This is to ensure that the environment is not destroyed by the project, rather, the environment and the people should be better off after the project. Therefore, he solicited that they make sure the consultants gets the samples needed and encouraged them to open most of the water collection points in the project sites so that water samples can be collected with ease. • He emphasized that the stakeholders must see the project as their own and must take full ownership. Therefore it is their right to ask questions at each stage they deem fit to ask. More so, they need to be aware of whatever that is going on with respect to the project. Therefore their maximum support and cooperation is highly needed. • The stakeholders were further informed that documentation on their socioeconomics using the questionnaire would commence immediately after the meeting by a team of enumerators.

	• More so, women focus group discussion would be held to ascertain their specific perspectives and perceptions about the project. • He encouraged the stakeholders to individually attend to the questionnaire with their possible honest response. • He thanked the Stakeholders for their time and requested that questions and suggestions be made.
8. Questions/Concerns/ Suggestion of Stakeholders:	• Mohammed Bello, Principal Government Secondary School Basaura thanked the members of the SPIU and consultants and asked the following question; "why do you need to collect sand and water sample, what do you need them for?" • Bello Saidu Jega, SBMC chairman, raised a concern stating that, why was a project like this contracted to a foreigner outside the locals instead of giving it to the SBMC committee to handle or rather given to a local contractor. • Alhaji Muhammad Buhari Bazaura, SBMC Chairman Basaura, raised a concern stating that since the stakeholders have been asked to monitor the project to ensure that what was supposed to be done was done. He then asked, "would there be remuneration or monetary attachment attached to their services as a committee?" • Alhaji Umar Abdullahi Jega, SBMC Chairman GSS Jega Boys, pointed out that considering the bureaucracy involve in reporting a wrong deed to relevant authority, he stated that the wrong deeds by a contractor would have been committed if immediate or instant action was not taken to halt the evil deed. He cited an example stating that, peradventure a contractor is using substandard materials against the normal specification given, if immediate action is not taken, the building would have been completed with the inferior materials. What then needs to be done with respect to this instance? • Umar Hassan, Principal GSS Kantanga noted a concern that the lack of sanitary facility in the school has caused the premises of the school to be littered with feaces. He solicited that something should be done urgently to salvage this situation. • Mallam Suleiman Bagudu, Principal of JSS Bangadi questioned that, what would be done to schools where water samples could not be collected owing to lack of or non-availability of water facility? • Hajiya Jamila Abdullahi Jibril, The vice Principal GGCSS Suru, advised that in order to make progress, discussions should be bordered on how the project will affect the environment and the people, stating that decisions on who the contractor is and what payment, is not in the hands of the stakeholders, rather in the hands of AGILE. • Aliyu Adama Gadi, acting principal, Arabic Secondary School, Jega advised the principals to always carry their SBMC's Chairmen along. He noted that often times the SBMC chairmen are usually not aware of intervention projects as well as disbursements made to principal of schools until the project is almost completed. This does not speak well of them, he added. • Adamu Haliru, SBMC Chairman asked what measures has been put in place for air and water pollution that may be experienced during the project? • Rukayya Usman, GSS Bazaura encouraged the stakeholders to put sentiment aside and embrace the project with open arms, she urged

	everyone to corporate with the consultants as well as the contractors to ensure the project success. In the same vein she, pleaded with the SBMCs and Principals to always yield to the advice and suggestions coming from the women because it is the women and the children who are most vulnerable more so the bulk of the blame comes back to the women in any eventuality of GBV. Hence women opinion should not be taken for granted.
9. Responses to the Questions and Concern Respectively:	• Responding to Mohammed Bello's question, Dr. Abdulrahman noted that the samples collected are needed for baseline information in order to ascertain the environmental condition before, during and after the project. This would be used to make decisions of how the project has affected the people as well as the environment. • Reacting to Bello Saidu Jega's concern, the communication officer, AGILE stated that contracts are not just given to anyone, rather, there are standards for awarding contracts by the worldbank, whosoever that meets the standard, irrespective of who or where he or she comes from, that contract shall be awarded. However, there are certain jobs which the contractor shall engage the locals with. She continued by stating that the SBMC is a critical stakeholder in project implementation which cannot be over looked. This is because they represent the people to which the project belongs to. Therefore, it is expected that they support, nourish and protect the project. • Also reacting to Muhammed Buhari Bazaura's concern, Hajiya Rakiya Shehu the CO, AGILE stated that there is no knowledge as to whether the SBMCs would be paid or not, however, since the project belongs to them and for the betterment of their communities, it is expected that they give their maximum support in ensuring its success. Adding to the Communication officer's admonition, Dr Abdulrahman explained that there is no monetary payment or remuneration is expected to be given to the SBMCs, however, their duty is to ensure that they monitor the project at every stage to ensure that the right thing is done. Where they feel aggrieved, they should report to AGILE desk office or resort to grievance redress mechanism. • Answering Alhaji Umar Abdullahi Jega's question, Dr Abdulrahman reiterated that despite the urgency of the project, report of violations should be done to the AGILE office. AGILE has the responsibility of following due process to ensure that the contractor is punished for violating or breaching the terms of contract. • Reacting to Umar Hassan's concern, Alhaji Umar Abdullahi noted that it is the responsibility of the principal to take action against those randomly defecating around the school premises before AGILE's comes with their intervention • Responds to Mallam Suleiman Bagudu's question, Dr Abdulrahman reacted that it shall be captured in the report that the school has no water source and a recommendation shall be made to provide water source in for the schools in subsequent interventions. • Also responding to Adamu Haliru's question, Dr Abdulrahman informed the stakeholders that as part of the project implementation, information on elements of environment such as soil, water, air, sound samples shall be taken to ascertain the presence and level of pollution, then a report with recommendations shall be written based on the findings. As a result, interventions from relevant bodies shall come based on the recommendations made and that will check the environmental pollution.
10. Closing:	• The meeting came to a close at about 12:45pm.

12. Attendees:	• The meeting was attended by 101 persons composed of 71 males and 30 females.

Consultation Meeting with Zuru School Zonal Communities/Stakeholders

STAKEHOLDERS SENSITIZATION AND CONSULTATION MEETING HELD AT
BAHAGO GOMO DAY SECONDARY SCHOOL ZURU, ON
MONDAY, 23RD JANUARY, 2023

ITEMS	DESCRIPTION
1. Project:	Kebbi State AGILE: ESMP
2. Name of Zone:	Zuru
3. Date:	23ND January, 2023
4. Language of Communication:	Hausa and English
5. Protocols and Introductions:	• The meeting started at about 9:44am at the hall of the Bahago Gomo Day Secondary School with an opening prayers made by Rabiu Garba, the Pricipal, Bahago Gomo Day Secondary School. In attendance were delegation of stakeholders which includes, Traditional rulers, Principals of schools, women leaders, and the team of consultants, led by the principal consultant – Dr. Odili Ojukwu ably represented by Consultant Dr. Abdulrahman. • Mallam Mohammed Abdulhamid, the Deputy Director Admin, Zonal Education, Zuru welcomed the team of consultants as well as the stakeholders. After his welcome note, he introduced the principal consultant.
6. Remarks of the Principal Consultant:	• Dr Abdulrahaman who spoke in the local dialect (Hausa), thanked the stakeholders for their presence, and also notified them of the reasons for the stakeholder's consultation. • He informed them that the team of consultants have come to embark on an environmental and social management plans (ESMPs) for rehabilitation /renovation of the junior and senior secondary schools in the zone under the Kebbi State AGILE, with funding assistance from the World Bank. It is important that the stakeholders are aware and consulted because they represent the peoplet. • He explained that ESMP consultancy is aimed at finding out and documenting the impacts of the proposed civil rehabilitation works on the elements of the physical and socio-economic environment of the schools as well as the project corridors. • He further noted that a baseline survey and site characterization would be carried out, this will involve biodiversity characterization, taking of samples of Air, water, soil and sound, to determine their, quality before and after the project. This is to ensure that the environment is not destroyed by the project, rather, the environment and the people should be better off after the project. Therefore, he solicited that they make sure the consultants gets the samples needed and encouraged them to open most of the water collection points in the project sites so that water samples can be collected with ease. • He emphasized that the stakeholders must see the project as their own and must take full ownership. Therefore it is their right to ask questions at each stage they deem fit to ask. More so, they need to be aware of whatever that is going on with respect to the project. Therefore their maximum support and cooperation is highly needed. • The stakeholders were further informed that documentation on their socioeconomics using the questionnaire would commence immediately after the meeting by a team of enumerators. • More so, women focus group discussion would be held to ascertain their specific perspectives and perceptions about the project. • He encouraged the stakeholders to individually attend to the questionnaire with their possible honest response.

	• He thanked the Stakeholders for their time and requested that questions and suggestions be made.
7.Questions/Concerns/ Suggestion of Stakeholders:	• Alhaji Bawa Ganya Manga Bello, Principal Kuka Sokson, Fakai LGA, suggested that students should vacate the school during project implementation in order to avoid noise pollution as well as to curb GBV and unholy social interactions leading to molestation. Until the project is over then the students can return back to school. • Aishatu Adamu also suggested that in order to limit gender base violence and girl child molestation by contractors, a committee should be set to supervise the activities of the students as well as the contractors during the actual rehabilitation work. • Hajiya Fauziyya Isa in addition, suggested that, in order to limit unholy social interaction, abuse and GBV, hawking around the school premises should be discouraged and a stern instruction should be given to the security personnel not to allow intruders during the actual rehabilitation work. .
8. Responses to the Questions and Concern Respectively:	• Alhaji Usman Adamu Isgogo, Principal, Government Science College, Zuru reacting to Bawa Ganya Manga's suggestion noted that such suggestion could only be taken if the site of work to be done is at the hostel. He noted that the rehabilitation work could be done on weekends when the students are at home for Day schools or perhaps if the site of rehabilitation does not directly involve the hostels or classrooms then studies could continue alongside the project work. He however, suggested that the school overseer should be called to order to restrict social interactions between workers and students. • In addition, Dr abdulrahaman explained that there are standards for engaging a contractors, and that before a contractor is engage, in the memorandum of understanding, there is usually a code of conduct document he needs to sign. Violation of that code of conduct ethics will automatically leads to sanctioning. He urged the stake holders to report any violation by the contractors to the AGILE desk office or they can resort to grievance redress mechanism of the community.
9. Closing:	• The meeting came to a close at about 11:00am.
10. Attendees:	• The meeting had in attendance a total of 154 persons composed of 107 males and 47 females.

Consultation Meeting with Bunza School Zonal Communities/Stakeholders

BUNZA ZONE STAKEHOLDERS SENSITIZATION AND CONSULTATION MEETING HELD AT GSTC BUNZA, ON TUESDAY, 24TH JANUARY, 2023

ITEMS	DESCRIPTION
1. Project:	Kebbi State AGILE: ESMP
2. Name of Zone:	BUNZA (Bagudo, Bunza, Dandi and Suru LGAs)
3. Date:	24th January, 2023
4. Language of Communication:	Hausa and English
5. Protocols and Introductions:	• The meeting started at about 10:30am at the hall of the Government Science and Technical College (GSTC) Bunza with an opening prayers made by the Imam of Bunza Central Mosque. In attendance were delegation of stakeholders which includes, Traditional rulers, Principals of schools, women leaders from all the AGILE School Management Committees (SBMCs) under Bunza Educational Zone that comprises Bagudo, Bunza, Dandi and s Suru LGAs. The team of consultants, led by the principal consultant – Dr. Odili Ojukwu was ably represented by the Community and Stakeholders sub-consultant Dr. Abdulrahman Umar. • Malam Muhammad Sani The Director Zonal Education for Bunza zone welcomed the team of consultants as well as the stakeholders. After his welcome note, he introduced the principal consultant.
6. Remarks of the Principal Consultant:	• Dr Abdulrahaman who spoke in the local dialect (Hausa), thanked the stakeholders for their presence, and also notified them of the reasons for the stakeholder's consultation. • He informed them that the team of consultants has come to embark on an environmental and social management plans (ESMPs) for rehabilitation /renovation of the junior and senior secondary schools in the zone under the Kebbi State AGILE, with funding assistance from the World Bank. It is important that the stakeholders are aware and consulted because they represent the people. • He explained that ESMP consultancy is aimed at finding out and documenting the impacts of the proposed civil rehabilitation works on the elements of the physical and socio-economic environment of the schools as well as the project corridors. • He further noted that a baseline survey and site characterization would be carried out, this will involve biodiversity characterization, taking of samples of Air, water, soil and sound, to determine their, quality before, during and after the project. Also elements of biodiversity characterization will be carried out. This is to ensure that the environment is not destroyed by the project, rather, the environment and the people should be better off after the project. Therefore, he solicited that they make sure the consultants gets the samples needed and encouraged them to open most of the water collection points in the project sites so that water samples can be collected with ease. • He emphasized that the stakeholders must see the project as their own and must take full ownership. Therefore it is their right to ask questions at each stage they deem fit to ask. More so, they need to be aware of whatever that is going on with respect to the project. Therefore their maximum support and cooperation is highly needed. • The stakeholders were further informed that documentation on their socioeconomics using the questionnaire would commence immediately after the meeting by a team of enumerators that the consultant team came along with. • More so, women focus group discussion was conducted separately to ascertain their specific perspectives and perceptions about the project. • He encouraged the stakeholders to individually attend to the questionnaire with their possible honest responses. • He thanked the Stakeholders for their time and requested that questions and suggestions be made.

7.Questions/Concerns/ Suggestion of Stakeholders:	• Hajiya, Fatima Musa Principal GSS Dakin Gari, asked questions on whre to report issues of GBV from either the laborers conducting the project or other community members? • Malam Muhammad seeks more explanation on why the need to hear their inputs at this stakeholder's engagement as they never experienced this with other projects embarked upon by the state Government. • Alhaji Sani District head of Dakin Gari called on the people of the communities to ensure adequate support of the project to ensure successful implementation at all levels.
8. Responses to the Questions and Concern Respectively:	• Dr. Abdulrahman Umar the sub-consultant on Community, Stakeholders and strategic communication informed Hajiya Fatima and the entire gathering that there are safeguard officers at the AGILE office that included GBV officer, GRM, Environmental Officers for reporting issues of environmental and social concerns. The contact details for these officers were circulated to the members at the stakeholders meeting. • Dr abdulrahaman explained to the Malam Muhammad that the World Bank Projects demanded that all communities where its funded projects are being carried out should be taken along from the onset of the project to its final implementation so as to ensure that the affected communities understand the project better, make their inputs, participate in the monitoring and evaluation, etc so as to ensure the community owned the project after exist for sustainability purposes. • Another reason for stakeholder's engagement is to ensure that elements of both physical environment and socioeconomic standards of people living in those project areas are not adversely affected but better off after the project. Thus, the need to carry everyone along during every phase of project implementation. • District Head of Suru Thanked the entire team of the consultant and promised to ensure maximum support for the project implementation.
9. Closing:	• The meeting came to a close at about 1:30:pm.
10. Attendees:	• The meeting had in attendance a total of 119 persons, comprising 86 males and 33 females.

ANNEXURE V: General Environmental Management Conditions For Construction Contracts/Civil Works.

Contract Specifications for Contractor

1.0 General

a. All Environmental and Social (E&S) safeguards associated with the contract shall be complied with by the contractor. The Contractor shall also update himself about such issue in the ESMP, and prepare his work strategy and plan to fully take into account relevant provisions of the ESMP.

b. The Contractor shall develop a plan of work indicating all Environmental and Social safeguards at the various stages and indicate the period within which site will be maintained to it's original state after completion of works to ensure that significant E&S safeguards have been addressed appropriately.

c. The Contractor shall adhere to the proposed plan implementation schedule and the monitoring plan to ensure effective feedback of monitoring information to the SPIU Project Engineer (PE).

d. The Contractor shall implement all measures to avoid undesirable adverse environmental and social impacts wherever possible, restore site offices to acceptable standards, and abide by all environmental performance requirements specified in the ESMP

2.0 Dust Mitigation Measures

a. The contractor shall minimize the effect of dust on the surrounding environment resulting from site clearing, vibrating equipment and temporary access roads.
b. During the rehabilitation project, the contractor shall carry out proper and efficient measures, such as water dousing, whenever necessary to reduce the dust nuisance, and to prevent dust originating from the operations.

3.0 Noise Due to Construction Activities

The contractor shall ensure the noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation) are kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.

4.0 Waste Management

a) Construction waste shall not be left in stockpiles along the road, but removed and disposed of/or reused where needed.
b) All waste shall be segregated into organic waste and plastic and glass. The organic waste will be composted near the site office to enrich the soil while plastics and glass will be taken to the district dump sites
c) All sanitary facilities (e.g. garbage collection and disposal, drinking water facilities, etc.) shall be provided by the contractor in site offices or project sites.

5.0 Water Resource Management

a) No construction water containing spoils or site effluent, especially cement, oil and fuel, shall be allowed to flow into natural water drainage courses.

b) The contractor shall take all possible steps to prevent pollution of streams and other water supplies.

c) Entry of runoff water to the site shall be restricted by constructing diversion channels or culverts to reduce the potential of soil erosion and water pollution.

d) Waste water from washing out of equipment shall not be discharged into water courses.

6.0 Material Excavation and Deposit

Vegetation clearing shall be restricted to the area required for safe operation of the rehabilitation work. Vegetation clearing shall not be done more than two weeks in advance of rehabilitation.

7.0 Contractor's Environment and Social Management Plan (ESMP)

a) Within 6 weeks of signing the Contract, the Contractor shall prepare a work plan to ensure the adequate management of E&S aspects of the works, including implementation of the requirements of these general conditions and any specific requirements of an E&S safeguards for the works. The Contractor's work plan will serve two main purposes:

i. For the Contractor’s internal purposes, to ensure that all measures are in place for adequate E&S management, and as an operational manual for his staff.

ii. For the Client, supported where necessary by appointed Consultants, to ensure that the Contractor is fully prepared for the adequate management of all E&S safeguards issues.

b) The Contractor's E&S document shall provide at least:

- A description of procedures and methods for complying with these general environmental and social conditions, and any specific conditions specified in the ESMP;
- A description of specific mitigation measures that will be implemented in order to minimize adverse impacts;
- A description of all planned monitoring activities and the reporting thereof; and
- The internal organizational, management and reporting mechanisms put in place.

8.0 Health and Safety

a) In advance of the construction work, SBMC shall mount an awareness and hygiene campaign. Workers and local residents shall be sensitized on health risks particularly of HIV/AIDS.
b) Adequate road signs to warn pedestrians and motorists of rehabilitation activities, diversions, etc. shall be provided at appropriate points.

9.0 Reporting

SBMC shall prepare monthly progress reports to the SPIU on E&S monitoring with these general conditions and the project E&S safeguards. It is expected that SBMC's reports will include information on:

- E&S management actions/measures taken, including approvals sought from SMENV, PE and FME
- Problems encountered in relation to E&S aspects (incidents, including delays, cost consequences, etc. as a result thereof);

- Lack of compliance with contract requirements on the part of SBMC;
- Changes of assumptions, conditions, measures, designs and actual works in relation to E&S aspects; and
- Observations, concerns raised and/or decisions taken with regard to E&S management during site meetings.

10.0 Cost of Compliance

It is expected that compliance with these conditions is already part of standard of good workmanship and state-of-the-art as generally required under this Contract. The item "Compliance with Environmental and Social Management Conditions" in the Bill of Quantities covers these costs. No other payments will be made to SBMC for compliance with any request to avoid and/or mitigate an avoidable E&S impact.

ANNEXURE VI: Waste Management Plan

A waste management plan (WMP) is required to achieve the goals set for managing construction waste. The WMP will provide the specific and general guide to the management of solid and liquid wastes throughout the project area and for the duration of the project. SBMC shall have responsibility for the implementation of the Plan which will include procedures for salvage, reuse and recycling of materials. The implementation of the WMP will protect the community and workforce from the health hazards of indiscriminate waste disposal during rehabilitation.

The waste management plan should cover the following:

- Specify who is responsible for managing waste on site.
- Establish goals and objectives.
- Estimate the waste types and amounts involved.
- Set targets for reducing the amount of each waste sent to the waste disposal site;
- Describe recycling/reuse methods for each material.
- Identify the waste destinations and transport modes, including what materials are being segregated on site for reuse or recycling.
- Track progress.
- Describe special measures for material use and handling.
- Describe communication and training to support and encourage participation from everyone on site.

Objectives of the Waste Management Plan

- Ensure reduction of wastes
- Meet the environmental requirements of the different State and other national and international waste management guidelines.
- Establish, implement and maintain waste segregation at source.
- Ensure that SBMC and Contractors are responsible for effective waste handling and disposal process, which shall be monitored by relevant waste disposal authorities

The ESMP will provide detailed information on waste management including the amount and type of waste to be generated, the sources, and the existing waste management practices and proffer mitigation measures, which will involve:

- Sensitization amongst the Contractors, workers, laborers on the need for effective waste management in and around the pumping stations throughout the project activities.
- Community sensitization and mobilization on the adverse consequences of poor waste management.

Waste types

The rehabilitation works will produce vast amount of waste from the construction activities. The following are some of the materials that can be expected to be generated during construction: vegetation stripping, concrete forms, packing materials, containers for various construction materials, asbestos, plastics, waste oil, filters, lubricants and hydraulic fluids, food, sewage, etc. It is necessary to ensure that wastes generated during construction are handled in a way that protects human, animal and environment health and complies with applicable regulations.

Recommended Measures for Waste Management

- Minimize the production of waste by using resource efficient products
- Contractors should reuse and recycle waste generated as much as possible
- Identify and classify the type of waste generated. If hazardous wastes are generated,

proper procedures must be taken regarding their storage, collection, transportation and disposal
- Identify and demarcate disposal areas clearly indicating the specific materials that can be deposited in each
- Control placement of all construction waste to approved disposal sites (>300 m from rivers, streams, lakes, or wetlands).
- Dispose all wastes in authorized areas, metals, used oils, and excess material generated during construction
- Incorporate recycling systems and the separation of materials
- Identify and demarcate equipment maintenance areas (>15m from rivers, streams, lakes or wetlands).
- Identify, demarcate and enforce the use of within-site access routes to limit impact to site vegetation.
- Install and maintain an adequate drainage system to prevent erosion on the site during and after construction.
- Erect erosion control barriers around perimeter of cuts, disposal pits, and roadways.
- Spray water on dirt roads and stockpiled soil to reduce wind-induced erosion and particulates dispersal, as needed.
- Identify and demarcate locations for stockpiles and borrow pits, ensuring that they are 15 meters away from critical areas such as steep slopes, erosion-prone soils, and areas that drain directly into sensitive water bodies.
- Establish and enforce daily site clean-up procedures, including maintenance of adequate disposal facilities for construction debris.

The management of other kinds of waste that may be generated is highlighted below:

General Waste

- There should be adequate number of garbage bins and containers made available at strategic areas of the site. The use of plastic bin liners should be encouraged.
- All organic and inorganic materials should be placed and/or disposed of so as not to directly or indirectly impact any watercourse or groundwater. The placement and disposal of all such products and materials should be done in an environmentally acceptable manner.
- Solids, sludge and other pollutants generated as a result of construction or those removed during the course of treatment or control of wastewaters will be disposed of in a manner that prevents their direct or indirect re-entry into any watercourse or ground water.
- Any waste material that is inadvertently disposed in or adjacent to watercourses should be removed immediately in a manner that minimizes adverse impacts, and the original drainage pattern should be restored.
- All wastes that are not designated, as combustible waste on-site should be recycled, disposed of in any of sites (landfill, dumpsites, or waste treatment, if applicable) approved the authority
- Waste materials should be placed and stored in suitable containers. Storage areas and containers will be maintained in a sanitary condition and shall be covered to prevent spreading of wastes by water, wind or animals.
- All food wastes should be collected and stored in containers at appropriate locations and should be emptied at regular intervals and the collected waste should be transported to Government designated waste management facilities.

Oil waste

- Ensure that all equipment maintenance activities, including oil changes, are conducted within demarcated maintenance areas designated for such.

- Ensure that oil or other lubricants are never dumped on the ground, in designated areas.

Material waste (concrete, stones, mixtures, cement)

- There should be a designated site for washing of containers or trucks that contain cement wastes.
- Control placement of all construction waste to approved disposal sites (>300 m from rivers, streams, lakes, or wetlands).
- Concrete waste, including wastewaters from batching or cleaning, should only be disposed of at approved and designated disposal sites with containment facilities.
- All cement-contaminated wastewater from cleaning or mixing is to be considered toxic and must be prevented from entering any watercourse or drainage channel for at least 48 hours, in order to allow the water to reach neutral pH level.

Sewage Disposal

- It is highly imperative to channel sewage facilities to avoid getting into the ground water, soil or even resulting to other types of nuisance to the environment.
- Mobile sanitary waste collection and disposal facilities or systems should be made available at the construction sites, camps, work areas, workshops, stores, and offices.
- All temporary toilets should be placed in environmentally acceptable areas and shall be equipped with approved septic tanks having safe drainage that are emptied only into approved treatment plants or sewage tanker truck.

- The temporary toilet facility should be secured to avoid or minimize damage from animals or vandalism.

ANNEXURE VII: Project Occupational Health and Safety Plan

The rehabilitation works may require medium to large scale labor, and the peculiarity of the civil works in the project will require a Project Occupational Health and Safety Management Plan. The plan will focus on workers' health and safety during the major rehabilitation activities.

The SBMCs shall be required to develop and implement an occupational and community health and safety plans that contributes to a healthy workforce and local community for the AGILE Schools project. The health and safety plan shall be submitted to the SPIU and NPCU for necessary approvals prior to implementation. In developing the Plans, SBMCs shall evaluate possible hazards that may be associated with the project activities such as: (a) imported backfill material; (b) Flood hazards due to heavy downpour during the rehabilitation period; (d) Physical/mechanical hazards due to the movement of solid material in the event of an accident; (e) Hazards resulting from soil contamination.

The SBMCs shall also be required to identify who and what can be affected assuming possible scenarios (such as failures). Consideration should be given to issues relating to the environment (water, soil, and biota), humans (life, health and living conditions), and economic losses of the population (damage to infrastructure, property) in the event of the possible scenarios. Cooperation between SBMC, the SPIU and the Schools' community is recommended for emergency planning.

The SBMCs shall fully comply with Environmental, Social, Health and Safety (ESHS) standards and bear the cost of implementation. Community Health, Safety and Security assessment will identify potential negative risks related to the different phases of the project. Some of the significant risks to be considered include:

- Possible pressure and/or additional demand on community health services associated with the influx of workers from outside the project area;
- Possible pressure and/or additional demand on utility services including water and wastewater system associated with the influx of workers from outside the project area;
- Possible pressure and/or additional demand for social services as a result of an increased family stress and violence;
- Possible sexual harassment and gender based violence;
- Possible illicit drug use and alcohol;
- Possible crime and criminal activities;
- Possible change in community wellness as a result of alcohol, and substance abuse associated with the influx of workers from outside the project area;
- Possible change in Community Health as a result of sudden spread of communicable and non-communicable diseases including sexually transmitted diseases (STDs) associated with the influx of workers from outside the project area;
- Possible pressure on traffic and transportation network associated with rehabilitation and operations activities; and
- Possible change in water and air quality associated with rehabilitation and operations activities.

The SBMC has a responsibility to ensure the health and safety of all persons working on all the components and sub-components, their own employees, Contractors, Subcontractors and agency employees.

In this regard, the SPIU through the SBMC shall: Define systems of work and requirements for Contractors and Subcontractors to ensure their health and safety on the site. This means that SPIU will require Contractors and Subcontractors to follow safe systems of work, meet statutory and other requirements (Nigerian and International), and audit their capability to safely manage work performed by their own employees. A periodic audit by the SPIU of the Contractors' work performance and systems including OHS should be required as partial basis for payment.

Provide information needed by the Contractors to document and carry our work in a safe manner.

SPIU should provide information on hazards and their associated risks while working on any specific part of the project. This will enable Contractors document their procedures for managing work around hazardous conditions, and to ensure they are aware of these hazards. SPIU will do this by providing a set of requirements and safe work procedures through the Terms of Reference (TOR) in the Contractors contract document. It should also highlight Risk and Control Assessments, Work Control Permits etc. Review Contractors' Safe Work Mode Method Statements to ensure they comply with Bank's Environmental and Social safeguards and statutory HSE Requirements.

SPIU should monitor health and safety during rehabilitation works. Pre-start checks, inspections and audits will be conducted while on-site. These checks will look at work practices and methods, equipment conditions and suitability, and competency of people through checking the permits, licenses etc. Individuals are not permitted to bring, use or be under the influence of alcohol or non-prescribed drugs on-site.

SBMC's Responsibilities

The SBMC/Contractors are responsible for ensuring that safety and health hazards associated with the work they are performing, are satisfactorily controlled and do not pose a risk. In the process of carrying out their work a Contractor may introduce other hazards. The identification and control of these hazards is the responsibility of the Contractor. These hazards and controls identified by the Contractor must be considered in the Work Method Statements.

The SBMC/Contractors are responsible for ensuring the health and safety of their employees including Sub- Contractors. This means that the Contractor is responsible for ensuring that:

a) their employees and subcontractors are adequately trained and competent in performing their tasks, and in basic safety procedures.

b) are provided information about processes and materials which are hazardous.

c) are issued with appropriate safety equipment and have appropriate instruction in its use.

d) have safe work methods and are adequately supervised to ensure safe work.

e) work place safety inspections are regularly carried out.

f) there is access to first aid equipment and trained persons

SBMCs/Contractors are responsible for ensuring their plants and equipment are safe. This means that Contractors' equipment and plants whether their own or hired is a) in a serviceable condition with regular maintenance and inspections. b) suitable for the task it is to perform and 3) meets the SPIU requirements. The primary concerns of plants are that:

• All guards are in place and secure

• Relevant safety equipment is fitted and working

• Operating controls (indicators, brakes, steering etc.) are working properly b) possible safety or environmental risk items are satisfactory. (hydraulic hoses, mufflers, exhaust emissions, fluid leaks, etc.).

Operations within the work site shall be subject to government and industry guidelines as well as the requirements of this ESMP. All SBMCs and Contractor staff shall be well informed and trained on the HSE policies and guidelines.

SBMC shall provide adequate health services as well as site first aid services for its workforce. The first aid services shall be extended to visiting personnel and casual workers.

The main priority to SBMC shall be the prevention of accidents during mobilization, reconductoring and closure stages of the proposed projects. Prevention of workplace accidents during the proposed projects shall be achieved using the Job Hazard Analyses (JHA) tool and approved Work Plan/Instructions by supervisors.

Consequently, the technical team must conduct JHA for all HSE critical activities and develop written and explicit work plans/instructions for such operations. The work instructions shall integrate the recommendations of the JHA. It is only upon submission of the written work instructions and the supporting JHA document that the Site HSE Coordinator may consider the project activity for approval. Project activities may only be approved if the site HSE Coordinator is objectively convinced that the Written Work Instructions (WWI) are practicable, safe and in accordance with regulatory requirements.

The use of JHA and WWI as work management systems shall include;

- Special procedures governing higher risk activities,
- Management controls for temporary removal of safety devices, reinstating the facilities and preparing to restart operations.

It shall also include requirements for reviewing completed jobs and capturing and communicating lessons learnt about the work and management system. Accidents shall be reported to and investigated by the contractors in line with SBMC's accident reporting procedure. All personnel shall be encouraged to report all accidents/incidents and to cooperate in the investigation of such occurrences. Staff shall be made to know that accidents/incidents investigations are "fact finding" and not "fault finding" exercises and are particularly useful as lessons in preventing re-occurrence.
All reconductoring activities shall be properly managed through careful planning, guided by applicable and relevant HSE Policies.

Safety Awareness among Workers/Employees
Training programmes in safety and accident prevention shall be organized at all levels of employees with a view to familiarize them with the general safety rules, safety procedures in various operational activities and to update their knowledge in safety and accident prevention, industrial hygiene and emergency equipment usage. These training programmes shall be conducted periodically in a planned manner to refresh staffs' knowledge.

First Aid Training
First aid training programmes shall also be conducted for all employees with the help of qualified medical and para-medical staff. This programme shall be conducted in batches. The programme shall include basic first-aid techniques and will be repeated periodically to refresh knowledge.

House Keeping
The following measures shall be implemented:

- Regular cleaning of wastes
- Avoiding accumulation and dumping of wastes and damaged equipment and items anywhere inside or around the facility affecting aesthetics and increasing risk of fire and other hazards.
- Keeping ventilation systems of premises in good working condition to avoid ingress of dust inside the pressurized room.
- Keeping air conditioning plants in good running conditions for control/instrumentation rooms.
- Maintaining hygienic conditions in areas like canteens, near drinking water sources and toilets.

- Developing a positive outlook in the employees for improving the working place, both in plant and office.

ANNEXURE VIII: Traffic and Vehicle Management Plan

Managing traffic at a construction workplace is an important part of ensuring the workplace is without risks to health and safety. Vehicles including powered mobile plant moving in and around a workplace, reversing, loading and unloading are often linked with death and injuries to workers and members of the public. Traffic includes cars, trucks and powered mobile plant like excavators or graders, and pedestrians like workers and visitors. The most effective way to protect pedestrians is to eliminate traffic hazards.

Selected Contractor shall be required to prepare and submit for approval of SPIU and NPCU, a comprehensive Traffic and Vehicle Management Plan (TVMP). Together with this ESMP, the TVMP will provide the specific and general guide to vehicular movements throughout the project area in order to protect the community and workforce from accident and safety hazards during rehabilitation.

Key issues to consider for managing traffic at the rehabilitation workplace include:

- Keeping pedestrians and vehicles apart including on site and when vehicles enter and exit the workplace;
- Minimizing vehicle movements;
- Eliminating reversing vehicles or minimizing the related risks;
- Ensuring vehicles and pedestrians are visible to each other;
- Using traffic signs, and,
- Developing and implementing a traffic management plan.

ANNEXURE IX: Code Of Conduct On Gender Based Violence (GBV) And Sexual Exploitation & Abuse (SEA)

The company is obliged to create and maintain an environment which prevents Gender Based Violence (GBV) and Sexual Exploitation & Abuse (SEA) issues. The company is also required to maintain an environment where the unacceptability of GBV and actions against children are clearly communicated to all those involved in the project. In order to prevent GBV and SEA, the following core principles and minimum standards of behavior will apply to all employees without exception:

- GBV/SEA constitutes acts of gross misconduct and are therefore grounds for sanctions, penalties and/or termination of employment. All forms of GBV/SEA including grooming are unacceptable, be it on the work site, the work site surroundings, project neighborhoods or at worker's camps. Prosecution of those who commit GBV or SEA will be followed.
- Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- Do not use inappropriate language or behavior towards women, children and men. This includes harassing, abusive, sexually provocative, derogatory, demeaning or culturally inappropriate words, gestures or actions.
- Sexual activity with children under 18—including through digital media—is prohibited. Mistaken belief regarding the age of a child and consent from the child is not a defense.
- Sexual favors or other forms of humiliating, degrading or exploitative behavior are prohibited.
- Sexual interactions between contractor's and consultant's employees at any level and member of the communities surrounding the workplace that are not agreed to with full consent by all parties involved in the sexual act are prohibited. This includes relationships involving the withholding/promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex – such sexual activity is considered "non-consensual" within the scope of this Code.
- All employees are required to attend an induction training course prior to commencing work on site to ensure they are familiar with the GBV/SEA Code of Conduct.
- All employees must attend a mandatory training course once a month for the duration of the contract starting from the first induction training prior to commencement of work to reinforce the understanding of the institutional GBV and SEA Code of Conduct.
- All employees will be required to sign an individual Code of Conduct confirming their agreement to support GBV and SEA activities.

I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and SEA. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action.

FOR THE COMPANY
Signed by _____
Title: _____
Date: _____

MANAGER'S CODE OF CONDUCT ON GENDER BASED VIOLENCE (GBV) AND SEXUAL EXPLOITATION & ABUSE (SEA)

Managers at all levels have responsibilities to create and maintain an environment that prevents GBV and SEA. They need to support and promote the implementation of the Company Codes of Conduct. To that end, Project Managers are required to sign up to Codes of Conduct applicable to their managerial duties within the context and also sign the Individual Codes of Conduct. This commits them to support and develop systems that facilitate the implementation of this action plan and maintain a GBV-free, child-safe and conflict-free work environment. These responsibilities include but are not limited to:

Mobilization

1. Establish a GBV/SEA Compliance Team from the contractor's and consultant's staff to write an Action Plan that will implement the GBV and SEA Codes of Conduct.
2. The Action Plan shall, as a minimum, include the

i. Standard Reporting Procedure to report GBV and SEA issues through the project Grievance Redress Mechanism (GRM);
ii. Accountability Measures to protect confidentiality of all involved; and,
iii. Response Protocol applicable to GBV survivors/survivors (including access to support coping and post-trauma management strategies) and perpetrators.
iv. Engagement of the services of social service providers (NGOs) with requisite skill in the prevention and management of GBV and SEA.

3. Coordinate and monitor the development of the Action Plan and submit for review to the RAAMP-PIU safeguards teams, as well as the World Bank prior to mobilization.
4. Update the Action Plan to reflect feedback and ensure the Action Plan is carried out in its entirety.
5. Provide appropriate resources and training opportunities for capacity building so members of the compliance team will feel confident in performing their duties. Participation in the Compliance tame will be recognized in employee's scope of work and performance evaluations.
6. Ensure that contractor, consultant and client staff are familiar with the RAAMP GRM and that they can use it to anonymously report concerns over GBV and SEA.
7. Hold quarterly update meetings with the compliance team to discuss ways to strengthen resources and GBV/SEA support for employees and community members.
8. In compliance with applicable laws and to the best of your abilities, prevent perpetrators of sexual exploitation and abuse from being hired, re-hired or deployed. Use background and criminal reference checks for all employees.

9. Ensure that when engaging in partnership, sub-grant or sub-recipient agreements, these agreements

a) incorporate this Code of Conduct as an attachment;
b) include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers to comply with this Code of Conduct; and
c) expressly state that the failure of those entities or individuals, as appropriate, to take preventive measures against GBV and SEA, to investigate allegations thereof, or to take corrective actions when GBV/SEA has occurred, shall constitute grounds for sanctions and penalties.

Training

1. All managers are required to attend an induction manager training course prior to commencing work on site to ensure that they are familiar with their roles and responsibilities in upholding the GBV/SEA Codes of Conduct.

2. Provide time during work hours to ensure that direct recruits attend the mandatory induction training which covers GBV/SEA training required of all employees prior to commencing work on site.
3. Managers are required to attend and assist with the NGO-facilitated monthly training courses for all employees. Managers will be required to introduce the trainings and announce results of consequential evaluations.

4. Collect satisfaction surveys to evaluate training experiences and provide advice on improving the ef-fectiveness of training.

Prevention

1. All managers and employees shall receive a clear written statement of the company's requirements with regards to preventing GBV/SEA in addition to the training.
2. Managers must verbally and in writing explain the company and individual codes of conduct to all direct recruits.
3. All managers and employees must sign the individual 'Code of Conduct for GBV and SEA, including acknowledgment that they have read and agree with the code of conduct.

4. To ensure maximum effectiveness of the Codes of Conduct, managers are required to prominently display the Company and Individual Codes of Conduct in clear view in public areas of the work space. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.

5. Managers will explain the GRM process to all employees and encourage them to report suspected or actual GBV/SEA

6. Mangers should also promote internal sensitization initiatives (e.g. workshops, campaigns, on-site demonstrations etc.) throughout the entire duration of their appointment in collaboration with the compliance team, service providers and in accordance to the Action Plan.

7. Managers must provide support and resources to the compliance tea and service provider NGOs to create and disseminate the internal sensitization initiatives through the Awareness-raising strategy under the Action Plan.

Response
1. Managers will be required to provide input, final decisions and sign off on the **Standard Reporting Procedures and Response Protocol** developed by the compliance team as part of the Action Plan.
2. Once signed off, managers will uphold the **Accountability Measures** set forth in the Action Plan to maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of GBV/SEA (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).

3. Once a sanction has been determined, the relevant manager(s) is/are expected to be personally responsible for ensuring that the measure is effectively enforced, within a maximum timeframe of **14 days** from the date on which the decision was made.

4. Managers failing to comply with such provision can be in turn subject to disciplinary measures, to be determined and enacted by the company's CEO, Managing Director or equivalent highest-ranking manager. Those measures may include:

i. Informal warning

ii. Formal warning
iii. Additional Training
iv. Loss of up to one week's salary.
v. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
vi. Termination of employment.

I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and SEA. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action.

FOR THE EMPLOYER
Signed by _____
Title: _____
Date: _____

EMPLOYEE'S CODE OF CONDUCT ON GENDER BASED VIOLENCE (GBV) AND SEXUAL EXPLOITATION & ABUSE (SEA)

I, _____ *(name of employee)*, acknowledge that preventing Gender-based Violence (GBV) and Sexual Exploitation & Abuse are important. GBV/SEA activities constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or termination of employment. All forms of GBV or SEA are unacceptable either on the work site, neighbouring project communities, or at worker's camps. Prosecution of those who commit GBV/SEA will be followed as appropriate according to applicable laws. I also acknowledge the need to maintain peaceful relationships and interactions with residents of project areas.

Specifically, I agree that while working on projects of the Rural Access and Mobility Project (RAAMP), I will:

i. Maintain conflict-free relationships with residents of project areas *when such relationships and interactions become necessary.*

ii. Consent to police background check.

iii. Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.

iv. Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.

v. Not participate in sexual activity with children—including grooming or through digital media. Mistaken belief regarding the age of a child and consent from the child is not a defense.

vi. Not engage in sexual favors or other forms of humiliating, degrading or exploitative behavior.

vii. Not have sexual interactions with members of the communities surrounding the work place and worker's camps that are not agreed to with full consent by all parties involved in the sexual act. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered "non-consensual" within the scope of this Code.

viii. Attend and actively partake in training courses related to HIV/AIDS, GBV and SEA as requested by my employer.

ix. Report through the GRM or to my manager suspected or actual GBV and/or SEA by a fellow worker, whether in my company or not, or any breaches of this code of conduct.

With regard to children under the age of 18:

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

xi. Not invite unaccompanied children into my home, unless they are at immediate risk of injury or in physical danger.

xii. Not sleep close to unsupervised children unless absolutely necessary, in which case I must obtain my supervisor's permission, and ensure that another adult is present if possible.

xiii. Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any medium (see also "Use of children's images for work related purposes").

xiv. Refrain from physical punishment or discipline of children.

xv. Refrain from hiring children for domestic or other labor which is inappropriate given their age or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.

xvi. Comply with all relevant local legislation, including labor laws in relation to child labor.

ANNEXURE X: Environmental and Social Screening Checklist

1. State.
2. Local Government Area.
3. Nature of the activity.
4. Brief Description of the Project.
5. Environmental Category of the Main Project.

A) GENERAL ELIGIBILITY

Does the activity …	Yes	No
Have an impact on areas for which the World Bank Environmental and Social Standards have not been applied? In particular:		
• Disrespect for human dignity, human rights, economic systems and cultures of indigenous peoples (under *ESS7: Indigenous Peoples*)*?* • Impact on forest health and quality? • Involve construction of dams? • Serious consequences resulting in malfunctioning or stopping a dam? • Effects on waters of two or more states (under *OP 7.50 International waterways*)? • Is the project highly contentious and likely to attract the attention of NGOs or civil society nationally or internationally?		

If the answer is YES to one of these general eligibility questions: the sub-project is not eligible under the Project.

B) ENVIRONMENTAL AND SOCIAL IMPACTS SCREENING

	Will the activity …	Yes	No	If yes, give the extent (in ha/number)
1	Include clearing of forests?			
2	Include removal and/or cutting of a considerable number of trees?			
3	Involve reclamation of wetland, land?			
4	Potentially affect the ecology of a protected area (e.g., interference on mammalian or bird migration routes)?			
5	Potentially affect geological or soil instability (e.g., erosion, landslides and subsidence)?			
6	Be located in an area threatened by silting?			
7	Be located in any flood protection area?			
8	Be located in any flood prone area?			
9	Be located 60 meters from the bank of a public stream			
10	Lead to increase in waste generation			
11	Be located in an area where there is no household waste management system?			
12	Generate non-hazardous waste that will be stored on the project site?			
13	Use of hazardous or toxic materials and generation of hazardous wastes?			
14	Involve the use of an already over-exploited groundwater?			
15	Contribute to reducing the amount of water available to other local users?			
16	Be located in an area where there is no sanitation network?			

17	Occur in old establishments that may contain asbestos cement?				
18	Include large deep excavations?				
19	Soil excavation during subproject's construction so as to cause soil Erosion				
20	Have important potential accidental soil erosion, groundwater pollution and contamination?				
21	Greatly increase air pollution and dust generation?				
22	Long-term impacts on air quality				
23	Greatly increase noise pollution and vibrations?				
24	Finance any pesticides or procurement of pesticide equipment				
25	Minimum land area required for the proposed development (ha)				
26	Available total land area within the identified location (ha)				
27	Expected construction period				
28	Source of fresh Surface Water				
29	Surface Water Use	Agriculture	Domestic	Animal	other
30	Change of surface water quality or water flows (e.g. Increase water turbidity due to run- off, waste water from camp sites and erosion, and construction waste) or long term.				
31	Separation or fragmentation of habitats of flora and fauna?				
32	Are there any environmentally and culturally sensitive areas within 250m?	Protected Areas/Migratory Pathways/Archaeological sites/Wetlands/Mangroves sands			
33	Any historic, archaeological reserve, ancient or protected monument, graveyards, temples				
34	Need to open new, temporary or permanent, access roads?				
35	Acquisition (temporarily or permanently) of land (public or private) for its development				
36	Is there any potential for land dispute, assets and livelihoods displacement?	If yes, refer to Resettlement Policy Framework			
37	Involuntary restriction of access by people to legally designated parks and protected areas				
38	Risk of disease dissemination from construction workers to the local peoples (and vice versa)?				
39	Are children in the project area likely to be used for child labor				

If the answer is YES to one of these questions: An Environmental Review (ER)/Environmental Audit/ESMP/ ESIA will be prepared in line with World Bank requirements – even if, because of the nature of the works, national procedures do not require the preparation of an Environmental Review (ER) or of an EIA.

If the answer is NO to all questions: According to national regulations, an ER or an EIA will not be mandatory. However, in compliance with WB ESF the preparation of a fully-fledged ESMP, will be considered as necessary**.**

The appropriate instrument to be prepared will depend on the risk rating of the sub-project based on the screening

Additional checklists may be developed as required based on the complexity of the projects

ANNEXURE XI: Rehabilitation Daily Monitoring Checklist

The following checklists from Occupational Safety and Health Administration (OSHA) provide necessary steps to avoid hazards that cause injuries, illnesses and fatalities. OSHA states, “As always, be cautious and seek help if you are concerned about a potential hazard.”

Personal Protective Equipment (PPE)

Eye and Face Protection

- Safety glasses or face shields are worn anytime work operations can cause foreign objects getting into the eye such as during welding, cutting, grinding, nailing (or when working with concrete and/or harmful chemicals or when exposed to flying particles).
- Eye and face protectors are selected based on anticipated hazards.
- Safety glasses or face shields are worn when exposed to any electrical hazards including work on energized electrical systems.

Foot Protection

- Construction workers should wear work shoes or boots with slip-resistant and puncture-resistant soles.
- Safety-toed footwear is worn to prevent crushed toes when working around heavy equipment or falling objects.

Hand Protection

- Gloves should fit snugly.
- Workers wear the right gloves for the job (for example, heavy-duty rubber gloves for concrete work, welding gloves for welding, insulated gloves and sleeves when exposed to electrical hazards).

Head Protection

- Workers shall wear hard hats where there is a potential for objects falling from above, bumps to their heads from fixed objects, or of accidental head contact with electrical hazards.
- Hard hats are routinely inspected for dents, cracks or deterioration.
- Hard hats are replaced after a heavy blow or electrical shock.
- Hard hats are maintained in good condition.

Scaffolding

- Scaffolds should be set on sound footing.
- Damaged parts that affect the strength of the scaffold are taken out of service.
- Scaffolds are not altered.
- All scaffolds should be fully planked.
- Scaffolds are not moved horizontally while workers are on them unless they are designed to be mobile and workers have been trained in the proper procedures.
- Employees are not permitted to work on scaffolds when covered with snow, ice, or other slippery materials.
- Scaffolds are not erected or moved within 10 feet of power lines.
- Employees are not permitted to work on scaffolds in bad weather or high winds unless a competent person has determined that it is safe to do so.
- Ladders, boxes, barrels, buckets or other makeshift platforms are not used to raise work height.
- Extra material is not allowed to build up on scaffold platforms.
- Scaffolds should not be loaded with more weight than they were designed to support.

Electrical Safety

- Work on new and existing energized (hot) electrical circuits is prohibited until all power is shut off and grounds are attached.
- An effective Lockout/Tagout system is in place.
- Frayed, damaged or worn electrical cords or cables are promptly replaced.
- All extension cords have grounding prongs.

- Protect flexible cords and cables from damage. Sharp corners and projections should be avoided.
- Use extension cord sets used with portable electric tools and appliances that are the three-wire type and designed for hard or extra-hard service. (Look for some of the following letters imprinted on the casing: S, ST, SO, STO.)
- All electrical tools and equipment are maintained in safe condition and checked regularly for defects and taken out of service if a defect is found.
- Do not bypass any protective system or device designed to protect employees from contact with electrical energy.
- Overhead electrical power lines are located and identified.
- Ensure that ladders, scaffolds, equipment or materials never come within 10 feet of electrical power lines.
- All electrical tools must be properly grounded unless they are of the double insulated type.
- Multiple plug adapters are prohibited.

Floor and Wall Openings

- Floor openings (12 inches or more) are guarded by a secured cover, a guardrail or equivalent on all sides (except at entrances to stairways).
- Toeboards are installed around the edges of permanent floor openings (where persons may pass below the opening).
- Elevated Surfaces
- Signs are posted, when appropriate, showing the elevated surface load capacity.
- Surfaces elevated more than 48 inches above the floor or ground have standard guardrails.
- All elevated surfaces (beneath which people or machinery could be exposed to falling objects) have standard 4-inch toeboards.
- A permanent means of entry and exit with handrails is provided to elevated storage and work surfaces.
- Material is piled, stacked or racked in a way that prevents it from tipping, falling, collapsing, rolling or spreading.

Hazard Communication

- A list of hazardous substances used in the workplace is maintained and readily available at the worksite.
- There is a written hazard communication program addressing Safety Data Sheets (SDS), labeling and employee training.
- Each container of a hazardous substance (vats, bottles, storage tanks) is labeled with product identity and a hazard warning(s) (communicating the specific health hazards and physical hazards).
- Safety Data Sheets are readily available at all times for each hazardous substance used.
- There is an effective employee training program for hazardous substances.

Crane Safety

- Cranes and derricks are restricted from operating within 10 feet of any electrical power line.
- The upper rotating structure supporting the boom and materials being handled is provided with an electrical ground while working near energized transmitter towers.
- Rated load capacities, operating speed and instructions are posted and visible to the operator.
- Cranes are equipped with a load chart.
- The operator understands and uses the load chart.
- The operator can determine the angle and length of the crane boom at all times.
- Crane machinery and other rigging equipment is inspected daily prior to use to make sure that it is in good condition.

- Accessible areas within the crane's swing radius are barricaded.
- Tag lines are used to prevent dangerous swing or spin of materials when raised or lowered by a crane or derrick.
- Illustrations of hand signals to crane and derrick operators are posted on the job site.
- The signal person uses correct signals for the crane operator to follow.
- Crane outriggers are extended when required.
- Crane platforms and walkways have antiskid surfaces.
- Broken, worn or damaged wire rope is removed from service.
- Guardrails, hand holds, and steps are provided for safe and easy access to and from all areas of the crane.
- Load testing reports/certifications are available.
- Tower crane mast bolts are properly torqued to the manufacturer's specifications.
- Overload limits are tested and correctly set.
- The maximum acceptable load and the last test results are posted on the crane.
- Initial and annual inspections of all hoisting and rigging equipment are performed and reports are maintained.
- Only properly trained and qualified operators are allowed to work with hoisting and rigging equipment.

Forklifts

- Forklift truck operators are competent to operate these vehicles safely as demonstrated by their successful completion of training and evaluation.
- No employee under 18 years old is allowed to operate a forklift.
- Forklifts are inspected daily for proper condition of brakes, horns, steering, forks and tires.
- Powered industrial trucks (forklifts) meet the design and construction requirements established in American National Standards Institute (ANSI) for Powered Industrial Trucks, Part II ANSI B56.1-1969.
- Written approval from the truck manufacturer is obtained for any modification or additions which affect capacity and safe operation of the vehicle.
- Capacity, operation and maintenance instruction plates, tags or decals are changed to indicate any modifications or additions to the vehicle.
- Battery charging is conducted in areas specifically designated for that purpose.
- Material handling equipment is provided for handling batteries, including conveyors, overhead hoists or equivalent devices.
- Reinstalled batteries are properly positioned and secured in the truck.
- Smoking is prohibited in battery charging areas.
- Precautions are taken to prevent open flames, sparks or electric arcs in battery charging areas.
- Refresher training is provided and an evaluation is conducted whenever a forklift operator has been observed operating the vehicle in an unsafe manner and when an operator is assigned to drive a different type of truck.
- Load and forks are fully lowered, controls neutralized, power shut off and brakes set when a powered industrial truck is left unattended.
- There is sufficient headroom for the forklift and operator under overhead installations, lights, pipes, sprinkler systems, etc.
- Overhead guards are in place to protect the operator against falling objects.
- Trucks are operated at a safe speed.
- All loads are kept stable, safely arranged and fit within the rated capacity of the truck.
- Unsafe and defective trucks are removed from service.

Source: OSHA

ANNEXURE XII: Labor Management Plan

Introduction

This Labor Management Plan (LMP) was developed by the Federal Ministry of Education (Federal Project Management Unit) for the Adolescent Girls Initiative for Learning and Empowerment Program. It identifies labor requirements and sets out the procedures for addressing labor conditions and risks associated with the proposed project, which is aimed at helping the project to determine the resources necessary to address project labor issues. The LMP is enshrined within the context of the World Bank ESS 2: Labor and Working Conditions.

The risks and impact associated with workers as well as community health and safety, and the risk associated with labor impact are moderate due to the nature of minimal construction activities which are well understood and expected to have limited impacts as they can largely be avoided, minimized or managed through procedures, including procedures set out in this LMP. The LMP will be reviewed continually during project implementation and adequate measures and procedures to manage negative impacts will be put in place.

Characterization of labor requirements

For the Adolescent Girls Initiative for Learning and Empowerment Program, there will be various categories of direct and indirect staff and workers. The main labor and staff required in the project will include:

- Staff of the Federal Project Coordinating Unit and the State Project Implementation Units
- Staff of the sub agencies/departments that will be participating in the project
- Teachers in schools
- Contract workers brought in to rehabilitate the schools
- Primary Suppliers
- Community Workers

The table below highlights and analyses the potential labor related risks and impacts in view of the anticipated labor utilization and general baseline settings of the project area.

Labor Risk Identification and Analysis

Labor Risk Identification and Analysis

Risk/Impact	Analysis (Magnitude, Extent, Timing, Likelihood, Significance)	Mitigation
Arbitrary decisions by SBMCs on terms and conditions of employment	• The duration of the contracts offered to workers are short and may not allow employees adequate time and information for meaningful collective bargaining, leading to discontent of employees and disputes. • Project workers may not be provided with information and documentation that is clear and understandable regarding their terms and conditions of employment.	• The State Project Implementation Unit (SPIU) will closely supervise the SBMC Recruitment Plan and ensure fairness of Employment Terms and Conditions against the applicable and prevailing National stipulations • All information and documentation must be provided at the beginning of the working relationship and when any material changes to the terms or conditions of employment occur •Where applicable, project workers will receive written notice of termination of employment and details of severance payments in a timely manner
Poor working conditions (unsafe work environment, underpayment, lack of workers' rights, etc.)	• The Rights of workers under national labor and employment law (which will include any applicable collective agreements), may be abused • Workers payment may be delayed,	• Project workers will be paid on a regular basis as required by national law and labor management with a principle of "equal pay for equal work" • In the case of subcontracting, the

Risk/Impact	Analysis (Magnitude, Extent, Timing, Likelihood, Significance)	Mitigation
	irregular, or may be underpaid. • Campsites may be poorly managed, unconducive for workers, insecure, poor sleeping conditions, lack of access to basic amenities like water, toilets, healthcare etc. • The general appearance of the camp deteriorates making camp life unpleasant	Borrower will require such third parties to include equivalent requirements and non-compliance remedies in their contractual agreements with subcontractors • The SPIU shall inspect the campsites to ensure workers have appropriate living quarters, sanitation facilities separate for male and female, basic amenities • All project workers will be provided with adequate periods of rest per week, annual holiday and sick leave, as required by national law. • Ensure that camp grounds and common areas are routinely cleaned and organized with appropriate signage in place, and that grounds are maintained (e.g., grassed areas are regularly mown).
Non-discrimination and equal opportunity	• Decisions relating to the employment or treatment of project workers may discriminate against certain classes of workers including women, vulnerable groups amongst others. • Payment of workers may be based on discrimination e.g. male may be paid higher than women even on the same level of job schedule. • Foreign workers may be treated better than local workers in terms of living conditions, unequal pay, varying closing time etc. even when they are on the same level of qualification and experience	• The employment of project workers will be based on the principle of equal opportunity and fair treatment, and there will be no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, or disciplinary practices. • The SPIUs are compelled to safeguard the interests of women and girls, including gender parity at the workspace, appropriate sanitation facilities at workplace and appropriate PPEs for women.
Sexual Harassment of teachers	• The project will provide support packages to recruited teachers to ensure that they are qualified and ready to teach in the target communities; including short-term placements • Risks of sexual harassment of teachers and other staff is a possible	• The Teacher-Counsellors appointed to carry out the life-skills facilitation should be selected as focal points for reporting incidents of harassment; alternate or secondary focal points should be identified in case the accused is the Teacher-Counsellor • Training administered to teachers should include protocols on how sexual harassment will be addressed at the school, including if its escalated beyond the school environment • Teachers should also be made aware of the GBV-GRM for the project
Child Labor	• There is a risk that children (below the age of 18) will be used as labor in the project. • Under-aged persons within the community may be disguised as above 18 to enable them to work and get paid	• The minimum age of eighteen (18) will be enforced at recruitment and in daily staff team talks by SBMCs. SPIU will also supervise this through the SBMC Management Checklist. • SBMCs will liaise with community liaise to attest to the age and conduct of all local hires, and maintain a list of same • Hired project workers above 18 shall conduct his/her activities in ways that are not detrimental with respect to education or be harmful to the child's health or physical, mental, spiritual, moral or social development

Risk/Impact	Analysis (Magnitude, Extent, Timing, Likelihood, Significance)	Mitigation
Forced Labor	There is a risk that there could be involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor-contracting arrangements. This prohibition covers any of the aforementioned.	• SBMCs will ensure that no forced labor exists in the project by gathering documents and appropriate proof. • A consent section will be part of the employee signed employment contract. SBMCs will ensure that if labor is sourced from any sub-contracting agency, the workers are not subject to coercion and forced labor conditions.
Labor Influx	• The project may face influx of labor to local communities especially where skilled laborers are not available in some project sites. This could lead to Increase in potential spread of STIs/STDs, HIV/AIDs due to workers on site, increase in GBV/SEA especially for Girls being exposed to workers, sexual relations between workers and minors and resulting pregnancies, encourage presence of sex workers in the project communities • This could also lead to competition for resources like water, health facilities, electricity in the project locations	• Encourage hiring of labor from the host communities. Maintain labor relations with local communities through a code of conduct (CoC) • The Code of Conduct must be signed by all categories of workers. Workers must be trained on the provisions of the CoC about refraining from unacceptable conduct toward local community members, specifically women and informed of the sanctions for non-compliance. Training must be conducted for all new hires including sub-contractors. • SBMCs should make resources available for their workers especially where stated in the ESMP
Grievance Mechanism	• Workers may be aggrieved due to unfair treatment, poor working conditions, conflicts, poor pay, overstretched working hours amongst other things. • A GRM will be designed to address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and will operate in an independent and objective manner • The grievance mechanism will not impede access to other judicial or administrative remedies that might be available under the law	• SBMCs shall comply with the Grievance redress mechanism defined to handle workers grievances in a fair and timely manner. • The SPIU shall provide oversight to ensure effective implementation of the GRM.
Occupational Health and Safety	• Site workers will be exposed to risks of accidental collisions with moving vehicles, strains, and ergonomics from repeated movements or from lifting and heaving of heavy objects, slips and falls. Accidental cuts from tools and machines are also safety risks. • Dust and particulate emissions and welding works from rehabilitation site may cause respiratory and eye • impairment health concerns for workers and the public • Movement of trucks carrying sand and materials, lack of road safety measures may also cause risk of accident, injury and death • SBMCs should comply with National and international labor legislations • Every site will have emergency prevention and preparedness and response arrangements to emergency situations	• SBMCs should provide HSE training for all workers before commencement of work and periodically • All SBMCs should have full time HSE officers on their team • SBMCs should provide adequate PPEs for all their workers and the SBMCs HSE officers should enforce compliance • First aid boxes should also be provided at construction site, staging area and mobile • SBMCs will prepare Occupational Health and Safety Plans • SBMCs should report OHS accident/incidents to the SPIU promptly, and the SPIU/FPMU should report this to the Bank within 48hrs (in accordance with the Environmental and Social Commitment Plan (ESCP) • SBMCs waste management plans will include handling and management of hazardous waste • SBMCs should ensure training for their

Risk/Impact	Analysis (Magnitude, Extent, Timing, Likelihood, Significance)	Mitigation
	• Maintain a safe working environment including workplaces, machinery, equipment and processes under their control are safe and without risk to health, including by use of appropriate measures relating to chemical, physical and biological substances and agents. • Where required, hire security for workers	drivers and liaise with the State Traffic Management Agency to control traffic during project implementation
Right of Association and Collective Bargaining	• Workers have the right to freely form, join or not join a trade union for the promotion and protection of the economic interest of that worker • Workers have a right to organize and collective bargaining, and representation	• The SPIU will ensure that workers are informed of their right of association and collective bargaining • The SPIU should also inform workers of the workers GRM and their right to utilize the system
SBMC Management	• Records of workers engaged under the Project, including contracts must be kept • Records of all training attended by workers including CoC, HSE, STIs/STDs, GBV etc. • Accidents/ incidents and corresponding root cause analysis (lost time incidents, medical treatment cases), first aid cases, high potential near misses, and remedial and preventive activities required (Corrective Action Register) • Records of strike actions, reasons and resolution reached • Records of grievances and how they were resolved • Records of all sanctions, punishments and terminations with reasons and follow-up actions taken	• Documents should be kept at the site office with the site engineers and SPIU office • The FPCU team should check these records during monitoring visits
Primary Suppliers	Primary suppliers could also have occupational injuries, incident/accidents while performing project related functions	Primary suppliers should maintain records related to occupational injuries, illness and lost time accident, which should be reviewed by the SBMC every quarterly
Discipline and Termination of Employment	• Disciplinary process should be laid out before commencement of work and explained to every worker • Termination of appointment should abide by the following principles: □ Valid or reasonable; □ Clear and unambiguous; □ The employee is aware, or could reasonably be aware of the rule or standard; and □ The procedure to be applied in the event the employee contravenes any of these rules	• The SPIU should periodically review workers disciplinary and termination processes to ensure that they are executed fairly and without prejudice • Where unfair treatment is established the SPIU should put in place corrective action and follow up to ensure execution

Occupational Health and Safety Compliance

The requirements of the Environmental and Social Standard 2 on Occupational Health and Safety will be to carry out site specific risk assessments and develop appropriate risk prevention and mitigation measures. Where risk prevention and mitigation require provision of personal protective equipment (PPE), appropriate PPE will be provided to workers who are tasked to work on high risk tasks or areas. During risk assessment which will be conducted during screening process, possible hazards or risks related to the project activities will be identified. To this end, the appropriate PPE will be provided during project

implementation. The identification of PPE will be done will be done during the screening and development of site-specific environmental and social management plans (ESMPs).

Grievance Redress Procedures for Workers

This procedure requires every employer, including SBMCs, to have a Formal Grievance Procedure which should be known and explained to the employee.

The framework to be adopted for workers to lodge their grievances is outlined below:

First Level GRM: GRC at the Site/Community Level	Composed at the community level and easily accessible to workers. This committee will comprise of community liaison officers, supervision consultant site engineer, representative of school management among other identified persons. In addition, complaint box will be placed in the school that will encourage aggrieved workers drop their complaints. This should be checked regularly (at least twice weekly) by a designated person in the committee. This committee will be expected to report to the SPIU.
Second Level of GRM: GRC at the SPIU Level	This committee shall comprise of PIU members including the Project Coordinator, Social Officer among others, and other state level representative from within the State Project Monitoring Committees. If the complainant does not accept the solution offered by the SPIU-GRC, then the complaint is referred by the Sate Project Coordinator to the FPCU
Third Level of GRM: GRC at the FPMU Level	The Federal Project Coordinating Unit (FPCU) will be required to intervene in grievances beyond the state level resolution.
Court Redress of Grievances	While the purposes of GRM put in place by this Project is to resolve all issues caused by the project implementation out of court and to save time which is usually involved in litigation matters, it is not out of place to anticipate a scenario where aggrieved person is not satisfied with the process and judgment given by the grievance redress committee(s). Therefore, SPIU shall inform aggrieved persons of their right to seek for redress in the court of law as the final resort.

Roles and Responsibilities for Managing the LMP

The State Project Implementation Units (SPIUs) have the overall responsibility to oversee all aspects of the implementation of the LMP including occupational safety, health and welfare of workers, and ensure SBMC compliance. The SPIUs will address all LMP aspects as part of procurement for works as well as during SBMC induction/training. This role will primarily be part of the responsibilities of the Environmental and Social Officers of the SPIUs, however, they will be required to liaise with other staff of the SPIU and report frequently to the Project Coordinator on all LMP matters.

SBMCs will be responsible for implementation of the plan on a daily basis and providing the required human, financial and training resources for effective compliance. However, implementation of the project will be done in collaboration with several other stakeholders at national, state, schools and community level who will also be expected to assist in the management of workers within their areas of jurisdiction in the project. Specific roles are outlined below:

Occupational Health and Safety

SBMCs must engage a minimum of one Health Safety and Environment (HSE) officer in every team to ensure the day-to-day compliance with specified health and safety measures and records of any incidents. Minor incidents and near misses will be reported to the SPIUs (through the SPIU Environmental Officer) on a monthly basis, serious incidents should be reported immediately and not later than 24hrs.

Minor incidents will be reflected in the quarterly reports to the World Bank, while major accidents/deaths should be flagged to the World Bank within 48hrs.

Labor and Working Conditions

Contractors will keep records in accordance with specifications set out in this LMP. The SPIUs may at any time require records to ensure that labor conditions are met. Where issues are spotted, the SPIU will ensure that immediate remedial actions are implemented. A summary of issues and remedial actions will be included in quarterly reports to the World Bank.

Worker Grievances

Contractors must engage a minimum of one social officer in every team to handle issues relating to social risks. The SPIUs (through the social officer) will review the effectiveness of the workers grievance redress mechanism as stipulated in section 9.4 above and ensure that all complaints by workers are resolved. The SPIU will report this as part of the quarterly E&S reports to the World Bank.

Additional Training

The contractor will set up a system of daily HSE PEP talks, routine safety trainings and specialized job trainings for workers. Trainings will form part of the contractor's responsibility. The contractors HSE officers will provide safety instructions to contractor staff. The SPIU will liaise with contractors to deliver trainings to address risks associated with labor influx including GBV/SEA. The contractor will be obligated to make staff available for this training, as well as any additional mandatory trainings required by the SPIU, as specified by the contract

Occupational Health and Safety compliance

The contractor shall comply with all provisions of the LMP, site-specific ESMPs that will be prepared, including occupational health and safety plans, emergency plans amongst others. In addition, contractors shall procure the identified PPE and First Aid kit for use during project implementation and these will be included in the Bill of Quantities (BoQs). The Contractor shall organize training for workers on the use of PPE and First Aid kit. It is also expected that every contractor will have an HSE Manual which will demonstrate the company's personnel commitments to HSE compliance.

ANNEXURE XIII: Air Quality Management Plan

1. INTRODUCTION

Purpose

This Air Quality Management Plan (AQMP) has been prepared for the Kebbi State AGILE Schools Rehabilitation Intervention Project. It has been developed to ensure a high standard of care to minimize the impact on the environment, immediate work areas, and the local community. This AQMP addresses the applicable requirements under the ESS2 as part of the ESMP for the Kebbi AGILE project.

The activities related to the rehabilitation/construction at the Kebbi AGILE schools involve the rehabilitation of blocks of classrooms, offices and stores as well as rehabilitating and/or renovation of toilets, major and minor rehabilitations such as repairs of floor, roofing, doors and windows and provision of water tank to promote hygiene and sanitation, drilling of water boreholes complete with overhead tanks.

This AQMP details how impacts on local air quality during the pre-rehabilitation, rehabilitation and operation phases of the school project will be minimized and managed. The Plan has been developed to include, but not necessarily limited to:

(i) identification of sources and quantification of airborne pollutants;
(ii) key performance indicators for local air quality during construction
(iii) details of monitoring methods, including location, frequency and duration of monitoring
(iv) mitigation measures to minimize impacts on local air quality;
(v) procedures for record keeping and reporting against key performance indicators;
(vi) provisions for implementation of additional mitigation measures in response to issues identified during monitoring and reporting;
(vii) mechanisms for the monitoring, review and amendment of this plan

2. EXISTING ENVIRONMENT

Meteorological Conditions

The annual wind distribution pattern for the Kebbi State shows that the prevailing wind direction is from the west-south-west, with south-westerly and westerly winds also occurring frequently. These winds dominate during the period that the rehabilitation works will take place (April - August). A smaller percentage of winds originate from all other directions, with the lowest frequency of winds originating from the north-eastern quadrant. The wind field affects the direction of transport and rate of dilution of air pollutants. Given the prevalence of west-south-westerly, westerly and south-westerly airflow and the greater frequency of higher wind speeds associated with these sectors, there is a greater potential for wind dependent emissions from the Project to disperse very quickly. There is a relatively high humidity between April and November of every year, with high winds from November to July.

Rainfall

Rainfall reduces dust generation potential and helps to remove airborne pollutants. The wettest months generally occur during October to November. The wettest month is usually July, with an average rainfall of 106 mm. The lowest rainfall usually occurs in November with a monthly average of 45 mm. The long-term average annual rainfall for Kebbi state is between 787.53mm and 112.21mm across the state, which falls over an average of 115 days over the course of the year.

Temperature

The temperature of Kebbi state has an annual variation between 65^0F and 104^0F. The maximum monthly average temperatures in Kebbi is 100^0F. The climate is very warm with an annual average of 71.2 degrees.

Existing Air Quality and Pollutant Sources

The existing pollutant sources do not have the potential to adversely influence local and regional air quality. Sources include emissions from exposed bare soils, dust storms and road traffic. Key emissions likely to be generated by these sources include dust or particulate matter, fine particles, nitrogen dioxide, sulphur dioxide, carbon monoxide, trace levels of volatile organic compounds, heavy metals and odour.

Air quality monitoring during ESMP preparation has identified that the concentrations of these pollutants are generally within regulatory guidelines (FMEnv criteria); however, during construction works, limited exceedances may occur in concentrations of particulate matter and fine particles during bushfire and dust storm events.

Soil Characteristics

The soil landscape at the AGILE school sites differs with the location of the schools. The soils comprise of structured orange to red clay loams, clays and sands. This variation in soils means the water required and frequency of application to reduce dust emissions will vary dependent on the soil type and hence will require monitoring during the works.

Existing materials onsite include sands, gravels, clays, as well as building demolition materials such as concrete, bricks, metals and plastic.

Sensitive Receivers

Sensitive receivers are locations where people are likely to work or reside, and may include dwellings, schools, mosques, hospitals, offices or public recreational areas. Many such sensitive receivers accommodate groups who are most likely to be adversely affected by poor air quality; the very young, the aged and the infirm. For this school rehabilitation project, works will occur well within the school boundaries.

4 ENVIRONMENTAL ASPECTS AND IMPACTS

A risk management approach was used to determine the severity and likelihood of the rehabilitation activities' impact on air quality and to prioritize its significance in order to further reduce the impacts. This process has considered potential regulatory and legal risks as well the concerns of the community and other key stakeholders.

Potential Sources of Air Emissions

The locations which have the potential to have the greatest impact on air quality have been identified as:

- The demolition of existing structures and hardstand
- Activities necessitating use of solvents due to potential for release of volatiles and odours
- Stockpile of soils
- Soil drilling of boreholes

The table below shows the activities that have potential to cause air emissions, and their potential impacts.

Potential Sources of Air Emissions

Activity	Air Emission Cause	Potential Impact
Utility services and stormwater identification, protection, relocation and/or termination	Excavation of Utilities	Dust Generation
	Operation of Plant, Machinery and Vehicles	Vehicle Emissions
Demolition of existing	Demolition of buildings using large	Dust Generation

infrastructure and buildings	excavators, trough induced collapse and deconstruction techniques	
	Sorting of demolition waste using excavators	
	Loading of Demolition Waste for transport using excavators and loading equipment	
	Removal of Concrete Building Slabs and roads with excavators and breaking equipment	
	Operation of Plant, Machinery and Vehicles	Vehicle Emissions
Remediation of identified contaminated areas	Excavation of remediation hotpots with large excavators	Dust Generation (from both excavation and stockpiling of material)
	Sorting of waste using excavators	
	Loading contaminated soils for transport using excavators	
	Stockpiling contaminated soils	
	Treatment of Contaminated soils using plant and machinery	
	Operation of Plant, Machinery and Vehicles	Vehicle Emissions
	Excavation and Biological Treatment of contaminated soils which exhibit Volatiles/ Odour Emissions, such as those contaminated with hydrocarbon products.	Volatiles/Odour Emission (from both excavation and stockpiling of material)

5 ENVIRONMENTAL MITIGATION MEASURES

Methods for management of emissions would be incorporated into Project inductions, training toolboxes and pre-start talks. Mitigation measures for the project are discussed below. These mitigation measures are designed to be absolute measures, that is produce no dust or odours and therefore additional implementation measures will not be required for the project.

Truck and Equipment Movements

Truck and Equipment Mitigation Measures

Action	Responsibility	Timing
Vehicles will only travel on designated roads onsite to the maximum extent possible. The speed will be limited onsite to 20km/hr and when backfilling, graders would be limited to 8km/h. This is imposed onsite by the site supervisors and reiterated during the site inductions.	SBMC Site Supervisor SBMC Environment Manager/Advisor	Project Duration
Vehicle movements would be limited to designated entries and exits, haulage routes and parking areas. The	SBMC Site Supervisor	Project Duration

Action	Responsibility	Timing
location of these will be detailed in the site induction.		
Appling water (or alternative measures) to exposed surfaces that are causing dust generation. Apply an adequate amount of water to access roadways to mitigate wheel generated dust and to work areas so they do not generate dust.	SBMC Site Supervisor	When Required
Application rates would also be related to atmospheric conditions (e.g. prolonged dry periods) and the intensity of construction operations. Paved roads will be watered when necessary;	SBMC Site Supervisor	Project Duration
Loads will be appropriately covered on trucks transporting material to and from the construction site. Tailgates will be fixed on road transport trucks before loading and immediately after unloading;	SBMC Site Supervisor	Project Duration
Prevent, where possible, or remove, mud and dirt being tracked onto a sealed road by not working in or traversing muddy or boggy areas	SBMC Site Supervisor	When Required
Emissions from trucks would be regulated in accordance with the requirements prescribed or suitably relevant standards and will occur by trucks being regularly serviced by the SBMC's mechanics in line with these standards, with service records kept onsite.	SBMC Project Manager SBMC Environment Manager/Advisor	Project Duration
Daily visual dust inspections will be undertaken	SBMC Site Supervisor	Project Duration
Dust deposition gauges will be placed around the main compound construction area to measure dust emissions generated by works	SBMC Site Supervisor	Project Duration

6 COMPLIANCE MANAGEMENT

Roles and Responsibilities

The roles and responsibilities for managing compliance are as outlined in the tables below. Specific responsibilities for the implementation of the environmental controls are also described in the tables.

Training

All workers and visitors shall undergo the following inductions/trainings prior to commencing work:

- Project Specific Induction
- Air Emission Awareness training. This will outline the mitigation measures as described in the tables below to ensure that site staff are aware of the requirements and their individual responsibilities for air quality management
- Flora and Fauna Awareness;

All personnel, including employees, SBMCs and sub-contractors, are required to complete a project induction containing relevant environmental information before they are authorized to work on the project. Air quality specific information to be covered in toolbox talks and in pre-work meetings will include:

• Obligations under the project, including the identification of potential sources of air

pollutants of concern and the mitigation measures to be implemented;
• Responsibilities pertaining to the management of air quality;
• Typical activities that may impact air quality and associated environmental safeguards; and
• Incident response procedures

Records of all training activities, including inductions, will be maintained. Records will include the name and role of the attendee, the name of the course and, where applicable, reference to the document-controlled version of the material presented, and a copy of the assessment completed.

Non-compliance, Non-conformance and Actions

It is the responsibility of all site personnel to report non-compliances and non-conformances to the Site Supervisor and/or the SBMC's EM.

7 MONITORING

Below is a summary table for the air monitoring details. Monitoring details and discussion on records of monitoring are in Section 7 of this ESMP.

Air Monitoring Details Summary

Monitoring Focus	Monitoring Details	Area	Responsibility	Frequency
Dust	Visual observation during daily site inspections, and by supervisors as works progress	All	SBMC Environment Manager	Daily
Volatiles and Odour	Odour observations during daily site inspections, and by supervisors as works progress		SBMC Environment Manager (Daily and as requested) SBMC Site Supervisors Environmental Consultant (As requested)	Daily and as requested During Works Daily and during works
Plant	Daily Plant Inspection	NA	Plant Operators	Daily

The key performance indicators (KPI) for the project with regards to air quality have been developed and are shown in the table below (Air Quality KPIs). All results from daily inspections will be kept by the Environment Manager/Advisor onsite.

Air Quality KPI

Air Quality Indicator	Key Performance Indicator (KPI)	Recording
Dust	No Visible dust leaving the boundaries	Weekly Environmental Audit
	No Complaints received over the duration of the project	Complaints Database
Odour/Volatiles	All non-detectable odour at boundary	Weekly Environmental Audit
	No Complaints received over the duration of the project	Complaints Database

Air Quality Indicator	Key Performance Indicator (KPI)	Recording
Plant	No Excessive Smoke	Daily Plant Inspections
	All Plant Maintained as Per Manufactures Specification	Plant Maintenance Records

Weather

Weather can have a large impact on Air Quality. As wind speeds increase and with higher temperatures, there exists a greater potential that dust and volatiles will be generated.

Dust

The performance indicator for dust will be no visible dust leaving the site boundaries and/or no visible dust being generated that has the potential to affect the workers onsite.

Daily visual dust inspections will be undertaken by the Site Supervisor; the Site Supervisor will deploy water carts regularly to ensure that there is no visible dust leaving the site boundaries and/or no visible dust is being generated that has the potential to affect the workers onsite. Monthly monitoring of dust production will be carried out through the use of dust gauges, with a target of less than 4g/m2/month. Any exceedances of either of these criteria would trigger a response as outlined in Section 5.

Volatiles and Odour

The classification of odour by levels shall be described as non-detectable, low, moderate or strong as determined by the Environmental Consultant and SBMC Environmental Manager using olfactory methods. As the strength of volatilization of contaminants is proportional to the strength of odour for the contaminants identified, this is an effective and common method used in industry to assess volatilization of these contaminants.

Other nuisance odours such as those produced in biodegradation of contaminants shall also be monitored this way. The performance indicator for odour will be, non-detectable odour at the site boundary and/or no odours greater than moderate or strong being present onsite that have the potential to affect workers. Exceedance of this indicator would trigger the response as outlined in Section 5.

While we do not anticipate there will be odour issues based on the data provided in Risk Analysis under Chapter 5 of this ESMP, during excavation and stockpiling, treatment of soil, there exits the potential to discover an unexpected find. Should this occur the unexpected finds protocol as outlined in the CEMP will be followed and responses as outlined in Appendix A3 will be implemented.

Plant & Equipment

Pre-start construction plant and equipment inspections will be conducted to ensure equipment is well maintained and serviced so that vehicular emissions remain within relevant air quality guidelines and standards. Equipment observed to be creating excessive emissions will be replaced or serviced.

Complaints Management

As per the GRM provided in Chapter 6.

Corrective Action

Once KPI's are not adhered to, corrective action measures should be implemented as shown in the table below. Plant and materials used in vapour and dust suppression techniques will be kept on standby to be used as required.

KPI Corrective Action Table

Air Quality Indicator	KPI	Corrective Action	Corrective Action Timeframe
Dust	No Visible dust leaving the site boundaries.	Apply dust suppression techniques (i.e. water; use of covers; stabilization of stockpiles)	As soon as non-conformance is received
	No Complaints received over the duration of the project.	Once Complaint is received, conduct investigation	As outlined in GRM Chapter 8 of this ESMP
Odour/Volatiles	All non-detectable odour at boundary	Apply Vapour Suppression Techniques (i.e. vapour suppression chemicals; use of covers)	As soon as non-conformance is received
Plant	No Excessive Smoke	Cease using plant and consult mechanic. Remove from service until issue is resolved	As soon as non-conformance is received
	All Plant Maintained as Per Manufactures Specification	Remove plant from service until issue is resolved	As soon as non-conformance is received

ANNEXURE XIV: Laboratory Analytical Results

Table 4.3A: Baseline Soil Quality Analysis for Schools in Argungu Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR ARGUNGU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 18, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				AGG01 SS1	AGG01 SS2	AGG01 SS3	AGG01 SS4	AGG01 SS5	AGG01 SS6	AGG01 SS7	AGG01 SS8	AGG01 SS9	AGG01 SS10
1	pH (KCl)	-	-	6	6.3	5.7	6.5	6.4	6.5	5.8	4.4	5.4	6.6
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	7.1	7.7	6.8	7.2	7.1	7.2	6.9	5.1	6.6	7.2
3	Nitrate	mg/kg	-	4.3	2.4	2.12	2.8	2.34	3.22	3.2	0.41	0.38	
4	Moisture	%	-	8	6.6	6.21	5.6	6	5.66	6	6	6.44	
5	Electrical conductivity	µS/Cm	-	7.2	5.2	8.8	4.8	8.4	6.8	18	8	7.2	7.2
6	Hydrogen	mg/kg	-	0.6	0.8	0.6	0.6	0.6	0.8	0.8	1	1	0.8
7	Aluminium	mg/kg	-	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.6	0.4	0.4
8	Soil colour	-	-	Darkish	Darkish	Brownish		Brownish	Brownish	Reddish	Whitish	Brownish	
9	Potassium (K^{+})	mg/kg	-	0.08	0.05	0.05	0.04	7.13	1.2	0.13	0.05	0.05	0.14
10	Magnesium (Mg^{2+})	mg/kg	-	0.16	0.6	0.4	0.6	0.6	1.2	1	0.6	0.2	0.6
11	Calcium (Ca^{2+})	mg/kg	-	1	2.8	1.6	1	2.8	2.6	2	0.4	1	1.8
12	Sodium (Na^{+})	mg/kg	-	0.03	0.02	0.02	0.01	0.07	0.07	0.07	0.01	0.02	0.1
13	Available Phosphorus	mg/kg	5	3.73	2.8	3.73	4.66	4.66	5.6	3.73	3.73	2.8	8.39
14	Organic Matter	%	-	1.09	0.94	0.88	0.57	1.55	1.01	1.4	0.62	0.17	3.93
15	Nitrogen	%	-	0.12	0.12	0.11	0.12	0.16	0.13	0.09	0.09	0.12	0.11
16	Organic Carbon	%	-	0.63	0.54	0.51	0.57	0.9	0.58	0.81	0.36	0.1	2.28
17	Iron (Fe^{2+})	mg/kg	0.03	14.2	80.2	24	24.2	14.2	16.8	80.2	24	14	14.2
18	Lead (Pb^{2+})	mg/kg	164	16.2	14.2	14	16.2	10.2	12.2	14.4	12.2	12.2	8.8
19	Copper (Cu^{2+})	mg/kg	100	12.22	16.2	16.16	14.22	12.22	14.2	16.12	16.16	16.26	12.4
20	Zinc (Zn^{2+})	mg/kg	-	14.2	14.2	10.2	12.2	14.2	12.8	14.1	14.2	14.26	16.2
21	Grain Size Distribution (Coarse Sand)	%	-	21.3	37.52	41.86	46.2	23.1	34.12	29.28	27.1	30.16	35.82
22	Grain Size Distribution (Clay)	%	-	11.36	11.36	12.64	13.36	11.36	13.36	19.36	12.64	14.64	13.l6
23	Grain Size Distribution (Silt)	%	-	8	6	7.28	5.28	9.28	3.25	9.28	7.28	7.28	5.k8
24	Grain Size Distribution (Fine Sand)	%	-	59.34	45.12	38.22	35.16	56.26	49.24	42.08	52.98	47.92	45.54
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy

CODES AGG01 = ARGUNGU COMMUNITY; AGG02 = AREWA COMMUNITY; AGG03 = AUGIE COMMUNITY; SS = SOIL SAMPLE

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR ARGUNGU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 18, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				AGG03 SS11	AGG03 SS12	AGG03 SS13	AGG03 SS14	AGG03 SS15					
1	pH (KCl)	-	-	6.5	7.3	6.9	6.4	6.2					
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	7.2	8.1	7.2	7.1	7.4					
3	Nitrate	mg/kg	-	2.31	2.34	0.42	3.2	2.32					
4	Moisture	%	-	4.2	6.2	6.2	6.2	6.4					
5	Electrical conductivity	µS/Cm	-	6.4	3.4	9.2	7.6	18.8					
6	Hydrogen	mg/kg	-	0.6	0.8	0.8	0.8	0.8					
7	Aluminium	mg/kg	-	0.2	0.4	0.4	0.4	0.4					
8	Soil colour	-	-		brownish	Darkish	Brownish	Whitish					
9	Potassium (K^{+})	mg/kg	-	0.04	0.04	0.05	0.14	0.17					
10	Magnesium (Mg^{2+})	mg/kg	-	0.6	0.8	0.6	1.8	1.8					
11	Calcium (Ca^{2+})	mg/kg	-	0.8	2.6	2.6	2	4.4					
12	Sodium (Na^{+})	mg/kg	-	0.01	0.01	0.01	0.14	0.13					
13	Available Phosphorus	mg/kg	5	5.6	4.66	8.39	6.53	3.73					
14	Organic Matter	%	-	0.45	0.27	0.82	1.92	3.75					
15	Nitrogen	%	-	0.14	0.14	0.15	0.16	0.15					
16	Organic Carbon	%	-	0.36	0.15	0.47	1.11	2.17					
17	Iron (Fe^{2+})	mg/kg	0.03	22.2	28.2	20.4	12.8	10.2					
18	Lead (Pb^{2+})	mg/kg	164	12.2	14.2	14.2	14.22	4.2					
19	Copper (Cu^{2+})	mg/kg	100	10.22	16.22	16.26	10.8	6.22					
20	Zinc (Zn^{2+})	mg/kg	-	14.2	10.2	10.2	12.6	4.2					
21	Grain Size Distribution (Coarse Sand)	%	-	36.1	6.2	20.9	32	29.6					
22	Grain Size Distribution (Clay)	%	-	13.36	11.36	15.36	11.36	17.36					
23	Grain Size Distribution (Silt)	%	-	3.28	5.28	4	9.28	8					
24	Grain Size Distribution (Fine Sand)	%	-	47.26	77.16	59.74	17.84	54.05					
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy					

Table 4.3B: Baseline Soil Quality Analysis for Schools in Birni Kebbi Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR BIRNI KEBBI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 19, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				BKB01 SS1	BKB01 SS2	BKB01 SS3	BKB01 SS4	BKB01 SS5	BKB01 SS6	BKB01 SS7	BKB01 SS8	BKB01 SS9	BKB01 SS10
1	pH (KCl)	-	-	7.1	6.1	6.7	5.3	5	5.2	6.3	5.1	6.6	7.1
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	7.8	6.8	7.2	6.5	6.1	6.4	7.5	6.3	7.3	7.8
3	Nitrate	mg/kg	-	2.22	1.36	2	2.1	1.22	2.22	2.22	4	2.42	1.12
4	Moisture	%	-	6.2	6.2	6.2	6.4	6.22	6.8	6.2	6.42	4.2	6.66
5	Electrical conductivity	µS/Cm	-	12	6.8	8.4	5.6	8.8	8.6	6	7.2	6	8
6	Hydrogen	mg/kg	-	1.2	0.6	0.8	1	0.8	0.6	0.8	0.6	Brownish	0.8
7	Aluminium	mg/kg	-	0.8	0.2	0.4	0.4	0.4	0.2	0.4	0.2	0.6	0.4
8	Soil colour	-	-	Brownish	Whitish	Darkish	Whitish soil	Brownish	Brownish	Darkish	Reddish	0.4	Brownish
9	Potassium (K^{+})	mg/kg	-	0.22	0.05	0.04	0.05	0.12	0.17	0.06	0.05	0.09	0.05
10	Magnesium (Mg^{2+})	mg/kg	-	6	0.6	1.2	0.8	0.6	0.6	0.8	0.4	0.6	1
11	Calcium (Ca^{2+})	mg/kg	-	24	1.8	4.2	1	0.4	0.4	2.6	1.2	1	1.4
12	Sodium (Na^{+})	mg/kg	-	0.14	0/01	0.01	0.02	0.7	0.09	0.02	0.01	0.05	0.02
13	Available Phosphorus	mg/kg	5	6.53	2.8	0.098	2.8	13.06	3.73	7.46	6.53	3.73	3.73
14	Organic Matter	%	-	2.89	0.82	0.275	0.17	1.68	1.81	0.18	0.79	1.09	0.91
15	Nitrogen	%	-	0.15	0.15	0.098	0.12	0.14	0.12	0.15	0.12	0.18	0.19
16	Organic Carbon	%	-	0.67	0.47	0.159	0.1	0.97	1.05	0.1	0.46	0.63	0.53
17	Iron (Fe^{2+})	mg/kg	0.03	8.2	8.2	10.2	14.2	24	12.2	10.2	20.2	20.42	
18	Lead (Pb^{2+})	mg/kg	164	14.2	4.2	14.2	10.2	14.2	10.2	14.2	12.2	12.84	20.22
19	Copper (Cu^{2+})	mg/kg	100	6.22	6.22	10.22	8.26	16.14	14.22	12.22	16.22	10.22	16.2
20	Zinc (Zn^{2+})	mg/kg	-	4.2	4.2	14.2	6.2	14.2	11.2	14.2	10.2	8.24	16.22
21	Grain Size Distribution (Coarse Sand)	%	-	33.52	30.96	41.92	23.82	30.12	30.82	23.92	23.26	31.12	14.2
22	Grain Size Distribution (Clay)	%	-	17.36	11.36	11.36	14.64	14.64	13.36	11.36	12.64	15.36	11.36
23	Grain Size Distribution (Silt)	%	-	6	7.28	7.28	5.28	7.28	6	8	9.28	5.28	7.28
24	Grain Size Distribution (Fine Sand)	%	-	40.12	50.4	39.44	56.25	47.92	49.82	56.72	54.82	48.24	64.7
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy

CODES: BKB01 = BIRNI KEBBI COMMUNITY; BKB02 = GWANDU COMMUNITY; BKB03 = KALGO COMMUNITY; SS = SOIL SAMPLE

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR BIRNI KEBBI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 19, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				BKB01 SS11	BKB01 SS12	BKB01 SS13	BKB01 SS14	BKB01 SS15	BKB02 SS16	BKB02 SS17	BKB02 SS18	BKB02 SS19	BKB02 SS20
1	pH (KCl)	-	-	5.3	6.6	6.1	5.2	6.6	6.7	5.1	6.5	6.2	6.1
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	6.5	7.2	6.9	6.4	7.2	7.6	6	7.2	7.5	7.2
3	Nitrate	mg/kg	-	2.4	2.4	0.66	4.2	3.42	0.88	2.22	3	3.1	0.61
4	Moisture	%	-	6.8	6.4	6.4	6.22	3.62	4.4	6.48	6.6	6.8	8.2
5	Electrical conductivity	µS/Cm	-	5.6	8.4	6.8	8	6.4	7.6	6.4	4.8	19.2	6
6	Hydrogen	mg/kg	-	1	0.8	1	1.4	0.6	0.6	Whitish	0.6	1	0.6
7	Aluminium	mg/kg	-	0.4	0.4	0.6	0.8	0.4	0.2	0.22	0.2	0.4	0.2
8	Soil colour	-	-	Whitish	Darkish		Brownish	Brownish	Reddish	0./17	Darkish	Brownish	Whitish
9	Potassium (K^{+})	mg/kg	-	0.04	0.04	0.05	0.05	0.15	0.05	0.4	0.15	0.12	0.13
10	Magnesium (Mg^{2+})	mg/kg	-	0.4	1.4	0.2	0.8	0.6	1.2	0.8	0.2	2.4	0.8
11	Calcium (Ca^{2+})	mg/kg	-	2.6	1.8	1.6	1.6	1.2	2.4	0.09	1.6	3	3
12	Sodium (Na^{+})	mg/kg	-	0.01	0.01	0.01	0.01	2.22	0.02	1.87		0.07	0.07
13	Available Phosphorus	mg/kg	5	4.66	5.6	10.26	5.6	10.26	0.14	1.81	10.26	2.8	2.8
14	Organic Matter	%	-	0.2	0.54	0.71	0.66	1.55	1.19	0.09	1.65	1.64	1.42
15	Nitrogen	%	-	0.12	0.16	0.08	0.14	0.14	0.14	1.19	0.14	0.14	0.09
16	Organic Carbon	%	-	0.2	0.31	0.41	0.38	0.9	0.69	20.22	0.95	0.95	0.82
17	Iron (Fe^{2+})	mg/kg	0.03	24.22	20.12	24	14.2	18.4	20.22	14.2	24.2	22.2	20
18	Lead (Pb^{2+})	mg/kg	164	14.28	10.2	12.2	12.2	16.8	14.2	12.22	16.2	14.2	10.2
19	Copper (Cu^{2+})	mg/kg	100	14.26	14.22	10.16	12.26	22.2	12.22	14.2	12.22	14.22	12.16
20	Zinc (Zn^{2+})	mg/kg	-	14.2	14.4	12.2	14.2	18.2	14	37.52	14.2	14.2	14.2
21	Grain Size Distribution (Coarse Sand)	%	-	42.42	16.66	24.56	31.94	28.7	27.2	16.64	34.12	24.9	38.58
22	Grain Size Distribution (Clay)	%	-	12.64	11.36	14.64	14.64	13.36	11.36	3.28	13.36	15.36	14.64
23	Grain Size Distribution (Silt)	%	-	5.28	7.28	7.28	5.28	5.28	7.28	42.56	3.28	14	7.28
24	Grain Size Distribution (Fine Sand)	%	-	39.66	64.7	53.52	48.14	52.66	54.16	Sandy loamy	49.24	45.74	39.5
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	1.22	Sandy loamy	Sandy loamy	Sandy loamy

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR BIRNI KEBBI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 24, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				BKB02 SS21	BKB02 SS22	BKB02 SS23	BKB02 SS24	BKB02 SS25	BKB02 SS26	BKB03 SS27	BKB03 SS28	BKB03 SS29	BKB03 SS30
1	pH (KCl)	-	-	5.2	5.3	6.6	5.1	7.1	6.6	7.3	6.8	7.2	6.5
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	6.4	6.5	7.2	6	7.8	7.2	8.1	7.7	8.1	7.2
3	Nitrate	mg/kg	-		1.22	1.22	0.22	2.1	2..88	0.22	2.4	2.32	
4	Moisture	%	-		8.1	6.8	6.8	6.2	6	6.2	6.66	6.2	
5	Electrical conductivity	µS/Cm	-	6.8	8.4	2	7.2	6	4.8	9.6	6.8	6.4	5.6
6	Hydrogen	mg/kg	-	1	1	1.2	0.8	0.8	0.6	1	0.8	0.8	0.8
7	Aluminium	mg/kg	-	0.4	0.2	0.6	0.4	0.4	0.2	0.6	0.4	0.4	0.4
8	Soil colour	-	-		Brownish	Brownish	Brownish		Darkish	Darkish	brownish	Darkish	Darkish
9	Potassium (K^{+})	mg/kg	-	0.17	0.05	0.17	0.07	0.06	0.04	0.05	0.05	0.05	0.04
10	Magnesium (Mg^{2+})	mg/kg	-	1	0.2	1.4	0.4	0.8	0.4	1	0.6	18	1
11	Calcium (Ca^{2+})	mg/kg	-	4.6	1.6	1.8	1.2	0.4	1.2	4.8	1.2	28	1
12	Sodium (Na^{+})	mg/kg	-	0.09	0.02	0.09	0.02	0.02	3.12	0.02	0.01	0.01	0.01
13	Available Phosphorus	mg/kg	5	6.53	7.46	6.53	8.39	3.73	4.66	6.53	8.39	2.8	7.4
14	Organic Matter	%	-	2.06	0.26	1.81	0.88	0.18	0.54	53	0.54	0.82	0.64
15	Nitrogen	%	-	0.15	0.11	0.81	0.11	0.11	0.14	0.12	0.16	0.09	0.16
16	Organic Carbon	%	-	1.19	0.15	1.05	0.51	0.1	0.31	0.53	0.31	0.47	0.37
17	Iron (Fe^{2+})	mg/kg	0.03		16.2	10.2	24.2		12.22	12.2	8.2	18.2	20.2
18	Lead (Pb^{2+})	mg/kg	164		10.2	8.2	12.2		22.82	16.2	7.2	12.2	12.4
19	Copper (Cu^{2+})	mg/kg	100		8.26	6.22	12.16		24	12.22	4.22	18.22	10.22
20	Zinc (Zn^{2+})	mg/kg	-		11.2	4.2	14.2		16.2	10.2	4.2	14.2	14
21	Grain Size Distribution (Coarse Sand)	%	-	25.74	25.56	36.4	20.04	22.36	43.96	25.52	22.62	49.5	38.24
22	Grain Size Distribution (Clay)	%	-	13.36	14.64	13.36	12.64	13.36	13,36	13.36	11.36	13.36	15.36
23	Grain Size Distribution (Silt)	%	-	7.28	5.28	12	7.28	6	3.28	6	7.28	3.28	5.28
24	Grain Size Distribution (Fine Sand)	%	-	53.62	54.52	38.18	58.04	58.28	39.4	55.12	58.74	35.86	41.12
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy

Table 4.3C: Baseline Soil Quality Analysis for Schools in Yauri Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR YAURI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 20, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				YAU01 SS1	YAU01 SS2	YAU02 SS3	YAU02 SS4	YAU02 SS5	YAU02 SS6	YAU03 SS7	YAU03 SS8	YAU03 SS9	
1	pH (KCl)	-	-	6.8	7.1	6.4	6.7	7.1	6.7	4.9	6.1	5.3	
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	7.8	7.8	6.6	7.5	7.8	7.6	6.1	7.3	6.5	
3	Nitrate	mg/kg	-	2.9	0.66	3	2.1	2.22	1.28	1.32	2.42	2.4	
4	Moisture	%	-	8	6.2	6.82	4.2	8	4.6		8	6.8	
5	Electrical conductivity	µS/Cm	-	10.8	8.4	11.2	5.2	8.8	8.4	6.4	7.6	8	
6	Hydrogen	mg/kg	-	0.8	1.2	0.8	0.6	0.8	1.4	0.8	0.8	1	
7	Aluminium	mg/kg	-	0.2	0.4	0.4	0.2	0.4	0.8	0.4	0.4	0.6	
8	Soil colour	-	-	Darkish		Whitish	Brownish	Brownish	Brownish		Reddish	Brownish	
9	Potassium (K^{+})	mg/kg	-	0.04	0.05	0.17	1.1	0.04	0.15	0.05	0.05	0.05	
10	Magnesium (Mg^{2+})	mg/kg	-	2	0.4	0.8	2	1	1.4	0.4	0.4	0.4	
11	Calcium (Ca^{2+})	mg/kg	-	15.6	1.6	2.2	14	1.2	2.4	0.6	1.8	2.4	
12	Sodium (Na^{+})	mg/kg	-	0.01	0.01	0.12	0.5	0.02	0.12	0.01	0.02	0.01	
13	Available Phosphorus	mg/kg	5	1.87	0.12	4.66	11.19	5.6	5.6	1.87	3.73	8.39	
14	Organic Matter	%	-	0.36	0.549	3.93	1.4	1	2.25	0.533	0.91	0.62	
15	Nitrogen	%	-	0.09	0.12	0.18	0.15	0.07	0.05	0.15	0.15	0.09	
16	Organic Carbon	%	-	0.21	0.31	2.28	0.81	0.58	1.48	0.3	0.53	0.62	
17	Iron (Fe^{2+})	mg/kg	0.03	14.2	10.2	10.2	22.6	20.1	10.2	22.2	20.2	22	
18	Lead (Pb^{2+})	mg/kg	164	18.2	8.2	8.2	24.6	12.2	14.22	12.2	14.4	14.2	
19	Copper (Cu^{2+})	mg/kg	100	10.22	12.22	8.22	14.2	10.22	12.22	10.26	14.22	16.16	
20	Zinc (Zn^{2+})	mg/kg	-	11.2	12.2	4.2	12.4	14.2	14.2	12.2	14.2	14.2	
21	Grain Size Distribution (Coarse Sand)	%	-	44.88	32.02	28.7	21.14	30.38	48.04	46	25.96	24.56	
22	Grain Size Distribution (Clay)	%	-	11.36	13.36	50.36	13.36	11.36	11.36	12.64	13.36	12.64	
23	Grain Size Distribution (Silt)	%	-	5.28	6	12	5.28	13.28	9.28	5.28	8	11.28	
24	Grain Size Distribution (Fine Sand)	%	-	38.48	48.62	43.94	60.22	44.98	31.32	36.08	52.68	51.52	
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	

CODES: YAU01 = KOKO/BESSEE COMMUNITY; YAU02 = NGASKI COMMUNITY; YAU03 = SHANGA COMMUNITY; YAU04 = YAURI COMMUNITY; SS = SOIL SAMPLE

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR YAURI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 20, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				YAU04 SS10	YAU04 SS11	YAU04 SS12	YAU04 SS13						
1	pH (KCl)	-	-	6.1	6.6	6.1	6.4						
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	7.3	7.2	6.8	7.1						
3	Nitrate	mg/kg	-	2.34	3.1	3.2	7.4						
4	Moisture	%	-	6.8	5.2	4.2	7.8						
5	Electrical conductivity	µS/Cm	-	12	4.8	7.6	5.6						
6	Soil colour	-	-	1	0.6	Whitish	Brownish						
7	Potassium (K^{+})	mg/kg	-	0.6	0.4	0.11	0.44						
8	Magnesium (Mg^{2+})	mg/kg	-		Darkish	0.8	1,44						
9	Calcium (Ca^{2+})	mg/kg	-	0.05	5.2	1.4	0.05						
10	Sodium (Na^{+})	mg/kg	-	10	0.4	0.06	0.22						
11	Available Phosphorus	mg/kg	5	20	0.8	4.66	2						
12	Organic Matter	%	-	0.01	2.1	1.28	0.02						
13	Nitrogen	%	-	2.8	5.6		5.62						
14	Organic Carbon	%	-	0.54	0.54	0.7	1.16						
15	Iron (Fe^{2+})	mg/kg	0.03	0.17	0.15	20.2	0.12						
16	Lead (Pb^{2+})	mg/kg	164	0.31	0.31	14.2	0.6						
17	Copper (Cu^{2+})	mg/kg	100	20.2	18	16.22	10						
18	Zinc (Zn^{2+})	mg/kg	-	14.22	12.8	14.2	12.2						
19				14.22	12	24.74	12.12						
20				14.2	14.2	11.36	10.1						
21	Grain Size Distribution (Coarse Sand)	%	-	39.78	18.16	7.28	53.84						
22	Grain Size Distribution (Clay)	%	-	17.36	13.36	54.62	11.32						
23	Grain Size Distribution (Silt)	%	-	14	5.28	Sandy loamy	5.28						
24	Grain Size Distribution (Fine Sand)	%	-	28.86	63.2	0.6	29.54						
25	Textural Class	-	-	Sandy loamy	Sandy loamy	0.2	Sandy loamy						

Table 4.3D: Baseline Soil Quality Analysis for Schools in Jega Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR JEGA ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 21, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				JEG01 SS1	JEG01 SS2	JEG01 SS3	JEG01 SS4	JEG01 SS5	JEG01 SS6	JEG01 SS7	JEG01 SS8	JEG01 SS9	
1	pH (KCl)	-	-	5.2	6.3	5.1	5.7	5.1	6.4	6.6	5.8	6.2	5.1
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	6.4	7.4	6	6.9	6.4	7.1	7.2	6.9	7.4	6.3
3	Nitrate	mg/kg	-	2.22	2.32	2.42	3.22	2.22	2.8	2.2	2.24	2.1	0.87
4	Moisture	%	-	8.2	6.24	644	4.68	6.4	5.68	4.6	6.2	6.2	6.5
5	Electrical conductivity	µS/Cm	-	8	6.4	5.6	9.6	6	7.2	9.6	8.4	10.8	10.4
6	Hydrogen	mg/kg	-	0.6	1	1.2	0.8	0.6	0.6	0.8	0.6	0.8	1
7	Aluminium	mg/kg	-	0.2	0.6	0.6	0.4	0.2	0.2	0.4	0.2	0.4	0.4
8	Soil colour	-	-		Brownish	Reddish	Redish	Brownish	Brownish	Brownish	Brownish		Brownish
9	Potassium (K^{+})	mg/kg	-	0.05	0.05	0.04	0.07	0.16	0.04	0.05	0.14	0.17	1.17
10	Magnesium (Mg^{2+})	mg/kg	-	0.4	0.4	0.4	0.8	0.2	0.8	0.4	1	12	1
11	Calcium (Ca^{2+})	mg/kg	-	0.8	0.1	0.8	1.4	1.08	0.8	1.8	1.4	6	1.8
12	Sodium (Na^{+})	mg/kg	-	0.01	0.01	0.01	0.02	0.09	0.01	0.02	0.1	0.13	1.12
13	Available Phosphorus	mg/kg	5	3.73	4.66	5.6	5.6	5.6	3.73	6.53	1.87	13.06	4.66
14	Organic Matter	%	-	3.75	0.45	0.44	0.91	1.89	0.45	1.19	2.1	4.02	2.84
15	Nitrogen	%	-	0.15	0.14	0.11	0.16	0.11	0.14	0.05	0.09	0.16	0.11
16	Organic Carbon	%	-	0.42	0.45	0.25	0.53	1.1	0.266	0.69	1.22	2.33	1.64
17	Iron (Fe^{2+})	mg/kg	0.03	12.2	10.2	24.2	20.2	20.66	24	20.24	20.22	20.2	
18	Lead (Pb^{2+})	mg/kg	164	14.2	12.2	14.2	16.2	14.2	18.6	12.2	10.2	4.2	
19	Copper (Cu^{2+})	mg/kg	100	12.22	16.24	16.26	16.22	16.26	16.4	16.2	12.22	6.22	
20	Zinc (Zn^{2+})	mg/kg	-	14.2	14.2	14.2	16.2	14.2	14.4	10.2	14	14.2	
21	Grain Size Distribution (Coarse Sand)	%	-	25.08	24.68	24.14	28.08	35.1	26.22	21	26.84	32.24	27.86
22	Grain Size Distribution (Clay)	%	-	15.36	15.36	18.64	13.36	10.64	15.36	11.36	11.36	17.36	16.64
23	Grain Size Distribution (Silt)	%	-	6	6	5.28	5.28	5.28	5.28	9.28	9.28	12	5.28
24	Grain Size Distribution (Fine Sand)	%	-	53.56	53.96	51.94	53.28	48.98	53.14	58.36	52.52	38.4	50.22
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy

CODES: JEG01 = ALIERO COMMUNITY; JEG02 = JEGA COMMUNITY; JEG03 = MAIYAMA COMMUNITY; SAMPLE; SS = SOIL SAMPLE

Table 4.3D: Baseline Soil Quality Analysis for Schools in Jega Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR JEGA ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 21, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				JEG02 SS10	JEG02 SS11	JEG02 SS12	JEG02 SS13	JEG02 SS14	JEG03 SS15	JEG03 SS16	JEG03 SS17	JEG03 SS18	
1	pH (KCl)	-	-	5.1	6.4	5.1	6.6	6.6	6.7	5.4	5.2	6.9	
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	6.3	7.1	6.3	7.3	7.2	7.5	6.6	6.4	7.6	
3	Nitrate	mg/kg	-	0.87	2.2	2.34	1.22	0.32	0.88	0.22	2.42	-	
4	Moisture	%	-	6.5	5.2	6.82	4.8	4.4	6.2	6.2	6.42	-	
5	Electrical conductivity	µS/Cm	-	10.4	7.2	8	5.2	6.4	5.6	25.6	10.8	6.8	
6	Hydrogen	mg/kg	-	1	0.6	1	80	0.6	0.6	1	0.8	0.6	
7	Aluminium	mg/kg	-	0.4	0.2	0.4	0.6	0.2	0.6	0.4	0.2	0.4	
8	Soil colour	-	-	Brownish	Brownish		Darkish	Brownish	Brownish	Brownish	Reddish	darkish	
9	Potassium (K^{+})	mg/kg	-	1.17	0.11	0.05	0.04	0.06	0.05	1.6	0.08	0.4	
10	Magnesium (Mg^{2+})	mg/kg	-	1	0.6	0.2	0.04	0.6	0.6	0.2	0.2	0.6	
11	Calcium (Ca^{2+})	mg/kg	-	1.8	1.6	1	1.4	1.2	2	2.8	1.4	0.62	
12	Sodium (Na^{+})	mg/kg	-	1.12	0.06	0.01	0.01	2.32	0.01	1.1	0.03	0.82	
13	Available Phosphorus	mg/kg	5	4.66	3.73	12.12	12.12	4.66	2.8	1.87	3.73	13.06	
14	Organic Matter	%	-	2.84	1.282	0.54	0.64	1	0.54	2.48	1.24	5.31	
15	Nitrogen	%	-	0.11	0.154	0.15	0.12	0.15	0.16	0.08	0.15	0.19	
16	Organic Carbon	%	-	1.64	0.743	0.31	0.37	0.58	0.31	2.48	0.72	3.08	
17	Iron (Fe^{2+})	mg/kg	0.03		18.6	10.2	4.8	12.8	18.2	24.2	10.2	34.8	
18	Lead (Pb^{2+})	mg/kg	164		16.2	10.2	4.88	14.2	12.2	14.2	4.2	16.88	
19	Copper (Cu^{2+})	mg/kg	100		10.8	12.22	6.4	16.2	14.22	16.12	6.22	20.22	
20	Zinc (Zn^{2+})	mg/kg	-		12.4	10.18	6.2	12.4	10.2	14.22	4.2	14.8	
21	Grain Size Distribution (Coarse Sand)	%	-	27.86	20.1	30	37.8	35.58	40.88	48.6	39.36	30.98	
22	Grain Size Distribution (Clay)	%	-	16.64	11.36	13.36	13.36	13.36	11.36	14.64	13.36	13.36	
23	Grain Size Distribution (Silt)	%	-	5.28	5.28	6	5.28	5.28	7.28	7.28	10	9.28	
24	Grain Size Distribution (Fine Sand)	%	-	50.22	63.26	48.64	43.56	45.78	40.48	29.48	37.28	46.38	
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loam	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	

Table 4.3E: Baseline Soil Quality Analysis for Schools in Zuru Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR ZURU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 22, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				ZUR01 SS1	ZUR01 SS2	ZUR01 SS3	ZUR01 SS4	ZUR01 SS5	ZUR01 SS6	ZUR02 SS7	ZUR02 SS8	ZUR02 SS9	
1	pH (KCl)	-	-	7.8	4.9	6.7	6.4	6.4	5.4	7.1	7.2	1.6	5
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	2.22	6.7	7.6	7.8	7.1	6.7	7.8	8.1	6.9	6.1
3	Nitrate	mg/kg	-	6.2	2.44	6.4	1.22		0.42	2.32	2.81	3.1	1.22
4	Moisture	%	-	8.4	6	0.8	6.4		6.9	1.42	4.8	6.2	6
5	Electrical conductivity	µS/Cm	-	1	8	0.4	14	6	7.6	4.8	10.8	10.8	8.4
6	Hydrogen	mg/kg	-	0.4	1	0.8	0.8	0.6	1	1.2	1	0.8	0.6
7	Aluminium	mg/kg	-		0.2	0.4	0.4	0.2	0.4	0.6	0.6	0.4	0.2
8	Soil colour	-	-	Brownish	Brownish	Darkish	Brownish	Darkish	Brownish	Darkish		Brownish	Reddish
9	Potassium (K^{+})	mg/kg	-	0.05	0.08	0.06	0.23	0.04	0.17	0.17	0.05	0.17	0.05
10	Magnesium (Mg^{2+})	mg/kg	-	1	0.6	0.4	8	0.8	0.6	1	2	1.4	0.2
11	Calcium (Ca^{2+})	mg/kg	-	5.8	1.8	1.8	8	3	1.6	1.8	2.4	5.6	1.2
12	Sodium (Na^{+})	mg/kg	-	0.02	0.03	0.02	0.17	0.01	0.09	0.09	0.02	0.1	0.01
13	Available Phosphorus	mg/kg	5	5.6	4.66	2.8	2.8	5.6	2.8	6.53	1.87	5.6	4.66
14	Organic Matter	%	-	0.9	1.06	1	6.03	0.36	2.06	2.1	1.19	2.1	0.62
15	Nitrogen	%	-	0.16	0.12	0.14	0.12	0.12	0.11	0.16	0.14	0.19	0.12
16	Organic Carbon	%	-	0.52	0.61	0.58	3.52	0.21	1	1.22	0.69	1.22	0.36
17	Iron (Fe^{2+})	mg/kg	0.03	10.2	10.2	24.2	24	24.2	24	10.2	20.2	18.2	20.2
18	Lead (Pb^{2+})	mg/kg	164	24.2	12.2	14.2	16.2	16.2	14.2	14.2	14	14.2	14.4
19	Copper (Cu^{2+})	mg/kg	100	16.22	14.22	14.22	16.16	12.22	16.16	8.22	12.22	12.22	16.22
20	Zinc (Zn^{2+})	mg/kg	-	14.2	10.2	12.2	14	14.2	14.2	6.2	10.2	14.2	4.2
21	Grain Size Distribution (Coarse Sand)	%	-	32.26	38	25.26	32.6	18.26	8.11	25.26	26.02	38.68	22.38
22	Grain Size Distribution (Clay)	%	-	15.36	11.36	15.36	16.64	15.36	10.64	19.36	13.36	13.36	10.64
23	Grain Size Distribution (Silt)	%	-	8	6	11.28	7.28	5.28	7.28	16	7.28	11.28	9.28
24	Grain Size Distribution (Fine Sand)	%	-	44.38	44.64	48.1	43.48	61.1	74.06	39.38	53.34	36.68	55.7
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sand loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy

CODES: ZUR01 = ZURU COMMUNITY; ZUR02 = FAKAI COMMUNITY; ZUR03 = SAKABA COMMUNITY; ZUR04 = DANKO WASAGU COMMUNITY; SS = SOIL SAMPLE

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR ZURU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 22, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				ZUR03 SS10	ZUR03 SS11	ZUR04 SS12	ZUR04 SS13	ZUR04 SS14	ZUR04 SS15				
1	pH (KCl)	-	-	5	6.8	5.2	6.3	7.2	6.6				
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	6.1	7.7	6.4	6.9	8.1	7.3				
3	Nitrate	mg/kg	-	1.22	2.22	1.28	0.36	2.22					
4	Moisture	%	-	6	6.64	6.2	4.6	6.8					
5	Electrical conductivity	µS/Cm	-	8.4	5.6	6.8	6	7.2	6.4				
6	Hydrogen	mg/kg	-	0.6	1.4	0.8	0.8	1	0.8				
7	Aluminium	mg/kg	-	0.2	0.8	0.4	0.4	0.4	0.4				
8	Soil colour	-	-	Reddish	Brownish	Whitish	Whitish	Darkish	Darkish				
9	Potassium (K^{+})	mg/kg	-	0.05	0.06	0.04	0.16	0.13	0.18				
10	Magnesium (Mg^{2+})	mg/kg	-	0.2	1	0.2	1	1	0.8				
11	Calcium (Ca^{2+})	mg/kg	-	1.2	1.6	0.8	1.8	3.4	3				
12	Sodium (Na^{+})	mg/kg	-	0.01	0.02	0.01	0.11	0.07	0.09				
13	Available Phosphorus	mg/kg	5	4.66	2.8	1.87	6.53	1.87	10.26				
14	Organic Matter	%	-	0.62	0.27	0.53	2.25	1.569	1.92				
15	Nitrogen	%	-	0.12	0.12	0.12	0.16	0.16	0.15				
16	Organic Carbon	%	-	0.36	0.15	0.3	1.48	0.91	1.11				
17	Iron (Fe^{2+})	mg/kg	0.03	20.2	12.2	2	22.22	10.2	22.8				
18	Lead (Pb^{2+})	mg/kg	164	14.4	10.2	14.2	14.2	8.2	18.4				
19	Copper (Cu^{2+})	mg/kg	100	16.22	8.22	12.16	12.22	6.22	18				
20	Zinc (Zn^{2+})	mg/kg	-	4.2	4.2	10.2	12.2	4.2	14;00				
21	Grain Size Distribution (Coarse Sand)	%	-	22.38	45.5	20.58	51.36	61.38	18.86				
22	Grain Size Distribution (Clay)	%	-	10.64	11.36	16.64	11.36	11.36	15.36				
23	Grain Size Distribution (Silt)	%	-	9.28	9.28	7.28	7.28	8	9.28				
24	Grain Size Distribution (Fine Sand)	%	-	55.7	33.86	55.5	30	19.26	56.5				
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy				

Table 4.3F: Baseline Soil Quality Analysis for Schools in Bunza Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS FOR BUNZA ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 24, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
				BNZ01 SS1	BNZ01 SS2	BNZ01 SS3	BNZ03 SS4	BNZ03 SS5	BNZ03 SS6	BNZ03 SS7			
1	pH (KCl)	-	-	6.7	6.6	7.1	6.6	6.4	6.09	6.5			
2	pH (10% solution @ 25^{o}C	-	6.5-9.0	7.5	7.3	7.8	7.3	7.1	7.6	7.2			
3	Nitrate	mg/kg	-	6.42	3.4	2.4	2.2	1.23	2.34				
4	Moisture	%	-	6.38	4.2	6.2	6.8	4.22	6.2				
5	Electrical conductivity	µS/Cm	-	4.8	4.8	6.8	5.6	7.6	7.2	5.6			
6	Hydrogen	mg/kg	-	0.6	0.8	1	0.4	1	0.8	0.8			
7	Aluminium	mg/kg	-	0.4	0.4	0.6	0.2	0.6	0.4	0.4			
8	Soil colour	-	-	Reddish	Darkish	Darkish	Brownish	Darkish	Darkish	Brownish			
9	Potassium (K^{+})	mg/kg	-	0.05	0.4	0.05	0.05	0.04	0.05	0.04			
10	Magnesium (Mg^{2+})	mg/kg	-	12	0.6	0.8	0.6	1.6	0.6	1,40			
11	Calcium (Ca^{2+})	mg/kg	-	22	0.62	1.4	0.4	1	3.2	1.4			
12	Sodium (Na^{+})	mg/kg	-	2	0.01	0.01	0.02	0.01	0.01	0.01			
13	Available Phosphorus	mg/kg	5	5.6	2.8	3.73	6.53	6.33	3.73	6.53			
14	Organic Matter	%	-	4.2	0.64	0.64	0.73	0.45	0.64	0.45			
15	Nitrogen	%	-	16	0.14	0.14	0.14	0.14	0.15	0.12			
16	Organic Carbon	%	-	4.2	0.37	0.37	0.42	0.26	0.37	0.26			
17	Iron (Fe^{2+})	mg/kg	0.03	62.2	12.8	14.2	14.8	12.4	8.2	12.8			
18	Lead (Pb^{2+})	mg/kg	164	32.2	18.2	10.2	8.4	10.8	6.2	8.4			
19	Copper (Cu^{2+})	mg/kg	100	40.22	20.22	8.22	8.6	12.8	6.22	8.6			
20	Zinc (Zn^{2+})	mg/kg	-	22.24	26.2	4.2	12.4	12.2	4.2	6.8			
21	Grain Size Distribution (Coarse Sand)	%	-	61.28	29.9	27.14	36.12	37.28	20.34	61.52			
22	Grain Size Distribution (Clay)	%	-	13.36	13.36	13.36	13.36	15.36	11.36	11.36			
23	Grain Size Distribution (Silt)	%	-	3.28	7.28	7.28	3.28	9.28	8	9.28			
24	Grain Size Distribution (Fine Sand)	%	-	22.08	49.46	52.22	47.24	38.08	60.3	17.84			
25	Textural Class	-	-	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy	Sandy loamy			

CODES: BNZ01 = SURU COMMUNITY; BNZ02 = DANDI COMMUNITY; BNZ03 = BUNZA COMMUNITY; BNZ04 = BAGUDO COMMUNITY.; GW = GROUND WATER SAMPLE; SS = SOIL SAMPLE

Table 4.4A: Baseline Groundwater Quality Analysis for Schools in Argungu Education Zone

CODES:

AGG01 = ARGUNGU COMMUNITY; AGG02 = AREWA COMMUNITY; AGG03 = AUGIE COMMUNITY; GW = GROUND WATER SAMPLE; SS = SOIL SAMPLE

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR ARGUNGU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 18, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					AGG01 GW1	AGG01 GW2	AGG01 GW3	AGG01 GW4	AGG01 GW5	AGG01 GW6	AGG01 GW8	AGG01 GW9	AGG01 GW10	
1	Temperature	0 C	40	32-34	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	
2	Ph	-	6.5 - 8.0	6.5-8.5	8.1	8.2	6.1	7.2	6.8	6.9	6.8	6.8	6.2	
3	Taste	-	NS	Nil	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	
4	Appearance	-	NS	Nil	Clear	Clear	Clear	Clear	Clear	Clear	Turbid	Clear	Clear	
5	Odour	-	NS	Nil	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless		Odourless	
6	Total Dissolved Solids	mg/L	2100	500	178	18	113	62	51	74	82	144	15	
7	Conductivity	µS/Cm	1000 µS/Cm	1500	391.6	39.6	248.6	136.4	112.2	162.8	180.4	316.8	33	
8	Total hardness	mg/L	NS	120-180	56	48	12	52	28	52	48	48	8	
9	Chloride	mg/L	NS	250	17.04	19.88	62.84	15.62	26.98	24.14	22.72	36.92	80.94	
10	Fluoride	mg/L	NS	2.0	0.2	1.2	1.22	1.2	0.01	1.2	1.2	1.42	1.2	
11	Sodium	mg/L	10	20	1.77	1.85	3.21	0.6	1.19	1.88	0.92	0.91	0.57	
12	Potassium	mg/L	NS	NS	0.07	2.62	2.86	0.15	2.1	0.23	6.03	8.81	0.38	
13	Sulphate	mg/L	250	250	bdl	5.52	Bdl	25.24	18.123	27.88	Bdl	Bdl	bdl	
14	Sulphide	mg/L	NS	0.2	1.2	1.2	0,08	Nil	1.2	Nil	0.02	1.22	0.01	
15	Ammonia	mg/L	NS	1.5	Nil	Nil	0.01	0.1	1	0,20	Nil	Nil	2	
16	Nitrate	mg/L	50	10	0.06	0.05	0.03	bdl	0.06	0.01	0.02	0.05	0.02	
17	Phosphate	mg/L	5	5	bdl	bdl	Bdl	0.07	0.01	0.1	0.09	Bdl	bdl	
18	DO	mg/L	6	6	2	2	1.2	1.8	1.8	2.6	1.6	1.2	4	
19	BOD	mg/L	6	6	4.8	6.8	5.8	6.2	5.2	4.4	5.8	5.2	5.8	
20	COD	mg/L	30	NS	6.2	8.2	8.2	7.8	6	6	8	8	6.2	
21	Chromium	mg/L	0.1	0.03	Bdl	0.11	Bdl	bdl	0.11	bdl	0.11	Bdl	bdl	
22	Copper	mg/L	3	2	Bdl	Bdl	Bdl	0.03	0.03	0.06	Bdl	0.06	0.03	
23	Iron	mg/L	1	0.3	0.24	0.12	0.97	0.61	0.12	0.73	0.36	1.44	0.24	
24	Zinc	mg/L	< 1	0.01	0.02	0.06	0.05	0.06	bdl	0.02	0.06	0.79	0.01	

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR ARGUNGU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 18, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					AGG01 GW1	AGG01 GW2	AGG01 GW3	AGG01 GW4	AGG01 GW5	AGG01 GW6	AGG01 GW8	AGG01 GW9	AGG01 GW10	
25	Lead	mg/L	0.1	0.01	Bdl	0.14	Bdl	0.29	0.59	bdl	0.14	0.59	bdl	
26	Nickel	mg/L	0.1	0.2	0.3	0.71	0.61	0.2	0.3	0.2	0.3	0.61	0.92	
27	Manganese	mg/L	0.01	0.02	Bdl	0.12	0.09	0.03	0.12	bdl	0.03	Bdl	0.09	
28	Silver (Ag+)	mg/L	< 1	0.10	Bdl	Bdl	Bdl	bdl	bdl	0.02	0.02	0.02	0.02	
29	Calcium	mg/L	NS	NS	38	16	12	16	12	20	16	12	4	
30	Magnesium	mg/L	NS	NS	18	32	20	36	16	32	32	36	4	
31	Total Alkalinity	mg/L	NS	NS	46	216	56	48.4	60	152	80	72	56	
32	Hydroxide	mg/L	NS	NS	Nil	nil	Nil	Nil	Nil	nil	Nil	Nil	bdl	
33	Bicarbonate	mg/L	NS	NS	0.2	0.1	1.22	0.2	1.2	1.2	1.2	Nil	0.01	
		Microbial Analysis												
34	E. *coli*	cfu/mL	0	0	0	0	0	0	0	0	0	0	0	
35	Total coliform	cfu/mL	0	0	1.0x10	2.0x10	2.0x10	0	0	0	3.0x10	0	0	
36	Total viable counts	cfu/mL	NS	NS	$1.21x10^3$	$1.39x10^3$	$1.60x10^3$	$6.8x10^2$	$6.3x10^2$	$5.5x10^2$	$1.56x10^3$	$1.83x10^3$	$5.3x10^2$	

µS/Cm = MicroSiemens per centimeter Bdl = Below detectable level mg/L = milligram per litre cfu = Coliform forming units.

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR ARGUNGU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 18, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					AGG03 WS11	AGG03 WS12	AGG03 WS13	AGG03 WS14	AGG03 WS15					
1	Temperature	0 C	40	32-34	20.8	20.8	20.8	20.8	20.8					
2	Ph	-	6.5 - 8.0	6.5-8.5	6.6	8.5	7.1	6	8.6					
3	Taste	-	NS	Nil	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless					
4	Appearance	-	NS	Nil	Clear	Clear	Clear	Clear	Clear					
5	Odour	-	NS	Nil	Odourless	Odourless	Odourless	Odourless	Odourless					
6	Total Dissolved Solids	mg/L	2100	500	65	42	48	49	119					
7	Conductivity	µS/Cm	1000 µS/Cm	1500	132	92.4	105.6	107.8	238					
8	Total hardness	mg/L	NS	120-180	36	28	80	12	96					
9	Chloride	mg/L	NS	250	24.14	21.3	39.76	55.38	19.88					
10	Fluoride	mg/L	NS	2.0	1.2	1.2	1.2	0.2	1.2					
11	Sodium	mg/L	10	20	1.08	0.21	0.46	0.49	1.56					
12	Potassium	mg/L	NS	NS	2.01	0.92	1.39	0.85	4.02					
13	Sulphate	mg/L	250	250	41.2	bdl	54.22	28.13	69.75					
14	Sulphide	mg/L	NS	0.2	2.2	nil	1.2	Nil	0.2					
15	Ammonia	mg/L	NS	1.5	1.2	1.2	nil	1.2	2.1					
16	Nitrate	mg/L	50	10	0.2	0.06	0.03	0.01	0.08					
17	Phosphate	mg/L	5	5	BDL	0.07	0.1	bdl	0.03					
18	DO	mg/L	6	6	1.8	1.8	1.2	1.62	2.6					
19	BOD	mg/L	6	6	4.2	6.4	5.4	5.46	6.4					
20	COD	mg/L	30	NS	6.8	7.2	6.2	7.8	8.4					
21	Chromium	mg/L	0.1	0.03	bdl	bdl	Bdl	0.11	0.23					
22	Copper	mg/L	3	2	bdl	0.09	0.09	bdl	Bdl					
23	Iron	mg/L	1	0.3	0.12	0.85	0.73	0.36	0.36					
24	Zinc	mg/L	< 1	0.01	0.26	bdl	0.06	0.01	0.01					
25	Lead	mg/L	0.1	0.01	0.29	0.14	0.29	0.14	Bdl					

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR ARGUNGU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 18, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					AGG03 WS11	AGG03 WS12	AGG03 WS13	AGG03 WS14	AGG03 WS15					
26	Nickel	mg/L	0.1	0.2	0.41	bdl	0.2	0.82	0.1					
27	Manganese	mg/L	0.01	0.02	0.06	bdl	0.25	0.03	Bdl					
28	Silver (Ag+)	mg/L	< 1	0.10	bdl	bdl	0.02	0.02	Bdl					
29	Calcium	mg/L	NS	NS	8	12	12	8	28					
30	Magnesium	mg/L	NS	NS	28	16	68	4	68					
31	Total Alkalinity	mg/L	NS	NS	80	64	88	46	352					
32	Hydroxide	mg/L	NS	NS	Bdl	nil	Nil	Nil	Nil					
33	Bicarbonate	mg/L	NS	NS	bdl	nil	1.2	1.2	1.2					
		Microbial Analysis												
34	E. *coli*	cfu/mL	0	0	0	0	0	0	0					
35	Total coliform	cfu/mL	0	0	0	1.0x10	0	0	3.0x10					
36	Total viable counts	cfu/mL	NS	NS	$5.4x10^2$	$9.8x10^2$	$9.5x10^2$	$7.0x10^2$	$1.63x10^3$					

Table 4.4B: Baseline Groundwater Quality Analysis for Schools in Birni Kebbi Education Zone

CODES:

BKB01 = BIRNI KEBBI COMMUNITY; BKB02 = GWANDU COMMUNITY; BKB03 = KALGO COMMUNITY; GW = GROUND WATER SAMPLE; SS = SOIL SAMPLE

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR BIRNI KEBBI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 19, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					BKB01 GW1	BKB01 GW2	BKB01 GW3	BKB01 GW4	BKB01 GW5	BKB01 GW6	BKB01 GW7	BKB01 GW8	BKB01 GW9	BKB01 GW10
1	Temperature	^{0} C	40	32-34	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.7
2	pH	-	6.5 - 8.0	6.5-8.5	8.3	7.8	5.6	5.6	6.9	6.8	6.5	5.9	7.5	8.4
3	Taste	-	NS	Nil	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless
4	Appearance	-	NS	Nil	Clear	Clear	Clear	Clear	Clear	Clear	Turbid	Clear	Clear	Clear
5	Odour	-	NS	Nil	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless		Odourless	Odourless
6	Total Dissolved Solids	mg/l	2100	500	117	492	33	33	44	38	28	17	87	119.2
7	Conductivity	µS/Cm	1000µS/Cm	1500	257.4	1082.4	72.6	72.6	94.6	83.6	61.6	37.4	191.4	238.4
8	Total hardness	mg/l	NS	120-180	108	376	24	24	44	8	32	12	64	46
9	Chloride	mg/l	NS	250	12.78	120.7	166.14	166.14	53.96	26.98	17.04	64	19.88	19.88
10	Fluoride	mg/l	NS	2.0	1.2	1.2	1.2	1.2	1	0.12	1	1.2	0.2	0/01
11	Sodium	mg/l	10	20	1.36	4.02	0.44	0.44	3.9	1.51	0.26	0.31	0.81	1.56
12	Potassium	mg/l	NS	NS	4.64	8.04	3.01	3.01	7.27	0.85	2.08	1.46	1.08	4.02
13	Sulphate	mg/l	250	250	70.08	bdl	bdl	bdl	2.39	bdl	Bdl	Bdl	24.75	69.75
14	Sulphide	mg/l	NS	0.2	0.2	0.2	1.2	1.2	0.02	1.2	Nil	2	Nil	Nil
15	Ammonia	mg/l	NS	1.5	0.2	1.2	Nil	Nil	Nil	0.12	Nil	Nil	0.02	0.01
16	Nitrate	mg/l	50	10	0.03	0.41	0.07	0.07	0.06	BDL	0.03	Bld	0.03	0.08
17	Phosphate	mg/l	5	5	bdl	0.1	bdl	bdl	Bdl	0.01	bdl	0.02	bdl	0.03
18	DO	mg/l	6	6	2	1.82	2.6	2.6	4	1.6	2	2	3.6	1.28
19	BOD	mg/l	6	6	5.8	5.42	4.4	4.4	4.8	4.8	4.8	4.8	5.2	4.2
20	COD	mg/l	30	NS	6.8	6	6	6	6	6.2	6.2	6.2	6	8.2
21	Chromium	mg/l	0.1	0.03	Bdl	0.11	0.11	0.11	Bdl	Bdl	0.11	Bdl	bdl	0.23
22	Copper	mg/l	3	2	Bdl	0.03	bdl	bdl	Bdl	Bdl	0.06	0.06	0.03	Bdl
23	Iron	mg/l	1	0.3	0.36	0.24	0.97	0.97	0.12	0.48	0.48	0.24	0.73	0.36
24	Zinc	mg/l	< 1	0.01	Bdl	0.03	0.01	0.01	0.04	0.03	0.03	0.08	bdl	0.02

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR BIRNI KEBBI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 19, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					BKB01 GW1	BKB01 GW2	BKB01 GW3	BKB01 GW4	BKB01 GW5	BKB01 GW6	BKB01 GW7	BKB01 GW8	BKB01 GW9	BKB01 GW10
25	Lead	mg/l	0.1	0.01	Bdl	bdl	bdl	bdl	Bdl	Bdl	Bdl	0.29	bdl	Bdl
26	Nickel	mg/l	0.1	0.2	0.92	0.71	1.12	1.12	0.82	0.71	0.1	1.33	0.1	0.12
27	Manganese	mg/l	0.01	0.02	0.03	bdl	0.06	0.06	0.06	0.09	0.09	0.03	bdl	Bdl
28	Silver (Ag^{+})	mg/l	< 1	0.10	0.02	bdl	bdl	bdl	Bdl	0.02	0.02	Bdl	bdl	Bdl
29	Calcium	mg/l	NS	NS	52..00	28	8	8	8	4	16	4	20	28
30	Magnesium	mg/l	NS	NS	56	18	16	16	36	4	16	8	52	68
31	Total Alkalinity	mg/l	NS	NS	84	52	32	32	32	32	76	64	160	52
32	Hydroxide	mg/l	NS	NS	Nil	Nil	Nil	Nil	1.4	Nil	Nil	Nil	0.01	Nil
33	Bicarbonate	mg/l	NS	NS	1.2	2.4	1.2	1.2	0.2	1.2	1.2	0.2	0.2	0.02
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0	0	0	0	0	0	0	0.0x10
35	Total Coliform M.agar	cfu/ml	0	0	0	0	0	0	0	0	0	2.0x10	0	3.0x10
36	Total viable counts	cfu/ml	NS	NS	$4.9x10^{2}$	$3.8x10^{2}$	$5.0x10^{2}$	$5.0x10^{2}$	$7.9x10^{2}$	$8.3x10^{2}$	$7.1x10^{2}$	$1.0x10^{3}$	$3.2x10^{2}$	$1.63x10^{3}$

CODES:

BKB01 = BIRNI KEBBI COMMUNITY; BKB02 = GWANDU COMMUNITY; BKB03 = KALGO COMMUNITY; GW = GROUND WATER SAMPLE; SS = SOIL SAMPLE

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR BIRNI KEBBI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 19, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					BKB01 GW11	BKB01 GW12	BKB01 GW13	BKB01 GW14	BKB01 GW15	BKB03 GW1	BKB03 GW2	BKB03 GW3	BKB03 GW4	BKB03 GW5
1	Temperature	^{0} C	40	32-34	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
2	pH	-	6.5 - 8.0	6.5-8.5	7.5	8.2	5	7.8	7.7	8.3	6.7	7	7.8	7.4
3	Taste	-	NS	Nil	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless
4	Appearance	-	NS	Nil	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
5	Odour	-	NS	Nil	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless
6	Total Dissolved Solids	mg/l	2100	500	113	122	262	30	76	117	36	78	82	77
7	Conductivity	µS/Cm	1000µS/Cm	1500	248.6	268.4	576.4	66	167.2	257.4	79.2	171.6	180.4	169.4
8	Total hardness	mg/l	NS	120-180	108	96	100	8	56	96	20	60	68	64
9	Chloride	mg/l	NS	250	22.72	19.88	364.94	12.66	14.2	14.2	48.28	26.98	17.04	14.46
10	Fluoride	mg/l	NS	2.0	bdl	1.2	1.22	1.2	1.24	5.41	0.2	0.44	1.2	1.22
11	Sodium	mg/l	10	20	1.22	1.41	4.85	0.67	0.28	1.36	0.53	0.54	0.56	0.61
12	Potassium	mg/l	NS	NS	3.4	2.62	21.73	1.93	1.46	2.2	2.39	3.48	1.62	0.85
13	Sulphate	mg/l	250	250	22.02	8.12	Bdl	0.37	bdl	13.03	bdl	Bdl	Bdl	7.96
14	Sulphide	mg/l	NS	0.2	0.01	0.4	1.22	1.2	0.02	1	1.2	0.1	0.2	0.2
15	Ammonia	mg/l	NS	1.5	bdl	Nil	Nil	nil	0.22	1.2	Nil	2.1	Nil	Nil
16	Nitrate	mg/l	50	10	0.01	0.05	0.06	0.05	bdl	bdl	0.05	Bdl	0.02	0.05
17	Phosphate	mg/l	5	5	bdl	0.01	0.1	bdl	0.03	0.01	bdl	0.03	bdl	0.03
18	DO	mg/l	6	6	3.8	2	1.2	2	2.2	2.2	2	1.6	1.2	2
19	BOD	mg/l	6	6	6.4	5.4	5.4	6.8	8.2	4.8	5.6	5.4	5.6	5.8
20	COD	mg/l	30	NS	6.8	6.2	7.8	7.2	10.8	5.2	8	7	6.2	8.2
21	Chromium	mg/l	0.1	0.03	0.46	Bdl	0.35	0.23	bdl	0.11	0.11	Bdl	0.23	0.23
22	Copper	mg/l	3	2	0.03	0.03	Bdl	0.03	0.03	0.06	0.03	0.03	Bdl	0.06
23	Iron	mg/l	1	0.3	0.73	0.36	0.24	0.36	0.73	0.24	1.1	0.24	0.97	0.12
24	Zinc	mg/l	< 1	0.01	bdl	0.02	0.09	0.09	0.01	0.06	0.04	0.02	0.03	Bdl
25	Lead	mg/l	0.1	0.01	bdl	Bdl	0.29	0.29	bdl	0.14	Bdl	Bdl	Bdl	0.29

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR BIRNI KEBBI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 19, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					BKB01 GW11	BKB01 GW12	BKB01 GW13	BKB01 GW14	BKB01 GW15	BKB03 GW1	BKB03 GW2	BKB03 GW3	BKB03 GW4	BKB03 GW5
26	Nickel	mg/l	0.1	0.2	0.1	1.12	0.41	Bdl	0.1	0.37	0.92	0.1	0.51	1.53
27	Manganese	mg/l	0.01	0.02	bdl	1.12	0.12	Bdl	bdl	0.14	Bdl	0.03	0.06	0.03
28	Silver (Ag^{+})	mg/l	< 1	0.10	bdl	Bdl	0.02	0.02	bdl	0.02	Bdl	Bdl	Bdl	Bdl
29	Calcium	mg/l	NS	NS	24	20	48	4	24	20	16	28	28	24
30	Magnesium	mg/l	NS	NS	84	76	54	4	32	76	4	32	40	40
31	Total Alkalinity	mg/l	NS	NS	344	360	24	72	128	34	64	136	128	120
32	Hydroxide	mg/l	NS	NS	nil	Nil	Nil	Nil	nil	Nil	Nil	Nil	Nil	Nil
33	Bicarbonate	mg/l	NS	NS	0.02	Nil	1	1.2	1.22	1.2	Nil	1.2	1.2	1.2
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0	0	0	0	0	0	0	0
35	Total Coliform M.agar	cfu/ml	0	0	0	0	0	1.0x10	0	0	3.0x10	0	0	0
36	Total viable counts	cfu/ml	NS	NS	$3.5x10^{2}$	$1.99x10^{3}$	$8.5x10^{2}$	$7.3x10^{2}$	$4.6x10^{2}$	$7.5x10^{2}$	$1.95x10^{3}$	$6.4x10^{2}$	$1.05x10^{3}$	$8.2x10^{2}$

CODES:

BKB01 = BIRNI KEBBI COMMUNITY; BKB02 = GWANDU COMMUNITY; BKB03 = KALGO COMMUNITY; GW = GROUND WATER SAMPLE;

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR BIRNI KEBBI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 24, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					BKB02 GW16	BKB02 GW17	BKB02 GW18	BKB02 GW19	BKB02 GW21	BKB02 GW22	BKB02 G23	BKB02 GW24	BKB02 GW25	BKB02 GW26
1	Temperature	^{0} C	40	32-34	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
2	pH	-	6.5 - 8.0	6.5-8.5	6.7	7.1	8.4	7.4	7	7.4	8.2	7	7.1	6.9
3	Taste	-	NS	Nil	Tasteless	Tasty	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless
4	Appearance	-	NS	Nil	Clear	Turbid	Clear	Clear	Turbid	Clear	Clear	Clear	Clear	Clear
5	Odour	-	NS	Nil	Odourless	Has slight odour	Odourless	Odourless		Odourless	Odourless	Odourless	Odourless	Odourless
6	Total Dissolved Solids	mg/l	2100	500	52	244	10	6	36	34	81	76	62	44
7	Conductivity	µS/Cm	1000µS/Cm	1500	114.4	548.8	22	23.2	70.8	74.8	178.2	167.2	136.6	94.6
8	Total hardness	mg/l	NS	120-180	8	188	8	12	22	44	68	60	44	44
9	Chloride	mg/l	NS	250	61.06	50.54	66.74	41.18	36.08	55.38	38.34	17.04	24.14	53.96
10	Fluoride	mg/l	NS	2.0	1.2	2.6	Bdl	1.2	0.22	0.2	1.2	1.22	1.2	1
11	Sodium	mg/l	10	20	1.53	3.3	0.15	0.31	0.62	0.58	0.57	0.62	0.84	3.9
12	Potassium	mg/l	NS	NS	0.07	8	0.46	0.3	1.84	2.47	3.01	1.77	2.24	7.27
13	Sulphate	mg/l	250	250	bdl	2.36	bdl	32	Bdl	Bdl	12.64	30.19	56.24	2.39
14	Sulphide	mg/l	NS	0.2	1.2	2.4	0.01	2.2	1.2	1.22	0.2	2.42	1	0.02
15	Ammonia	mg/l	NS	1.5	Nil	1.22	Bdl	Nil	Nil	Nil	Nil	Nil	Nil	Nil
16	Nitrate	mg/l	50	10	0.41	0.09	bdl	0.06	0.02	0.03	0.05	0.6	0.02	0.06
17	Phosphate	mg/l	5	5	0.03	0.12	0.02	0.1	Bdl	Bdl	bdl	Bdl	0.01	Bdl
18	DO	mg/l	6	6	2.6	1.2	2	2.6	1.42	1	2	1.4	2	4
19	BOD	mg/l	6	6	4.4	8.82	6.2	4.4	5.22	5.8	4.8	5.4	4.8	4.8
20	COD	mg/l	30	NS	6	12.2	7.8	6	8.2	8.2	6.2	6.2	6	6
21	Chromium	mg/l	0.1	0.03	0.11	0.12	0.11	bdl	0.11	Bdl	0.44	0.11	0.11	Bdl
22	Copper	mg/l	3	2	0.03	0.03	bdl	bdl	0.02	0.06	Bdl	Bdl	0.04	Bdl
23	Iron	mg/l	1	0.3	0.36	Bdl	0.36	0.73	0.62	0.85	0.12	Bdl	0.24	0.12
24	Zinc	mg/l	< 1	0.01	0.02	0.06	0.03	0.06	0.01	0.04	0.02	0.02	0.06	0.04

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR BIRNI KEBBI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 24, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					BKB02 GW16	BKB02 GW17	BKB02 GW18	BKB02 GW19	BKB02 GW21	BKB02 GW22	BKB02 G23	BKB02 GW24	BKB02 GW25	BKB02 GW26
25	Lead	mg/l	0.1	0.01	0.14	Bdl	0.14	0.59	Bdl	Bdl	Bdl	Bdl	Bdl	Bdl
26	Nickel	mg/l	0.1	0.2	0.82	0.51	0.2	1.64	1.43	0.3	0.1	Bdl	0.52	0.82
27	Manganese	mg/l	0.01	0.02	0.12	Bdl	0.03	bdl	1.23	0.03	0.09	0.06	Bdl	0.06
28	Silver (Ag^{+})	mg/l	< 1	0.10	bdl	Bdl	bdl	bdl	Bdl	0.02	Bdl	Bdl	Bdl	Bdl
29	Calcium	mg/l	NS	NS	4	52	4	8	8	8	24	16	20	8
30	Magnesium	mg/l	NS	NS	4	36	4	4	14	8	44	44	24	36
31	Total Alkalinity	mg/l	NS	NS	40	54	24	32	32	56	16	136	46	32
32	Hydroxide	mg/l	NS	NS	Nil	Nil	Bdl	Nil	Nil	Nil	Nil	Nil	Nil	1.4
33	Bicarbonate	mg/l	NS	NS	2.4	1	0.1	0.22	0.22	0.2	0.2	1.22	0.2	0.2
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0	0	0	0	0	0	0	0
35	Total Coliform M.agar	cfu/ml	0	0	0	0	0	0	$1.0x10^{1}$	$3.0x10^{1}$	2.0x10	0	$1.0x10^{1}$	0
36	Total viable counts	cfu/ml	NS	NS	$3.4x10^{2}$	$5.6x10^{2}$	$5.8x10^{2}$	$4.1x10^{2}$	$7.4x10^{2}$	$1.40x10^{3}$	$1.19x10^{3}$	$2.13x10^{3}$	$1.13x10^{3}$	$7.9x10^{2}$

Table 4.4C: Baseline Groundwater Quality Analysis for Schools in Yauri Education Zone

CODES:

YAU01 = KOKO/BESSEE COMMUNITY; YAU02 = NGASKI COMMUNITY; YAU03 = SHANGA COMMUNITY; YAU04 = YAURI COMMUNITY; GW = GROUND WATER SAMPLE;

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR YAURI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 20, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					YAU01 GW1	YAU01 GW2	YAU02 GW3	YAU02 GW4	YAU02 GW5	YAU02 GW6	YAU03 GW7	YAU03 GW8	YAU03 GW9	
1	Temperature	^{0} C	40	32-34	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	
2	pH	-	6.5 - 8.0	6.5-8.5	7.8	8.5	7.9	7.6	8.4	8.4	8.4	8.2	7.8	
3	Taste	-	NS	Nil	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	
4	Appearance	-	NS	Nil	Clear	Clear	clear	Clear	Clear	Clear	Clear	Clear	clear	
5	Odour	-	NS	Nil	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	0.2	
6	Total Dissolved Solids	mg/l	2100	500	18	13	72	124	128	185	58	192	188	
7	Conductivity	µS/Cm	1000µS/Cm	1500	39.6	28.6	167.2	240.8	281.6	347.6	127.6	422.4	413.6	
8	Total hardness	mg/l	NS	120-180	8	8	124	62	56	120	48	184	52	
9	Chloride	mg/l	NS	250	38.34	35.5	34.08	25.56	24,00	31.24	18.46	17.04	17.04	
10	Fluoride	mg/l	NS	2.0	2	1.2	1.2	0.2	1.22	0.01	2.1	2.2	2.1	
11	Sodium	mg/l	10	20	0.25	0.08	3.91	2.36	1.66	4.03	1.48	1.85	1.72	
12	Potassium	mg/l	NS	NS	4.25	1.23	3.63	2.16	2.08	2.16	2.16	3.17	2.16	
13	Sulphate	mg/l	250	250	bdl	1.32	34.15	Bdl	42	23.3	bdl	Bdl	55.39	
14	Sulphide	mg/l	NS	0.2	nil	2.4	1.2	0.02	1.2		1.2	1.2	1	
15	Ammonia	mg/l	NS	1.5	2	0.21	0.2	Nil	nil		Nil	Nil	Nil	
16	Nitrate	mg/l	50	10	0.06	0.05	0.06	0.51	0.07	0.06	0.03	Bdl	0.05	
17	Phosphate	mg/l	5	5	bdl	0.02	0.03	Bdl	0.03	BDL	0.1	Bdl	0.01	
18	DO	mg/l	6	6	1.6	2.4	2	1.6	1	1	2.2	3.1	1	
19	BOD	mg/l	6	6	5.6	6.8	4.8	5.8	5.2	5.8	6.2	4.6	6.8	
20	COD	mg/l	30	NS	8	8.2	8.2	7.8	7.6	8.2	8	6.2	8.4	
21	Chromium	mg/l	0.1	0.03	Bdl	Bdl	Bdl	Bdl	0.12	0.11	Bdl	0.11	0.11	
22	Copper	mg/l	3	2	Bdl	0.03	0.03	0.06	0.03	0.03	Bdl	Bdl	0.03	
23	Iron	mg/l	1	0.3	0.73	1.34	0.48	0.24	1.24	0.61	Bdl	0.85	0.12	
24	Zinc	mg/l	< 1	0.01	0.01	0.07	0.01	0.03	0.01	0.1	0.03	0.07	0.01	
25	Lead	mg/l	0.1	0.01	Bdl	0.29	Bdl	Bdl	0.44	Bdl	0.14	Bdl	0.14	

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR YAURI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 20, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					YAU01 GW1	YAU01 GW2	YAU02 GW3	YAU02 GW4	YAU02 GW5	YAU02 GW6	YAU03 GW7	YAU03 GW8	YAU03 GW9	
26	Nickel	mg/l	0.1	0.2	0.92	0.61	0.41	0.52	Bdl	0.41	Bdl	0.12	0.71	
27	Manganese	mg/l	0.01	0.02	Bdl	0.06	0.03	0.09	Bdl	0.09	0.09	0.16	0.12	
28	Silver (Ag^{+})	mg/l	< 1	0.10	Bdl	Bdl	Bdl	Bdl	Bdl	0.02	Bdl	0.02	0.02	
29	Calcium	mg/l	NS	NS	4	4	36	20	28	32	12	52	52	
30	Magnesium	mg/l	NS	NS	4	4	28	32	28	28	36	32	24	
31	Total Alkalinity	mg/l	NS	NS	48	64	60	60	52	54	20	84	76	
32	Hydroxide	mg/l	NS	NS	nil	0.1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	
33	Bicarbonate	mg/l	NS	NS	2	1.2	1.2	1.22	0.02	nil	1	nil	1.2	
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0	0	0	0	0	0	0	
35	Total Coliform M.agar	cfu/ml	0	0	1.0x10	1.0x10	0	0	0	0	0	0	0	
36	Total viable counts	cfu/ml	NS	NS	$1.30x10^{3}$	$1.5x10^{3}$	$7.7x10^{2}$	$4.9x10^{2}$	$4.5x10^{2}$	$7.7x10^{2}$	$6.6x10^{2}$	$7.0x10^{2}$	$9.2x10^{2}$	

YAU01 = KOKO/BESSEE COMMUNITY; YAU02 = NGASKI COMMUNITY; YAU03 = SHANGA COMMUNITY; YAU04 = YAURI COMMUNITY; GW = GROUND WATER SAMPLE;

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR YAURI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 20, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					YAU04 GW10	YAU04 GW11	YAU04 GW12	YAU04 GW13						
1	Temperature	^{0} C	40	32-34	20.8	20.8	20.8	20.8						
2	pH	-	6.5 - 8.0	6.5-8.5	8.1	8.1	8.4	9						
3	Taste	-	NS	Nil	Tasteless	Tasteless	Tasteless	Tasteless						
4	Appearance	-	NS	Nil	Clear	Clear	Clear	Clear						
5	Odour	-	NS	Nil	Odourless	Odourless	Odourless	Odourless						
6	Total Dissolved Solids	mg/l	2100	500	30	93	214	215						
7	Conductivity	µS/Cm	1000µS/Cm	1500	66	246	470.8	473						
8	Total hardness	mg/l	NS	120-180	8	156	152	100						
9	Chloride	mg/l	NS	250	46.86	48.28	41.18	44						
10	Fluoride	mg/l	NS	2.0	Nil	1.22	0.21	1.2						
11	Sodium	mg/l	10	20	1.2	2.92	3.24	3.11						
12	Potassium	mg/l	NS	NS	0.23	1.54	3.79	2.3						
13	Sulphate	mg/l	250	250	bdl	62.82	9.61	31.58						
14	Sulphide	mg/l	NS	0.2	0.2	1.24	0.2	1.2						
15	Ammonia	mg/l	NS	1.5	Nil	Nil	Nil	Nil						
16	Nitrate	mg/l	50	10	0.06	93.09	0.03	0.05						
17	Phosphate	mg/l	5	5	0.02	0.08	bdl	0.01						
18	DO	mg/l	6	6	1.8	1.4	2.6	2						
19	BOD	mg/l	6	6	5.8	5.6	6.4	6.8						
20	COD	mg/l	30	NS	8.2	8	8	7.2						
21	Chromium	mg/l	0.1	0.03	Bdl	Bdl	bdl	Bdl						
22	Copper	mg/l	3	2	0.03	bdl	0.06	0.03						
23	Iron	mg/l	1	0.3	0.61	0.24	0.36	1.1						
24	Zinc	mg/l	< 1	0.01	0.01	0.06	0.03	Bdl						
25	Lead	mg/l	0.1	0.01	Bdl	0.29	0.44	0.14						
26	Nickel	mg/l	0.1	0.2	0.1	0.41	0.61	0.61						

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR YAURI ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 20, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					YAU04 GW10	YAU04 GW11	YAU04 GW12	YAU04 GW13						
27	Manganese	mg/l	0.01	0.02	0.03	0.03	bdl	Bdl						
28	Silver (Ag^{+})	mg/l	< 1	0.10	0.02	0.02	bdl	Bdl						
29	Calcium	mg/l	NS	NS	4	44	44	40						
30	Magnesium	mg/l	NS	NS	4	12	56	60						
31	Total Alkalinity	mg/l	NS	NS	72	48	440	424						
32	Hydroxide	mg/l	NS	NS	Nil	Nil	Nil	Nil						
33	Bicarbonate	mg/l	NS	NS	1.2	1.22	Nil	1.2						
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0	0						
35	Total Coliform M.agar	cfu/ml	0	0	1.0x10	1.0x10	0	0						
36	Total viable counts	cfu/ml	NS	NS	$1.24x10^{3}$	$7.4x10^{2}$	$4.3x10^{2}$	$5.0x10^{2}$						

Table 4.4D: Baseline Groundwater Quality Analysis for Schools in Jega Education Zone

CODES:

JEG01 = ALIERO COMMUNITY; JEG02 = JEGA COMMUNITY; JEG03 = MAIYAMA COMMUNITY; GW = GROUND WATER SAMPLE;

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR JEGA ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 21, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					JEG01 GW1	JEG01 GW2	JEG01 GW3	JEG01 GW4	JEG01 GW5	JEG01 GW6	JEG01 GW7	JEG01 GW8	JEG01 GW9	
1	Temperature	^{0} C	40	32-34	20.8	20.8	20.8	20.8	20.8		20.8	20.8	20.8	
2	pH	-	6.5 - 8.0	6.5-8.5	8	7.5	8.1	8.6	7.4		7.8	8.3	8.9	
3	Taste	-	NS	Nil	No taste	Tasteless	Tasteless	Tasteless	Tasteless		Tasteless	Tasteless	Tasteless	
4	Appearance	-	NS	Nil	Clear	Clear	Clear	Clear	Turbid	Clear	Clear	clear	clear	
5	Odour	-	NS	Nil	Odourless	Odouless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	
6	Total Dissolved Solids	mg/l	2100	500	121	73	120	118	73	30	35	211	165	
7	Conductivity	µS/Cm	1000µS/Cm	1500	266.2	160.6	264	259.6	160.6	66	77	464.2	363	
8	Total hardness	mg/l	NS	120-180	92	52	96	100	60	16	20	148	140	
9	Chloride	mg/l	NS	250	14.2	21.3	15.62	14.2	14.2	26.98	34	53.96	48.28	
10	Fluoride	mg/l	NS	2.0	0.4	1.2	1.22	0.1	1.22	0.2	0.1	1.2	1.2	
11	Sodium	mg/l	10	20	1.56	1.35	1.32	1.35	0.48	0.47	0.68	3.3	3.02	
12	Potassium	mg/l	NS	NS	3.01	1.46	3.63	5.8	3.63	0.23	0.69	3.32	0.69	
13	Sulphate	mg/l	250	250	12.04	36.38	16.87	17.73	2.72	28.13	54.9	18.27	1.6	
14	Sulphide	mg/l	NS	0.2	1.22	1	Nil	1.2	2	1	1.2	1.2	0.2	
15	Ammonia	mg/l	NS	1.5	Nil	Nil	0.2	1.4	Nil	nil	Nil	Nil	Nil	
16	Nitrate	mg/l	50	10	0.06	0.09	0.09	0.02	0.06	0.01	0.01	0.03	0.07	
17	Phosphate	mg/l	5	5	0.03	0.03	0.03	bdl	0.01	bdl	0.1	bdl	0.01	
18	DO	mg/l	6	6	1.4	2	2	2.6	1.2	2.6	2	2	2	
19	BOD	mg/l	6	6	4.8	4.8	6.8	4.4	5.6	6.4	5.4	4.8	5.8	
20	COD	mg/l	30	NS	6.2	6.2	8.2	6	8	8	8	6.2	6.2	
21	Chromium	mg/l	0.1	0.03	0.23	Bdl	Bdl	bdl	0.23	bdl	Bdl	Bdl	0.35	
22	Copper	mg/l	3	2	0.03	Bdl	Bdl	bdl	0.03	0.06	0.09	Bdl	0.06	
23	Iron	mg/l	1	0.3	1.46	0.48	0.25	1.22	0.24	0.61	0.12	0.36	0.12	
24	Zinc	mg/l	< 1	0.01	0.06	0.01	0.03	bdl	0.04	bdl	Bdl	Bdl	0.02	

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR JEGA ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 21, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					JEG01 GW1	JEG01 GW2	JEG01 GW3	JEG01 GW4	JEG01 GW5	JEG01 GW6	JEG01 GW7	JEG01 GW8	JEG01 GW9	
25	Lead	mg/l	0.1	0.01	0.14	0.14	0.44	0.14	Bdl	0.14	Bdl	Bdl	0.14	
26	Nickel	mg/l	0.1	0.2	0.71	0.3	0.51	0.2	0.2	0.71	0.1	0.3	1.33	
27	Manganese	mg/l	0.01	0.02	0.09	0.25	Bdl	0.03	Bdl	bdl	0.06	Bdl	0.06	
28	Silver (Ag^{+})	mg/l	< 1	0.10	0.02	Bdl	0.02	bdl	0.02	0.02	Bdl	Bdl	Bdl	
29	Calcium	mg/l	NS	NS	20	20	24	24	12	12	8	48	20	
30	Magnesium	mg/l	NS	NS	52	32	72	76	48	4	12	100	120	
31	Total Alkalinity	mg/l	NS	NS	68	192	392	344	28	64	80	384	648	
32	Hydroxide	mg/l	NS	NS	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	
33	Bicarbonate	mg/l	NS	NS	1.22	0.2	1.42	0.2	Nil	1.2	1.2	0.02	0.2	
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0	0	0	0	0	0	0	
35	Total Coliform M.agar	cfu/ml	0	0	0	1.0x10	0	0	0	0	1.0x10	1.0x10	0	
36	Total viable counts	cfu/ml	NS	NS	$8.1x10^{2}$	$1.30x10^{3}$	$7.2x10^{2}$	$8.4x10^{2}$	$7.5x10^{2}$	$8.7x10^{2}$	$1.18x10^{3}$	$1.45x10^{3}$	$9.8x10^{2}$	

CODES:

JEG01 = ALIERO COMMUNITY; JEG02 = JEGA COMMUNITY; JEG03 = MAIYAMA COMMUNITY; GW = GROUND WATER SAMPLE; SS = SOIL SAMPLE

CODES:

JEG01 = ALIERO COMMUNITY; JEG02 = JEGA COMMUNITY; JEG03 = MAIYAMA COMMUNITY; GW = GROUND WATER SAMPLE;

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR JEGA ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 21, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					JEG02 GW10	JEG02 GW11	JEG02 GW12	JEG02 GW14	JEG03 GW15	JEG03 GW16	JEG03 GW17	JEG03 GW18		
1	Temperature	^{0} C	40	32-34	20.8	20.8	20.8	20.8	20.8	20.8		20.8		
2	pH	-	6.5 - 8.0	6.5-8.5	7.5	5.9	7.4	7.4	7	7.4	4.4	7.2		
3	Taste	-	NS	Nil	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless		
4	Appearance	-	NS	Nil	Clear	Clear	Clear	Clear	Clear	Clear	Turbid	Clear		
5	Odour	-	NS	Nil	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Has slight odour	Odourless		
6	Total Dissolved Solids	mg/l	2100	500	147	110	211	140	113	42	161	63		
7	Conductivity	µS/Cm	1000µS/Cm	1500	323.4	242	464.2	308	248.6	92.4	354.2	138.6		
8	Total hardness	mg/l	NS	120-180	124	36	108	64	64	28	76	44		
9	Chloride	mg/l	NS	250	22.72	59.64	32.66	52.54	21.3	19.88	174.66	24.14		
10	Fluoride	mg/l	NS	2.0	0.04	1.2	0.2	bdl	1.2	1.22	1.2	1.22		
11	Sodium	mg/l	10	20	1.4	2.35	4.94	2.52	2.24	0.79	4.48	0.84		
12	Potassium	mg/l	NS	NS	2.86	3.48	3.48	8.81	4.95	0.15	3.48	2.24		
13	Sulphate	mg/l	250	250	37.74	bdl	30.6	36.91	2.84	Bdl	bdl	56.34		
14	Sulphide	mg/l	NS	0.2	Nil	1.2	1.2	0.2	1.2	0.22	1.2	1		
15	Ammonia	mg/l	NS	1.5	1.2	Nil	Nil	0.1	nil	Nil	Nil	Nil		
16	Nitrate	mg/l	50	10	0.06	0.3	0.7	0.02	bdl	0.03	0.22	0.03		
17	Phosphate	mg/l	5	5	0.01	bdl	0.1	bdl	0.02	Bdl	bdl	0.01		
18	DO	mg/l	6	6	1.6	1	1.2	2.4	2.6	1.2	2	2		
19	BOD	mg/l	6	6	5.6	6.8	5.6	8.2	4.4	5.4	5.6	4.8		
20	COD	mg/l	30	NS	8.6	8.2	8	10.8	6.2	6.6	8	6.2		
21	Chromium	mg/l	0.1	0.03	0.11	Bdl	Bdl	bdl	bdl	Bdl	Bdl	0.11		
22	Copper	mg/l	3	2	Bdl	Bdl	Bdl	0.03	bdl	Bdl	Bdl	0.03		
23	Iron	mg/l	1	0.3	1.46	0.36	0.17	0.12	1.34	0.85	0.12	0.24		
24	Zinc	mg/l	< 1	0.01	0.03	0.01	0.06	0.06	0.06	0.07	Bdl	0.06		
25	Lead	mg/l	0.1	0.01	0.14	0.44	Bdl	0.44	bdl	0.14	0.14	Bdl		

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR JEGA ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 21, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					JEG02 GW10	JEG02 GW11	JEG02 GW12	JEG02 GW14	JEG03 GW15	JEG03 GW16	JEG03 GW17	JEG03 GW18		
26	Nickel	mg/l	0.1	0.2	0.51	1.02	0.1	0.3	bdl	0.92	0.41	0.51		
27	Manganese	mg/l	0.01	0.02	0.06	0.03	0.09	bdl	bdl	0.03	0.03	Bdl		
28	Silver (Ag^{+})	mg/l	< 1	0.10	Bdl	Bdl	Bdl	bdl	bdl	0.02	Bdl	Bdl		
29	Calcium	mg/l	NS	NS	44	8	12	16	24	12	20	20		
30	Magnesium	mg/l	NS	NS	80	28	10	64	40	16	56	24		
31	Total Alkalinity	mg/l	NS	NS	320	48	38	48	84	152	32	44		
32	Hydroxide	mg/l	NS	NS	nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil		
33	Bicarbonate	mg/l	NS	NS	0.22	1.24	1.22	1.2	1.2	0.02	0.4	0.2		
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0	0	0	0	0	0		
35	Total Coliform M.agar	cfu/ml	0	0	1.0x10	0	0	0	1.0x10	0	1.0x10	1.0x10		
36	Total viable counts	cfu/ml	NS	NS	$2.41x10^{3}$	$7.8x10^{2}$	$7.4x10^{2}$	$3.0x10^{2}$	$9.9x10^{2}$	$4.2x10^{2}$	$1.74x10^{3}$	$1.13x10^{3}$		

Table 4.4E: Baseline Groundwater Quality Analysis for Schools in Zuru Education Zone

CODES:

ZUR01 = ZURU COMMUNITY; ZUR02 = FAKAI COMMUNITY; ZUR03 = SAKABA COMMUNITY; ZUR04 = DANKO WASAGU COMMUNITY; GW = GROUND WATER SAMPLE;

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR ZURU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 22, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					ZUR01 GW1	ZUR01 GW2	ZUR01 GW3	ZUR01 GW4	ZUR01 GW5	ZUR01 GW6	ZUR02 WS7	ZUR02 WS8	ZUR02 WS9	
1	Temperature	^{0} C	40	32-34	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	
2	pH	-	6.5 - 8.0	6.5-8.5	8.9	7.9	6.1	7	8.2	7	8.3	8.2	8.3	
3	Taste	-	NS	Nil	Tasteless	Tasteless	No taste	Tasteless	Tasteless	Tasty	Tasteless	Tasteless	Tasteless	
4	Appearance	-	NS	Nil	Clear	Clear	Slightly turbid	Turbid	Clear	Turbid	Clear	Non-turbid	Clear	
5	Odour	-	NS	Nil	Odourless	Odourless	Slight odour		Odourless	Has slight odour	Odourless	Odourless	Odourless	
6	Total Dissolved Solids	mg/l	2100	500	13	186	155	34	118	254	194	192	212	
7	Conductivity	µS/Cm	1000µS/Cm	1500	28.6	409.2	341	74.8	259.6	558.8	426.8	422.4	466.4	
8	Total hardness	mg/l	NS	120-180	8	120	124	20	88	188	76	144	180	
9	Chloride	mg/l	NS	250	41.18	19.88	34.08	34.08	18.46	52.54	22.72	24.14	14.2	
10	Fluoride	mg/l	NS	2.0	0.1	1.2		0.22	bdl	2.6	0.01	1.2	1.2	
11	Sodium	mg/l	10	20	0.23	3.94	6.7	0.67	2.35	3.33	3.74	3.88	1.66	
12	Potassium	mg/l	NS	NS	1.08	1.85	22.2	1.85	2.24	8.04	5.1	5.87	1	
13	Sulphate	mg/l	250	250	22.93	0.9	10.23	Bdl	1.11	2.39	16.74	2.4	bdl	
14	Sulphide	mg/l	NS	0.2	1.2	1.2		1.22	0.01	2.4	1.2	0.1	0.1	
15	Ammonia	mg/l	NS	1.5	Nil	nil		nil	bdl	1.2	Nil	Nil	nil	
16	Nitrate	mg/l	50	10	0.05	0.05	0.37	0.05	0.06	0.09	0.05	1.2	bdl	
17	Phosphate	mg/l	5	5	0.02	0.02	0.03	Bdl	0.1	0.1	bdl	2.2	0.01	
18	DO	mg/l	6	6	2	2.6	1.24	1.4	2	1.2	2	2.6	1.8	
19	BOD	mg/l	6	6	4.8	4.8	18.4	5.2	5.2	8.8	4.8	4.4	5.6	
20	COD	mg/l	30	NS	6.2	6	42	8	6.8	12.2	7.2	4.8	7	
21	Chromium	mg/l	0.1	0.03	0.11	0.11	0.58	0.11	bdl	0.11	0.11	0.11	bdl	
22	Copper	mg/l	3	2	0.03	Bdl	0.06	0.03	0.03	0.03	Bdl	Bdl	0.03	

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR ZURU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 22, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					ZUR01 GW1	ZUR01 GW2	ZUR01 GW3	ZUR01 GW4	ZUR01 GW5	ZUR01 GW6	ZUR02 WS7	ZUR02 WS8	ZUR02 WS9	
23	Iron	mg/l	1	0.3	0.36	0.85	0.12	0.61	0.61	Bdl	1.1	0.25	0.36	
24	Zinc	mg/l	< 1	0.01	Bdl	0.03	0.04	0.01	0.02	0.07	0.03	0.04	0.02	
25	Lead	mg/l	0.1	0.01	Bdl	0.44	Bdl	Bdl	bdl	Bdl	Bdl	Bdl	0.29	
26	Nickel	mg/l	0.1	0.2	0.61	0.71	0.21	1.43	0.1	0.51	1.53	0.51	0.92	
27	Manganese	mg/l	0.01	0.02	Bdl	0.12	Bdl	1.43	bdl	Bdl	Bdl	Bdl	0.06	
28	Silver (Ag^{+})	mg/l	< 1	0.10	Bdl	0.02	Bdl	Bdl	bdl	Bdl	Bdl	Bdl	bdl	
29	Calcium	mg/l	NS	NS	4	24	84	8	24	52	32	32	52	
30	Magnesium	mg/l	NS	NS	4	26	40	12	14	136	35	112	28	
31	Total Alkalinity	mg/l	NS	NS	48	84	8.6	32	48	504	136	3.17	74	
32	Hydroxide	mg/l	NS	NS	Nil	nil	Nil	Nil	Bdl	Nil	Nil	Nil	Nil	
33	Bicarbonate	mg/l	NS	NS	1.2	1.2	2.6	0.22	0.01	1	1.2	Nil	2.2	
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0×10^{0}	0	0	0	0	0	0	
35	Total Coliform M.agar	cfu/ml	0	0	0	0	6.0×10^{2}	1.0x10	0	0	0	1.0x10	1.0 x 10	
36	Total viable counts	cfu/ml	NS	NS	$5.2x10^{2}$	$3.9x10^{2}$	6.5×10^{3}	$7.4x10^{2}$	$2.5x10^{2}$	$5.6x10^{2}$	$5.4x10^{2}$	$1.27x10^{3}$	1.41 x10	

CODES:

ZUR01 = ZURU COMMUNITY; ZUR02 = FAKAI COMMUNITY; ZUR03 = SAKABA COMMUNITY; ZUR04 = DANKO WASAGU COMMUNITY; GW = GROUND WATER SAMPLE; SS = SOIL SAMPLE

CODES:

ZUR01 = ZURU COMMUNITY; ZUR02 = FAKAI COMMUNITY; ZUR03 = SAKABA COMMUNITY; ZUR04 = DANKO WASAGU COMMUNITY; GW = GROUND WATER SAMPLE;

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR ZURU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 22, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					ZUR03 GW10	ZUR03 GW11	ZUR04 GW12	ZUR04 GW13	ZUR04 GW14	ZUR04 GW15				
1	Temperature	^{0} C	40	32-34	20.8	20.8	20.8	20.8	20.8					
2	pH	-	6.5 - 8.0	6.5-8.5	7.2	7,82	7.1	6	8.6					
3	Taste	-	NS	Nil	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless					
4	Appearance	-	NS	Nil	Clear	Clear	Clear	Clear	Clear					
5	Odour	-	NS	Nil	Odourless	Odourless	Odourless	Odourless	Odourless					
6	Total Dissolved Solids	mg/l	2100	500	185	63	129	79	119					
7	Conductivity	µS/Cm	1000µS/Cm	1500	407	138.6	283.8	41.8	239 80	35.2				
8	Total hardness	mg/l	NS	120-180	124	32	96	58	96	16				
9	Chloride	mg/l	NS	250	24.14	19.88	14.2	19.88	14.2	24.14				
10	Fluoride	mg/l	NS	2.0	1.2	2.2	1.22	0.2	nil	1.22				
11	Sodium	mg/l	10	20	3.93	1.02	2.32	0.23	1.32	0.24				
12	Potassium	mg/l	NS	NS	3.4	2.86	1.7	0.77	2.39	2.32				
13	Sulphate	mg/l	250	250	60.84	55.11	bdl	bdl	bdl	61.79				
14	Sulphide	mg/l	NS	0.2	0.2	1.2	Nil	1.2	1.2	0.22				
15	Ammonia	mg/l	NS	1.5	Nil	Nil	1.2	1	0.12	1.24				
16	Nitrate	mg/l	50	10	0.06	0.2	0.03	0.09	bdl	bdl				
17	Phosphate	mg/l	5	5	bdl	0.01	bdl	0.03	0.03	bdl				
18	DO	mg/l	6	6	2	2.6	1.8	1.6	3.8	2				
19	BOD	mg/l	6	6	4.8	4.4	6.4	5.6	6.2	6.2				
20	COD	mg/l	30	NS	6.2	6	8	7.2	8.8	7.8				
21	Chromium	mg/l	0.1	0.03	0.11	0.11	0.23	Bdl	0.11	0.23				
22	Copper	mg/l	3	2	Bdl	0.03	0.03	0.06	Bdl	bdl				
23	Iron	mg/l	1	0.3	1.34	0.36	0.36	0.48	0.73	0.73				
24	Zinc	mg/l	< 1	0.01	Bdl	0.02	bdl	0.07	Bdl	0.03				
25	Lead	mg/l	0.1	0.01	0.29	Bdl	0.44	Bdl	Bdl	bdl				
26	Nickel	mg/l	0.1	0.2	0.2	0.82	0.61	0.1	1.23	0.3				

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR ZURU ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 22, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					ZUR03 GW10	ZUR03 GW11	ZUR04 GW12	ZUR04 GW13	ZUR04 GW14	ZUR04 GW15				
27	Manganese	mg/l	0.01	0.02	Bdl	0.03	0.06	0.03	0.09	0.06				
28	Silver (Ag^{+})	mg/l	< 1	0.10	0.02	0.02	0.02	Bdl	Bdl	bdl				
29	Calcium	mg/l	NS	NS	48	12	36	20	52	12				
30	Magnesium	mg/l	NS	NS	78	20	60	38	44	4				
31	Total Alkalinity	mg/l	NS	NS	552	192	472	64	416	56				
32	Hydroxide	mg/l	NS	NS	Nil	Nil	Nil	Nil	nil	Nil				
33	Bicarbonate	mg/l	NS	NS	1.2	1.2	0.02	2.4	0.22	2.1				
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0	0	0	0				
35	Total Coliform M.agar	cfu/ml	0	0	3.0x10	0	0	2.0x10	0	$1.0x10^{0}$				
36	Total viable counts	cfu/ml	NS	NS	$1.40x10^{3}$	$4.2x10^{2}$	$8.9x10^{2}$	$1.31x10^{3}$	$8.4x10^{2}$	$1.25x10^{3}$				

Table 4.4F: Baseline Groundwater Quality Analysis for Schools in Bunza Education Zone

CODES:

BNZ01 = SURU COMMUNITY; BNZ02 = DANDI COMMUNITY; BNZ03 = BUNZA COMMUNITY; BNZ04 = BAGUDO COMMUNITY.; GW = GROUND WATER SAMPLE;

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR BUNZA ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 23, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					BNZ01 GW1	BNZ01 GW2	BNZ01 GW3	BNZ03 GW4	BNZ03 GW5	BNZ03 GW6	BNZ03 GW7			
1	Temperature	^{0} C	40	32-34	20.8	20.8		20.8	20.8	20.8	20.8			
2	pH	-	6.5 - 8.0	6.5-8.5	6.1	7.4		6.5	6.4	8.1	6.8			
3	Taste	-	NS	Nil	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless	Tasteless			
4	Appearance	-	NS	Nil	Clear	Clear	Clear	Clear	Clear	Clear	Clear			
5	Odour	-	NS	Nil	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless			
6	Total Dissolved Solids	mg/l	2100	500	68	142	40	55	13	218	32			
7	Conductivity	µS/Cm	1000µS/Cm	1500	149.6	324.4	88	121	28.6	479.6	70.4			
8	Total hardness	mg/l	NS	120-180	44	44	28	36	8	172	52			
9	Chloride	mg/l	NS	250	59	22.72	76.68	97.98	56.64	35.5	36.92			
10	Fluoride	mg/l	NS	2.0	Bdl	0.04	1.2	2.1	1.2	1.2	2.2			
11	Sodium	mg/l	10	20	0.77	1.4	0.79	0.62	0.31	3.89	0.39			
12	Potassium	mg/l	NS	NS	2.08	2.86	3.09	2.93	2.39	0.23	0.85			
13	Sulphate	mg/l	250	250	52.63	37.74	63.11	BDL	30.36	4.86	20.41			
14	Sulphide	mg/l	NS	0.2	0.01	Nil	1.2	Nil	Bdl	2.1	Nil			
15	Ammonia	mg/l	NS	1.5	0.01	1.2	nil	0.2	0.01	Nil	1.22			
16	Nitrate	mg/l	50	10	0.03	0.06	0.32	0.09	0.03	0.09	0.06			
17	Phosphate	mg/l	5	5	0.04	0.01	bdl	0.03	0.1	0.01	0.07			
18	DO	mg/l	6	6	4	1.6	1.8	3	1.2	2	1.6			
19	BOD	mg/l	6	6	6.2	5.6	6.4	6.2	4.4	5.8	5.6			
20	COD	mg/l	30	NS	6.8	8.6	6.8	6.8	6	7.2	7			
21	Chromium	mg/l	0.1	0.03	0.11	0.11	0.11	bdl	0.11	0.23	0.11			
22	Copper	mg/l	3	2	bdl	Bdl	0.03	bdl	Bdl	0.03	0.24			
23	Iron	mg/l	1	0.3	bdl	1.46	0.61	0.48	0.24	0.48	0.24			
24	Zinc	mg/l	< 1	0.01	0.03	0.03	0.02	0.02	Bdl	Bdl	0.03			

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	WHO LIMITS	ANALYTICAL RESULTS FOR BUNZA ZONAL SCHOOLS SAMPLES COLLECTED ON JANUARY 23, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm									
					BNZ01 GW1	BNZ01 GW2	BNZ01 GW3	BNZ03 GW4	BNZ03 GW5	BNZ03 GW6	BNZ03 GW7			
25	Lead	mg/l	0.1	0.01	BDL	0.14	Bdl	bdl	0.44	Bdl	0.14			
26	Nickel	mg/l	0.1	0.2	1.23	0.51	0.41	0.71	1.02	0.41	0.3			
27	Manganese	mg/l	0.01	0.02	0.03	0.06	0.06	0.03	Bdl	0.06	Bdl			
28	Silver (Ag^{+})	mg/l	< 1	0.10	BDL	Bdl	Bdl	bdl	0.02	Bdl	Bdl			
29	Calcium	mg/l	NS	NS	16	24	16	12	4	83	12			
30	Magnesium	mg/l	NS	NS	28	40	12	24	4	89	40			
31	Total Alkalinity	mg/l	NS	NS	48	32	56	56	56	560	72			
32	Hydroxide	mg/l	NS	NS	bdl	nil	Nil	Nil	Nil	Nil	Nil			
33	Bicarbonate	mg/l	NS	NS	0.01	0.22	1.24	0.2	1.2	0.2	2			
Microbial Analysis														
34	E-Coli	cfu/ml	0	0	0	0	0	0	0	0	0			
35	Total Coliform M.agar	cfu/ml	0	0	1	$1.0x10^{1}$	0	0	0	0	0			
36	Total viable counts	cfu/ml	NS	NS	$1.5x10^{1}$	$2.41x10^{3}$	$1.60x10^{3}$	$4.8x10^{2}$	$5.1x10^{2}$	$8.6x10^{2}$	$9.0x10^{2}$			

CODES:

BNZ01 = SURU COMMUNITY; BNZ02 = DANDI COMMUNITY; BNZ03 = BUNZA COMMUNITY; BNZ04 = BAGUDO COMMUNITY.; GW = GROUND WATER SAMPLE; SS = SOIL SAMPLE

Table 4.5A: Baseline Air Quality Analysis for Schools in Argungu Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS (AVERAGE) SAMPLES COLLECTED ON JANUARY 18, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm							
				AS1	AS2	AS3	AS4	AS5	AS6	AS7	AS8
1	Hydrogen Sulphide (H_2S)	Mg/Nm^3	5	1.00	0	0	2.00	1	2.00	1.00	0.00
2	Carbon monoxide (CO)	Mg/Nm^3	500	0.00	1	1	1.00	1	2.00	0.00	1.00
3	Nitric Oxide (NO)	Mg/Nm^3	300	4.84	4.86	4.84	4.84	4.78	4.82	4.82	4.82
4	Nitric dioxide (NO_2)	Mg/Nm^3	300	2.46	2.42	2.46	2.48	2.42	2.46	2.46	3.40
5	Sulphur dioxide	Mg/Nm^3	500	1.42	1.24	1.32	1.26	1.30	1.44	1.42	1.42
6	Hydrogen Cyanide (HCN)	Mg/Nm^3	NS	3.74	3.78	3.66	3.76	4.26	3.74	3.78	3.74
7	Ammonia (NH_3)	Mg/Nm^3	NS	3.22	3.24	3.20	3.24	3.24	3.22	3.42	3.22
8	Oxygen	Mg/Nm^3	NS	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8

BDL = Below detectable limit. MGA = M40 Gas Analyser Ppm = Parts per million.

Table 4.5B: Baseline Air Quality Analysis for Schools in Birni Kebbi Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS (AVERAGE) SAMPLES COLLECTED ON JANUARY 19, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm							
				AS1	AS2	AS3	AS4	AS5	AS6	AS7	AS8
1	Hydrogen Sulphide (H_2S)	Mg/Nm^3	5	1.00	3	2	1.00	2	2.00	2.00	2.00
2	Carbon monoxide (CO)	Mg/Nm^3	500	2.00	1	1	2.00	1	1.00	2.00	1.00
3	Nitric Oxide (NO)	Mg/Nm^3	300	6.14	6.84	4.82	4.68	4.72	4.88	4.90	4.80
4	Nitric dioxide (NO_2)	Mg/Nm^3	300	2.46	2.44	2.48	2.48	2.44	2.44	2.46	3.42
5	Sulphur dioxide	Mg/Nm^3	500	3.42	2.24	1.38	1.28	1.32	1.48	2.40	1.46
6	Hydrogen Cyanide (HCN)	Mg/Nm^3	NS	3.72	4.72	3.60	3.72	4.24	3.78	3.74	3.76
7	Ammonia (NH_3)	Mg/Nm^3	NS	3.22	3.26	3.22	3.26	3.28	3.20	3.46	3.28
8	Oxygen	Mg/Nm^3	NS	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8

BDL = Below detectable limit.
MGA = M40 Gas Analyser

Ppm = Parts per million.

Table 4.5C: Baseline Air Quality Analysis for Schools in Yauri Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS (AVERAGE) SAMPLES COLLECTED ON JANUARY 20, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm							
				AS1	AS2	AS3	AS4	AS5	AS6	AS7	AS8
1	Hydrogen Sulphide (H_2S)	Mg/Nm^3	5	1.00	0	0	1.00	1	1.00	1.00	2.00
2	Carbon monoxide (CO)	Mg/Nm^3	500	1.00	0	1	2.00	1	2.00	1.00	1.00
3	Nitric Oxide (NO)	Mg/Nm^3	300	6.14	4.80	4.82	4.64	4.72	4.82	4.82	4.86
4	Nitric dioxide (NO_2)	Mg/Nm^3	300	2.46	2.44	2.44	2.46	2.44	2.44	2.48	3.42
5	Sulphur dioxide	Mg/Nm^3	500	1.40	1.24	1.30	1.22	1.32	1.44	2.44	1.46
6	Hydrogen Cyanide (HCN)	Mg/Nm^3	NS	3.72	3.72	3.64	3.76	4.24	3.74	3.76	3.76
7	Ammonia (NH_3)	Mg/Nm^3	NS	3.24	3.26	3.24	3.24	3.24	3.22	3.44	3.20
8	Oxygen	Mg/Nm^3	NS	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8

BDL = Below detectable limit.
MGA = M40 Gas Analyser

Ppm = Parts per million.

Table 4.5D: Baseline Air Quality Analysis for Schools in Jega Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS (AVERAGE) SAMPLES COLLECTED ON JANUARY 21, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm							
				AS1	AS2	AS3	AS4	AS5	AS6	AS7	AS8
1	Hydrogen Sulphide (H_2S)	Mg/Nm^3	5	2.00	3	1	2.00	2	2.00	2.00	2.00
2	Carbon monoxide (CO)	Mg/Nm^3	500	1.00	0	0	1.00	0	2.00	1.00	1.00
3	Nitric Oxide (NO)	Mg/Nm^3	300	6.16	6.82	4.82	4.68	4.72	4.80	4.90	6.80
4	Nitric dioxide (NO_2)	Mg/Nm^3	300	2.48	2.44	2.48	2.48	2.44	2.44	2.46	3.44
5	Sulphur dioxide	Mg/Nm^3	500	3.40	2.24	1.38	1.22	1.36	1.48	2.42	1.46
6	Hydrogen Cyanide (HCN)	Mg/Nm^3	NS	3.72	4.74	3.60	3.72	4.26	3.78	3.74	3.76
7	Ammonia (NH_3)	Mg/Nm^3	NS	3.22	3.26	3.22	3.28	3.28	3.22	3.86	3.28
8	Oxygen	Mg/Nm^3	NS	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8

BDL = Below detectable limit.
MGA = M40 Gas Analyser

Ppm = Parts per million.

Table 4.5E: Baseline Air Quality Analysis for Schools in Zuru Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS (AVERAGE) SAMPLES COLLECTED ON JANUARY 22, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm							
				AS1	AS2	AS3	AS4	AS5	AS6	AS7	AS8
1	Hydrogen Sulphide (H_2S)	Mg/Nm^3	5	0.00	0	1	2.00	0	1.00	2.00	1.00
2	Carbon monoxide (CO)	Mg/Nm^3	500	1.00	1	1	2.00	1	1.00	1.00	1.00
3	Nitric Oxide (NO)	Mg/Nm^3	300	5.14	4.84	4.82	4.66	4.74	4.82	4.82	4.88
4	Nitric dioxide (NO_2)	Mg/Nm^3	300	2.46	2.44	2.46	2.48	2.44	2.44	2.46	3.40
5	Sulphur dioxide	Mg/Nm^3	500	1.42	1.24	1.30	1.24	1.32	1.44	2.40	1.46
6	Hydrogen Cyanide (HCN)	Mg/Nm^3	NS	3.72	3.78	3.66	3.76	4.26	3.76	3.70	3.74
7	Ammonia (NH_3)	Mg/Nm^3	NS	3.22	3.26	3.22	3.26	3.22	3.20	3.44	3.20
8	Oxygen	Mg/Nm^3	NS	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8

BDL = Below detectable limit.
MGA = M40 Gas Analyser

Ppm = Parts per million.

Table 4.5F: Baseline Air Quality Analysis for Schools in Bunza Zone

S/N	PARAMETERS TESTED	UNITS	NESREA/ FMENV LIMITS	ANALYTICAL RESULTS (AVERAGE) SAMPLES COLLECTED ON JANUARY 23, 2023 BETWEEN THE HOURS OF 7.30am – 4.30pm							
				AS1	AS2	AS3	AS4	AS5	AS6	AS7	AS8
1	Hydrogen Sulphide (H_2S)	Mg/Nm^3	5	2.00	1.00	1.00	2.00	0	1.00	2.00	1
2	Carbon monoxide (CO)	Mg/Nm^3	500	1.00	0	0	1.00	1	0	1.00	0
3	Nitric Oxide (NO)	Mg/Nm^3	300	6.24	4.82	4.84	4.64	4.74	4.84	4.84	4.88
4	Nitric dioxide (NO_2)	Mg/Nm^3	300	2.48	2.46	2.46	2.44	2.46	2.42	2.46	2.46
5	Sulphur dioxide	Mg/Nm^3	500	2.40	1.22	2.20	1.20	1.38	1.46	2.40	1.32
6	Hydrogen Cyanide (HCN)	Mg/Nm^3	NS	3.72	3.74	3.66	3.74	4.22	3.72	3.76	4.2
7	Ammonia (NH_3)	Mg/Nm^3	NS	3.24	3.28	3.22	3.26	3.26	3.24	3.42	3.14
8	Oxygen	Mg/Nm^3	NS	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8

BDL = Below detectable limit; MGA = M40 Gas Analyser; Ppm = Parts per million.