LAGOS EKO PROJECT
State Education Sector Project (SESP)
Environmental and Social Management Framework (ESMF)

DRAFT REPORT
May 30, 2008
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<tr>
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<th>Full Form</th>
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<tbody>
<tr>
<td>BRT</td>
<td>Bus Rapid Transport</td>
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<tr>
<td>CCT</td>
<td>Conditional Cash Transfers</td>
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<tr>
<td>DFID</td>
<td>Department for International Development (UK)</td>
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<td>EFA</td>
<td>Education for All</td>
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<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<td>EMIS</td>
<td>Education Management Information System</td>
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<td>ESA</td>
<td>Education Sector Analysis</td>
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<td>ESIA</td>
<td>Environmental and Social Impact Assessment</td>
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<td>ESMF</td>
<td>Environmental and Social Management Framework</td>
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<td>ESMP</td>
<td>Environmental and Social Management Plan</td>
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<td>ESMS</td>
<td>Environmental and Social Management Specialist</td>
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<td>ESMU</td>
<td>Environmental &amp; Social Mitigation Unit</td>
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<td>ESPIN</td>
<td>Education Sector Support Program in Nigeria</td>
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<td>FEPA</td>
<td>Federal Environmental Protection Agency</td>
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<td>FGN</td>
<td>Federal Government of Nigeria</td>
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<td>FMEH&amp;UD</td>
<td>Federal Ministry of Environment and Housing and Urban Development</td>
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<td>HSE</td>
<td>Health, Safety &amp; Environment</td>
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<td>LGA</td>
<td>Local Government Authority</td>
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<td>MDG</td>
<td>Millennium Development Goals</td>
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<td>MTEF</td>
<td>Medium term Expenditure Framework</td>
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<td>NBTE</td>
<td>National Board for Technical Education</td>
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<td>NEEDS</td>
<td>National Economic Empowerment &amp; Development Strategy</td>
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<td>NERDC</td>
<td>Nigeria Education Research and Development Council</td>
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<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<td>NUT</td>
<td>National Union of Teachers</td>
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<td>OP</td>
<td>Operational Policy (World Bank)</td>
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<td>PIC</td>
<td>Project Implementation Committee</td>
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<td>PPT</td>
<td>Project Planning Team</td>
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<td>PSC</td>
<td>Project Steering Committee</td>
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<td>Project Team</td>
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<td>SBMC</td>
<td>School Based Management Committee</td>
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<td>SCOAP</td>
<td>Sector Wide Approach</td>
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<td>SE</td>
<td>Supervising Engineer</td>
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<td>SEEDS</td>
<td>State Economic Empowerment &amp; Development Strategy</td>
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<td>SESP</td>
<td>State Education Sector Project</td>
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<td>SMoE</td>
<td>State Ministry of Education</td>
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<td>SMoEnv</td>
<td>State Ministry of Environment</td>
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<td>SMoF</td>
<td>State Ministry of Finance</td>
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<tr>
<td>ToR</td>
<td>Terms of Reference</td>
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<td>UBE</td>
<td>Universal Basic Education</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific &amp; Cultural Organisation</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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Executive Summary

Project Background and Objectives

Nigeria’s education sector faces serious challenges in meeting the key objective of providing affordable, accessible and qualitative education. The major issues which cut across all levels of education include: (i) inequitable access to quality education (rural children, especially girls, have less access to basic and secondary schooling than children from urban and relatively better-off families); (ii) inadequate education quality (although there are no in-depth data on the quality of learning and teaching available, Nigerian educators agree that the quality and relevance of education at all levels need to be significantly improved, based on international comparative standards and trends); (iii) inadequate management, planning and monitoring capacity (the capacity to develop strategic education sector plans and related annual implementation plans is weak at federal, state and local levels); and (iv) inefficiencies in funding and lack of targeted funding based on performance and strategic economic needs.

Financing of Education in Nigeria is the responsibility of all tiers of the government. In 2001, it was estimated that the Federal Government accounted for about 20 percent of total education expenditures, while state and local governments accounted for approximately 80 percent, suggesting that state and local governments are the main financers of education.

Lagos State Government (LASG) has expressed strong interest in engaging reforms based on her comprehensive State Education Sector Project (SESP) and has requested the assistance of the World Bank (WB) with its implementation. The SESP aims to support the state government in improving the quality and relevance of basic and secondary educational programmes and increasing access for disadvantaged target groups (students from poor families). The project also aims at strengthening the governance system in the sector with regards to the management, planning, monitoring and resourcing.

In recognition of the fact that environmental and social concerns may result from sub-project activities, the LASG commissioned an Environmental and Social Management Framework (ESMF) study in fulfilment of the Bank’s requirement for project appraisal. This ESMF has been prepared to satisfy national and state regulatory requirements as well as WB’s safeguard policies. The existing environment is described with respect to the physical, biological, and socio-economic aspects that are relevant to the project. The legal framework also identifies the project-environment interactions during the operational phase.

The overall development objectives of the SESP are to: (a) increase equitable access to education; (b) improve the quality and relevance of education at all levels; (c) improve resource utilisation and equity in resource allocation and distribution; and (d) improve Government’s capacity to manage, plan, and monitor the delivery of education services more effectively and efficiently.

Detailed project components and sub-projects will be finalised during the preparation phase, based on additional studies. However the four main project components are:

1. Promoting effective schools through school development grants
2. Enhancing quality and relevance of basic and secondary education
3. Conditional Cash Transfers to promote secondary education for children and youth of targeted families

4. Improved governance: Strengthening Management, Planning and Monitoring Capacity.

The Lagos Eko project can be classified as a category ‘B’ implying that the environmental impacts are largely site specific and few, if any of the impacts, are irreversible.

**Project Description**

The Lagos Eko project aims to support and improve educational development. The Bank will take on a lead role while collaborating with other development partners to support the implementation of the project; provide institutional capacity strengthening to improve management, planning and monitoring capacity of quality and effectiveness in education; work with the United Nations Children’s Fund (UNICEF) and others to improve the quality of education; and provide support to the government in promoting the knowledge of economy through basic and secondary education.

Detailed project components will be finalized during the preparation phase, based on additional project preparation studies. The project components have so far been developed around the following areas:

- Component 1: Promoting Effective Schools through School Development Grants
- Component 2: Enhancing Quality and Relevance of Basic and Secondary Education
- Component 3: Conditional Cash Transfers to Promote Secondary Education for Children of Poor Families
- Component 4: Improved Governance: Strengthening Management, Planning and Monitoring Capacity

The study approach involved a review of project literature and gathering of data and information relevant to the project. Relevant literature and information include: policies, guidelines, state education plan, regulations, standards, environmental and sociological data.

**Policy, Legal and Institutional Framework**

The following national, state, and international policies and regulations are applicable to the Lagos Eko project:

**Policies:**
- National Policy on Education 2004
- The National Urban Development Policy 1989
- National Economic Empowerment and Development Strategy (NEEDS) 2004
- Lagos State Economic Empowerment and Development Strategy (LASEEDS) 2004
- World Conference on Education for All (WCEFA) 1990
- Dakar World Education Forum 2000
- United Nation Millennium Development Goals 2000
- International Convention on Economic, Social and Cultural Rights (IESCR)

**Regulations:**
- National Guidelines on Environmental Audit in Nigeria 1999
- National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2007
- Universal Basic Education (UBE) Act 2004
- Lagos State Post-Primary Teaching Service Law 2005
- Lagos State Government Education Management (LASGEM) System Law 2007
- Lagos State Compulsory Free Universal Basic Education Law 2005
- Lagos State Environmental Protection Agency (LASEPA) Edict 1996
- Lagos State Environmental Sanitation Law 2000
- Lagos Urban & Regional Board and Town Planning Authority Edict 1997
- Federal Environmental Protection Agency (FEPA) Guideline covering infrastructural projects

**Project Environment**

Lagos state was created on May 27, 1967 by virtue of Decree No. 14 of 1967, which restructured Nigeria’s Federation into 12 States. It is situated in the south-western part of the country, on the west coast of Africa. The state occupies an area of 3,577 sq. km.
Climate
The climate of the project area is that of the humid tropics and it is largely controlled by prevailing winds and nearness to the Atlantic Ocean. The two dominant air masses are the dry wind from the Sahara and the wet from the Atlantic Ocean. Average temperature values around Lagos are around 25°C (June to October) and 27°C - 29°C (November to July). In wet season, south-westerly winds dominate, and in the dry season, north-easterly winds dominants.

Ambient Air Quality
Generally, air quality in the area complies with regulatory standards, though there are indications of high anthropogenic impacts in certain areas like Apapa Local Government Authority (LGA). Primary sources of emission in Lagos are incinerated solid waste, bush burning, domestic cooking and hydrocarbon emissions from vehicular activities.

Soil
Soils are generally sandy with varying clay content, and are slightly acidic. This acidity (pH 4.3 – 6.0) increases with soil depth.

Water Quality
Water quality around the state generally shows high Dissolved Oxygen (DO) and alkaline pH range. The Lagos Lagoon is the most prominent water body in the state.

Biological Environment
Various species of amphibians, reptiles and mammals can be observed around the state. The main amphibians documented are the West African Toads (Bufo sp) and various species of frogs. The macro benthic fauna are composed primarily of molluscs, crustaceans (shellfish), and polychaete annelids. The fish fauna are dominated by catfishes, clupeids and cichlids. The most ubiquitous mammalian group in the state are rodents. They are highly fecund and adaptable.

The dominant vegetation of the state is the swamp forest consisting of the fresh water and mangrove swamp forests both of which are influenced by the rainfall pattern of the state.

Socio-Economic Environment
Lagos is Nigeria's most prosperous city, and much of the nation's wealth and economic activity are concentrated there. The standard of living is higher than in the rest of Country. The estimated population is 17.5 million with a gender distribution of 9,115,041 males and 8, 437,901 females (Lagos State 2006 Census).

The infrastructure in the state includes: 1,050 public primary school, 311 public junior secondary schools, 307 public senior secondary schools and 6, 251 private primary and secondary schools. There are 26 state hospitals and 150 public health care centres in the, in addition to private owned hospitals and clinics. The main water sources in Lagos are public taps, yard well/borehole, and water vendors. Few residents of Lagos state use streams and rivers as their water sources.

Poor solid waste and sewage disposal practices pose potential environmental and health issues in the communities. Common reported health problems include: malaria diarrhoea, cholera, sexually transmitted diseases (STDs), asthma, hypertension, skin infections, typhoid and
paratyphoid fevers and tuberculosis. Previous studies reveal that malaria is the most commonly reported health problem in the state.

Predominant land uses in the state are residential, industrial, recreational and fisheries and aquaculture.
Potential Environmental and Social Impacts

The project will enhance the economic, social and political development of Lagos through the facilitation of improved access to primary and junior secondary education, infrastructural improvements, and provision of teacher training and local skills development.

Environmental Impacts

The rehabilitation and/or expansion of existing schools could result in:

- Loss of vegetative plant cover, fauna habitats, soil and land degradation;
- Construction waste such as excavated soils and debris;
- Erosion, pools of stagnant water;
- Emission of dust and particulate matter leading to the reduction of air quality;
- Wastewater spills/run-off but with little or no adverse effect on the immediate environment.

The major impacts on the environment after the construction phase include:

- Waste water run-off from improper waste management;
- Air pollution from laboratory and workshop equipment;
- Illegal dumping of solid waste in drains;
- Improper use of sanitary facilities which could attract pests and diseases.

Social and Health Impacts

Perceived socio-economic impacts during the construction and rehabilitation phase of the project include:

- Temporary disruptions of utility services such as electricity and water
- Exposure to health and safety risks for the construction workers and local residents
- Disturbance to the local communities from noise and vibration of the construction machinery
- Increased human and vehicular traffic

Once implemented, the project would have the following impacts on the socio-economic environment:

- Improved local skills, and increased training opportunities, skill development and income for teachers.
- Provision of training opportunities and learning materials for teachers which will improve the quality of education at both the basic and secondary level.
- Promotion of secondary education for children and youth of targeted poor families.
- Strengthened systems for the planning, delivery, monitoring and resourcing of education in Lagos.

Environmental and Social Management Plan (ESMP)

An Environmental and Social Management Plan (ESMP) defines project-specific environmental and social mitigation measures, monitoring programmes, and responsibilities based on the analysis of potential environmental and social impacts of the project.

Mitigation Measures
This includes measures that can reduce the negative impacts associated with sub-project activities.

Some physical measures include:

- Prohibiting the use of defunct machinery to reduce noise outputs and air emissions
- Use of silencers, mufflers and well serviced machinery to minimise noise levels during construction
- Dust reduction measures such as water sprinkling
- Appropriate containment for operational areas, soil erosion control measures, and proper lubricant disposal to prevent soil and water contamination
- Regular collection of worksite waste for proper disposal
- Provision of adequate on-site sanitary facilities to be emptied regularly

Measures to mitigate against the impacts of the project activities on biological resources include:

- No siting and excavations in sensitive habitats
- Dust and noise abatement measures to minimise construction generated pollutants
- Relocation of any farmland or grazing areas
- Quick sorting, collection disposal of waste from the sites in accordance with regulations

To minimise potential impacts that could affect the socio-economic environment negatively, the following mitigation measures are advised:

- Conduct an awareness raising campaign for school staff and students
- Develop an adequate traffic management plan prior to construction
- Restrict construction activities to off-peak traffic periods

**Implementation Arrangement**

The Project Implementation Committee (PIC) will be responsible for proposing management rules, sustainable measures and other concrete means of applying the ESMP.

An Environmental and Social Management Specialist (ESMS), seconded from either the State Ministry of Environment (SMoEnv) or the Lagos State Environmental Protection Agency (LASEPA) to the PIC will be responsible for the implementation and monitoring of the ESMP. The ESMS will develop a monitoring plan to ensure ESMP implementation occurs in a structured manner.

The WB has the overall responsibility to ensure that its safeguards polices are complied with. In addition, the WB is responsible for the final review and clearance of the ESMPs or ESIAs; as well as review and approval of Terms of References (ToRs).

**Capacity Strengthening**

Capacity building will encompass PIC and state agencies involved in sub-project implementation. An assessment of training needs and the development of a training strategy plan need to be conducted as an initial implementation activity which will, *inter alia*, determine and conform whether the training programme proposed will suffice or is required.

**Monitoring Plan**

The ESMS will prepare a long-term monitoring plan that will encompass clear and definitive parameters to be monitored for each sub-project. It will also identify and describe the indicators
to be used, the frequency of monitoring and the standard (baseline) against which the indicators will be measured for compliance with the ESMP.

The monitoring plan establishes appropriate criteria to validate the predicted impacts and ensure that any unforeseen impacts are detected and the mitigation adjusted where needed at an early stage.

**ESMP Cost Estimate**

It is recommended that at least 2.5% of the total budget for the project should be allocated to manage environmental and social concerns.
Introduction

Project Background

Education plays a key role in national development and is an essential path of a nation’s well being. Through education, individuals are empowered to make choices that affect their health and livelihood. The United Nations’ International Conference on Population and Development (1994) encouraged governments’ worldwide to ensure access to all to education beyond the primary level.

The Federal Government has recognized the risks to Nigeria’s economy if its workforce is inadequately prepared and the importance of education for individual, social and political development and has countered this realization with an ambitious agenda of policy reforms across the entire sector. In 1999 the Federal Government launched the UBE Program making it compulsory for every child to receive nine years tuition free education, and the UBE bill was passed in May 2004. In 2003, the Government prepared the National Economic, Empowerment and Development Strategy (NEEDS), a major multi-sectoral reform program that sees educational reforms as a vital transformational tool and instrument for socio-economic empowerment. In June 2005, a National Committee was inaugurated to monitor and allocate additional funds from the debt relief funds for the achievements of the MDGs. The Federal Government launched a major education reform program in 2006 which stresses the importance of institutional reforms to improve the efficiency and effectiveness of service delivery at all levels of education. Similarly, Nigerian States have also developed individual State Empowerment and Economic Development Strategies (SEEDS) which prioritize education provision at the state level.

LASG has expressed strong interest in engaging reforms based on her comprehensive State Education Sector Project (SESP) and has requested the assistance of the World Bank. LASG recognizes the need to adopt a holistic approach to education sector development and has prepared the draft SESP, which takes a sector wide approach (SWAP). In particular, the SESP addresses all sub-sectors, the linkages between sub-sectors, and processes for ensuring inclusion of all Government and non-Government stakeholders and beneficiaries.

The overall objectives of the Lagos Eko Project are to increase equitable access to education; (b) improve the quality and relevance of education at all levels; (c) improve resource utilization and equity in resource allocation and distribution; and (d) improve Government’s capacity to manage, plan, and monitor the delivery of education services more effectively and efficiently.

The Federal Government has placed high priority on capacity development as a critical means of achieving poverty reduction. It has made significant strides in improving primary school enrolments and has undertaken major sector reforms to achieve universal primary education by the year 2015. In order to accomplish this, LASG has recognised that it will be necessary to also expand and strengthen basic and secondary level education as defined under the Lagos Eko Project.

At this time of project preparation, the sub-projects are not yet clearly identified. Consequently, specific information on numbers of sub-projects, site location, local communities, geo-physical land features, nature etc are not available. Therefore, exact details and intensity of social and environmental impacts and their effective mitigation cannot be determined during project
preparation. Thus this Environmental and Social Management Framework (ESMF) has been prepared in line with the requirements of the World Bank and the existing national regulation (EIA Act No. 86 of 1992).

The World Banks Operational Policy (OP) 4.01 requires that an ESMF be prepared which will establish a mechanism to determine and assess future potential environmental and social impacts of project, and then to set out mitigation, monitoring and institutional measures to be taken during design, implementation and operation of the subprojects to minimise adverse environmental and social impacts to acceptable levels. The policy further requires that the ESMF report must be disclosed as a separate and stand alone document as a condition for Bank appraisal. The disclosure should take place both in Nigeria where it can be accessed by the general public and local communities, and at the Infoshop of the World Bank.

In recognition of the fact that environmental and social concerns may rise as a result of the proposed project, the LASG commissioned EnvironQuest to develop an ESMF in fulfilment of the Bank requirements for project appraisal. The ESMF presents a framework for screening, monitoring and mitigating potential impacts, with a process for triggering subsequent sub-project environment and social assessments, where necessary.

**Objectives of the Environmental and Social Management Framework (ESMF)**

The goal of the ESMF is to improve decision making and to ensure that the social infrastructures (schools), either newly built or rehabilitated, being considered under the Lagos Eko project are environmentally sound and sustainable. The ESMF identifies the environmental impact of the Lagos Eko project and establishes a mechanism for determining and assessing future adverse environmental and social impacts of sub-projects that will be identified during project implementation. Specifically, it focuses on:

- assessing the potential environmental and social impacts of sub-projects (rehabilitation, extension or upgrade of educational infrastructures), whether positive or negative, and propose mitigation measures which will effectively address these impacts;
- establishing clear directives and methodologies for the environmental and social screening of micro-projects to be financed by the project;
- identifying the environmental policy, regulatory and institutional framework pertaining to the Lagos Eko Project;
- Informing the project preparation team and LASG of potential impacts of the anticipated sub-projects and relevant mitigation measures and strategies.

**Study Approach and Methodology**

This ESMF was developed in accordance with applicable World Bank policies and Nigerian environmental assessment guidelines. The distinct phases of the study include:

- Literature Review

The approach was based on review of project literature and other strategic planning documents. Specifically, the following were reviewed: situation analysis, national education policy, state education plan, federal and state environmental regulations, decrees, acts, policies and guidelines, World Bank safeguard policies and other relevant documents

- Data Gathering
Data on the current state of the environment as well as information relevant to the sector program were sourced from different institutions, including federal and state ministries of education. The information gathered was reviewed to obtain detailed descriptive, qualitative and quantitative data on the environmental, sociological, land tenure and resettlement laws, regulations, standards, and policies relating to the project.

**Assessment of Education Sector**

The education system of Nigeria is based on the National Policy on Education (1977, revised 1999). The system comprises 9 years of basic education (6 years of primary and 3 years of junior secondary education), 3 years of senior secondary, and 4 years of tertiary education. The purpose of basic education is to equip its recipients with basic knowledge and skills to allow them to function as competent and productive citizens in a free society. Education is administered by three branches of government. Primary education is under the control of local governments. Secondary schools fall under the jurisdiction of the state governments except for the “Unity Schools” which are administered by the federal government. Higher education is administered by both the federal and state governments.

There are 1,050 public primary school, 311 public junior secondary schools, 307 public senior secondary schools and 6,251 private primary and secondary schools in Lagos (Ministry of Education 2006). Although the state has over 7,000 primary and secondary schools, the state government faces considerable challenges with poor educational quality and low literacy levels especially among the poor.

In the late seventies and early eighties, the educational system grew rapidly in size at the detriment of its overall quality. Problems imposed by the expansion of the system include lack of capacity for planning and management, limited financial resources, inadequate information and monitoring systems. Inadequate funding has had an impact on the organisation and management of education at all levels. There is also a need for the reconstruction of infrastructure, and an improvement in the quality and standard of all educational programmes.

The problem of poor infrastructure is evident in dilapidated school buildings and lack of adequate sanitary, water, and boarding facilities. Along with a lack of material resources, this adversely affects the teaching and learning environment. It has been shown that whenever user fees are abolished, enrolment increases and therefore budget and revenue reforms need to be introduced. To counter the adverse effects of increased student-teacher ratios, it is necessary to employ and train more teachers, provide more teaching and learning resources, and rehabilitate/construct new facilities.

Another major problem facing the sector is access which has attracted a lot of attention particularly in recent years. Studies have shown that a major reason why pupils from poor families do not go to school is that their time is of economic importance to the family, either in terms of generating additional income or providing some other form of support to the household. Other reasons are illness and hunger; high cost of schooling arising from examination fees, books and stationery, uniforms, administrative fees, etc; and ignorance of the benefits and relevance of education. Poor quality of education arises from a lack of infrastructure, lack of motivated staff, limited resources, a poor curriculum, poor teaching methods, and lack of relationships between the school, teachers and the wider community.

This has resulted in poor performance in examinations which will inevitably lead to low competency levels and poor contributions to the nation’s development. A detailed survey
commissioned by the Federal Government in partnership with UNICEF and the United Nations Educational, Scientific & Cultural Organisation (UNESCO) in 1997 confirmed that the quality of education offered at the primary school level was low. A few ongoing staff development programs have proved to be effective in improving the level of qualification amongst teachers. However, there is still much needed support in developing such programmes as pre-service training programmes have been criticised for their more theoretical rather than practical approach.

Efforts to improve the sector led to the introduction of the UBE programme by the Federal Government. However, to successfully implement this programme, there is a need for proper planning and management within the sector. Management problems include: inadequate record-keeping, shortage of support and administrative staff, and inadequate budget control mechanisms. In addition, there is the need to establish transparent and democratic funding mechanisms to ensure better financial accountability.
Project Description

Project Overview

The Lagos Eko project aims to support and improve educational development. The major objectives of the project are to: (a) improve the quality of teaching and learning at basic and secondary education levels, and (b) strengthen the capacity of planning, management and monitoring at the state and local levels. The main activities of the project will entail provision of grants and funding, capacity strengthening, and infrastructural developments. The SESP is classified as a category B project, implying that the impacts are small scale and site-specific; thus easily remedied.

The World Bank has been the only major development agency during the 1990’s to support the education sector reforms in Nigeria. It focused its role in supporting the implementation of the universal primary education by providing assistance as a form of credit. The Bank will take on a lead role while collaborating with other development partners to support the implementation of the project; provide institutional capacity strengthening to improve management, planning and monitoring capacity of quality and effectiveness in education; work with UNICEF and others to improve the quality of education; and provide support to the government in promoting the knowledge of economy through basic and secondary education.

Project Components

The proposed Lagos Eko project will focus on basic and secondary education, with some support to pre-service teacher education, as it relates to the delivery of basic and secondary education. Detailed project components will be finalized during the preparation phase, based on additional project preparation studies. The project components have so far been developed around the following areas:

i. Promoting Effective Schools through School Development Grants

The school development grant will provide schools access to discretionary resources with an explicit focus on improving access to and the quality of education services as priority needs are defined at the school level. This component would empower and support School Based Management Committees (SBMC) to plan for and improve teaching, learning and participation in their schools. The grant would augment schools’ operating costs and non-salary expenditures. It is expected that the project would assist the State/LGAs/SBMCs to establish disbursement, reporting and accountability arrangements. The grant will be based on pre-defined school performance standards to achieve learning outcomes. These will be determined by the school. Examples of activities that could be supported are: (a) instructional materials and learning inputs; (b) training opportunities; (c) training related to identified local skills needs, especially in senior secondary and technical colleges; (d) teacher development and support programs; (e) mechanisms for improving the quality of intake into secondary/technical colleges and reducing failure and drop-out rates; (f) strategies for skill development programs to improve secondary teaching and learning; and (g) cooperation between technical colleges and private sector institutions that lead to more relevant teaching, research and development activities. To access the grants, a pre-requisite is the training and capacity building of SBMCs to prepare school development plans to improve teaching, learning and participation of their schools in this program.

ii. Enhancing Quality and Relevance of Basic and Secondary Education
This component would support the improvement of the quality and relevance of basic and secondary education based on the Lagos SESP. The interventions proposed are likely to include: (a) developing teachers’ professional knowledge and skills through in-service training (including skill upgrading for untrained teachers) and school head teachers/principals (including school level leadership programs), and appropriate pre-service training for new teachers; (b) teacher deployment and incentive policies to provide incentives for good performance, such as system of rewards, recognition; and (c) provision of textbooks, learning materials to improve the quality and relevance of basic and secondary schools.

iii. Conditional Cash Transfers to Promote Secondary Education for Children of Poor Families

This component will pilot a conditional cash transfer (CCT) scheme to encourage school participation of 13-19 year old children in targeted poor families at junior secondary and senior secondary level. Children and youth of poor families have been dropping out due to their early participation in the labour market to earn a living for their family. The scheme proposes to provide cash to the mothers on a regular bi-monthly basis during the school year, conditional on school attendance and performance of 13-19 year old children, (children will be required to attend a minimum of 80% of school days in any given month). The CCT scheme will use proxy means testing to target the most disadvantaged families with 13-19 year old children in target areas within Lagos. The pilot will be evaluated using randomized evaluation procedures, and it is expected that depending on outcomes, the program will be expanded using funding from MDG Funds and other sources.

iv. Improved Governance: Strengthening Management, Planning and Monitoring Capacity

Activities under component 4 will be funded by DFID’s Education Sector Support Program in Nigeria (ESSPIN). This component aims to strengthen government systems for the planning, delivery, monitoring and resourcing of education in Lagos. Possible areas for support could include:

- Strengthening policy, planning, and monitoring and evaluation capacities at the State and District level including the development of a robust Education Management Information System (EMIS) for Lagos, integrated with strengthened inspection and planning services;
- Strengthening public financial management in the education sector, building on the work currently underway to develop a Medium Term Expenditure Framework (MTEF) in Lagos;
- Reforming and strengthening inspection services consistent with the reforms being promoted by the Federal Government;
- Developing a regulatory and supportive framework for private sector schools to reduce unacceptable variations in quality, to promote good practice, to drive up standards, protect poor consumers and develop State policy and practice to motivate and support private providers;
- Strengthening human resource management to address teacher development and deployment and incorporate performance evaluation and accountability measures;
- Strategic communications to build accountability to strengthen community engagement and access to education information.

Based on the four components of the SESP we determine that all the activities listed in Table 2.1 will be included in the project, as is typically the case with most World Bank Education projects.

<table>
<thead>
<tr>
<th>Activity Type</th>
<th>Typical Features</th>
</tr>
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<tbody>
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</tbody>
</table>
| Infrastructure Rehabilitation/Expansion                      | ① New Roof, new cooling systems, structural repairs,  
|                                                              | ② New classroom wing, laboratories, library, etc. |
| Institutional Strengthening                                  | ① Design or improvement of strategies, plans and programs  
|                                                              | ② Upgrading educational management |
| Manpower Development                                         | ① Teacher training and skill development  
|                                                              | ② Improved access  
|                                                              | ③ Provision of learning and teaching resources |
Policy, Legal and Institutional Framework

There are a number of national, state, and international policies and regulations applicable to the educational sector and environmental and social issues pertaining to the Lagos Eko project. This section presents an overview of applicable policies and regulations in addition to an assessment of the institutional framework for the implementation of the project.

Policy Framework

National Policy on Education 2004

This policy addresses the imbalance in the provision of education in different parts of the country with regard to access, quality of resources and girls’ education. It seeks to inculcate national consciousness, unity, training and appropriate skill acquisition as well as mental and physical competence for the survival of the individual and Nigerian society.

National Policy on Science and Technology 1986

This policy focuses on national development through the effective application of scientific and technologically skills for the production of goods and services and to ensure a better quality of life for the country. The policy addresses the need for a coherent, systematic and comprehensive approach to the determination of technological programmes and their implementation.


This Policy aims to achieve sustainable development in Nigeria, and in particular to:

- secure a quality of environment adequate for good health and well being;
- conserve and use the environment and natural resources for the benefit of present and future generations;
- restore, maintain and enhance the ecosystems and ecological processes essential for the functioning of the biosphere to preserve biological diversity and the principle of optimum sustainable yield in the use of living natural resources and ecosystems;
- raise public awareness and promote understanding of the essential linkages between the environment, resources and development, and encourage individuals and communities participation in environmental improvement efforts; and
- co-operate with other countries, international organizations and agencies to achieve optimal use of trans-boundary natural resources and effective prevention or abatement of trans-boundary environmental degradation.

The National Urban Development Policy 1989

This policy focuses on developing a dynamic and sustainable system of urban settlements, fostering economic growth, promoting efficient regional development, and ensuring improved standards of living and well-being for all Nigerians.

National Economic Empowerment and Development Strategy (NEEDS) 2004

NEEDS which was launched in 2004 to boost economic growth and help achieve the MDGs. NEEDS focuses on the establishment of a broad-based market oriented economy involving the private sector, through which people can be empowered to attain the basic needs of life. A key strategy for attaining this objective is via educational reforms.

Lagos State Economic Empowerment and Development Strategy (LASEEDS) 2004
LASEEDS provides a framework for the implementation of the state’s MDGs, a major part of which is educational reforms.

**Regulatory Framework**

**Federal Legislation**

*Constitution of the Federal Republic of Nigeria 1999*

The Constitution (Section 18) provides the basis for the national education policy, which through which the government shall eradicate illiteracy by ensuring that there are equal and adequate educational opportunities at all levels. To what extent practicable, the government shall ensure that:

- Free compulsory and universal primary education;
- Free secondary education;
- Free university education; and
- Free adult literacy program

*Federal Environmental Protection Agency Act 1988*

The Federal Ministry of Environment, Housing and Urban Development (FMEH&UD) has taken over the functions of FEPA in administering and enforcing environmental laws in Nigeria. Other responsibilities of the ministry include:

- Monitoring and enforcing environmental protection measures;
- Enforcing international laws, conventions, protocols and treaties on the environment
- Prescribing standards for and making regulations on air quality, water quality, pollution and effluent limitations, atmosphere and ozone protection, control of hazardous substances; and
- Promoting cooperation with similar bodies in other countries and international agencies connected with environmental protection.

To enhance the operations of the ministry the following statutory provisions have been put in place:

- Harmful Wastes (Criminal Provisions) Decree No. 42, 1988;
- National Environmental Protection (Effluent Limitations) Regulations(S.1.8) 1991;
- National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations (S.1.15) 1991;
- Guidelines and Standards for Environmental Pollution Control in Nigeria 1991;
- Environmental Impact Assessment (EIA) Act No. 86 of 1992; and
- Environmental Impact Assessment (Amendments) Act 1999;
- Environmental Impact Assessment Procedural Guidelines 1995;
- National Guidelines and Standards for Water Quality 1999
- National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) (S.1.9) 2004;
- National Guidelines on Environmental Audit in Nigeria 1999

*National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2007*
To assist the FMEH&UD, the National Assembly established NESREA to ensure compliance with environmental standards, guidelines and regulations.

*Universal Basic Education Act 2004*

The Universal Basic Education Act provides the legal framework for the implementation of the UBE Programme, which makes basic education not only free but also compulsory. Subsequently, the UBE Commission was established as a way of ensuring the proper implementation of the UBE programme. The commission is responsible for the coordination of the activities of the programme.
The act gives full protection to privacy, honour, reputation, health and prevention from indecent and inhuman treatment through sexual exploitation, drug abuse, child labour, torture, maltreatment and neglect to a Nigerian Child. It also declares that every child has a right to life, to be allowed to survive and develop.

Lagos State Legislation

Lagos State Post-Primary Teaching Service Law 2005
This law divided educational institutions in Lagos State into six districts to enhance effective administration. The law makes provisions for the creation of a pension’s office for the State teaching service as well as the appointment of a District Tutor-general; having powers to coordinate issues affecting educational institutions in his district including the appointment of principals and head of schools. To enhance participation by stakeholders a community relations committee is established for each district.

Lagos State Government Education Management System Law (LASGEM) 2007
The system is run by the Lagos State Ministry of Education and aims at developing an effective technology-based administration and management system for public/private primary, secondary and senior secondary schools in the state. Under the system, all pupils and students are to be registered with the Government in a database. The registration also extends to all educational institutions in the state. The Government shall use the database to set standards for education in the State as well as communicate management information to stakeholders in the sector.

Lagos State Compulsory Free Universal Basic Education Law 2005
This Act reiterates the LASG’s policy to provide free, compulsory Universal Basic Education for every child of primary and secondary school age. It places an obligation on parents to ensure that their wards attend and complete primary and junior secondary school education. Failure of any parent to fulfil this duty amounts to a criminal offence punishable with a fine or imprisonment. The Act establishes the Local Government Primary and Junior Secondary Education Authority; in charge of implementation at Local Government level, as well as the Universal Basic Education Board in charge of implementation at State level.

Lagos State Environmental Protection Agency Edict (LASEPA) 1996
LASEPA has mandates to monitor and control disposal of wastes generated within the state; monitor and control all forms of environmental degradation from agricultural, industrial and government operations; monitor surface, underground and potable water, air, land and soils within the State to determine the pollution level as well as collect baseline data; and cooperating with federal governments on matter and facilities relating to environmental protection.

Lagos State Environmental Sanitation Law 2000
This was enacted to enhance the effectiveness of the Lagos State Environmental Protection Agency (LASEPA). Specifically, the law provides for environmental sanitation in Lagos State and the establishment of the Environmental Sanitation Corps. It prescribes varying fines for individuals and corporate organizations which violate environmental sanitation standards in the State. It aims at enhancing improved sanitary conditions in Lagos State by prohibiting acts such as
as littering, improper disposal or refuse, pasting of posters on public property, illegal road construction activities, etc.

*Lagos State Waste Management Authority (LAWMA) Edict 1991*

LAWMA has the task of coordinating refuse disposal activities in Lagos. Initially it was mandated to take charge of general environmental sanitation and the collection, disposal, and management of domestic refuse. Subsequently, it was assigned the responsibility of cleaning primary and secondary drains, collection and disposal of industrial wastes, flood relief activities, and the collection and disposal of scrap and derelict vehicles.

*Lagos Urban & Regional Board and Town Planning Authority (LAURBTPA) Edict 1997*

The LAURBTPA was created to control and regulate indiscriminate development in the state. Specific functions of the board include:

- Formulate state policies for urban and regional planning and development, including spatial location of infrastructural facilities.
- Advise state government, initiation of and prepare regional and sub-regional plans for the state; outline development plans and other physical development plans and schemes embracing spatial distribution of major roads, location of industrial, commercial, residential as well as recreational facilities.
- The establishment and operation of an effective development control organ on state lands
- The provision of technical assistance to the local government;

The edict stipulates that developers shall submit an environmental impact assessment report in respect of applications for residential land in excess of half an hectare and/or development in excess of 4 floors; factory building ; commercial buildings; places of worship and petrol service stations

**Applicable International Agreements**

*World Conference on Education for All (WCEFA) 1990*

This declaration made in Thailand states that every person – child, youth and adult- shall be able to benefit from educational opportunities designed to meet their basic needs.

*World Summit for Children 1990*

This further reaffirms the WCEFA declaration by stating that children should have access to basic education by the year 2000. The summit also placed emphasis on the need to raise the level of female literacy worldwide.

*Dakar World Education Forum 2000*

This was also held as a follow up to the WCEFA, and it set six goals to be attained by 2015. The goals include:

- Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children;
- Improving all aspects of the quality of education, and ensuring excellence for all, so that recognized and reasonable learning outcomes are achieved, especially in literacy, numeracy and essential life skills; and
• Ensuring that by 2015 all children, with special emphasis on girls, children in difficult circumstances and from ethnic minorities have access to and complete free and compulsory primary education of good quality.

*United Nation Millennium Development Goals 2000*

These declaration adopted in 2000 has two of the eight goals devoted to education. They are goal two (to achieve universal primary education) and goal 3 (to promote gender equality and empowerment of women).
Others

Nigeria is also a signatory to the following relevant international conventions:

- International Convention on Economic, Social and Cultural Rights (IESCR)
- The Dakar Framework for Action 2000
- Convention on Rights of the Child (CRC)
- Convention on the Elimination of all Forms of Discrimination against Women (CEDAW)
- The Convention Concerning the Protection of the World Cultural and Natural Heritage, The World Heritage Convention, 1972;
- The Framework Convention on Climate Change, Kyoto Protocol, 1995;
- The Convention on Biological Diversity, 1992;

In addition, Nigeria also has obligations to protect the environment through various commitments to the African Union (AU), the Economic Community of West African States (ECOWAS) and the Commonwealth. It is also committed through relations with the European Community under the Lome IV Convention.

Assessment of the Policy and Regulatory Framework

Nigeria has adequate policy and legal provisions for environmental assessment; detailed laws, regulations and guidelines have been developed and serve as the framework for conducting EIAs in both the public and private sectors. However, due to lack of adequate enforcement, the implementation of these rules has been poor. Shortcomings of some policies and regulations are discussed below.

EIA Act

An identified oversight of this Act lies in the issue of public participation. Under the Act, the public and interested third party stakeholders make an input in the assessment process only during public review, which takes place after preparation of the draft report (which is often not well publicized). Early public participation during scoping and preparation of the ToR will contribute greatly to the success of the project.

FEPA Sectoral Guideline

FEPA’s Guideline covering infrastructural projects deals with both the procedural and technical aspects of EIA for construction projects. The guideline stresses the need to carry out an EIA at the earliest stage possible. Infrastructure Project EIAs have been conducted in rather loose form, and often taken as a supplementary requirement to overall economic and engineering issues.

National Policy on Environment

The policy and its institutional arrangements have not yielded the desired results. This is principally due to weak enforcement; inadequate manpower in the area of integrated environment management; insufficient political will; inadequate and mismanaged funding; a low
degree of public awareness of environmental issues; and a top–down approach to the planning and implementation of environmental programmes.
National Policy on Education

The major problems hindering the actualization of the policy objectives are inadequate manpower; insufficient political will; mismanaged funding; a low public participation in policy formulation; and a top–down approach to the planning and implementation of environmental programmes.

Universal Basic Education Act

The UBE programme implementation has been hindered by poor project supervision, poor funding and lack of commitment from state governments. In addition, critical issues of poor facilities and unbalanced access to education have remained unaddressed.

Institutional Framework

To address the multi-sectoral nature of the components of the project, the following institutions and agencies are deemed relevant.

Lagos State Ministry of Education (LSMOE)

LSMOE will have primary responsibility for coordination and implementation of the project in conjunction with other agencies and institutions. As the proponent of this project, the LSMOE has mandate for monitoring and evaluation, quality assessment and control, and coordination, and providing information on a range of procedural and project management issues including procurement, financial management, disbursement, performance benchmarking etc.

It is envisaged that there will be a Project Implementation Committee Team (PIC) at the LSMOE which will be responsible for project implementation and ensuring that all parties perform and carry out their responsibilities as detailed in the ESMP. In this regard, the PICs will rely on the analysis of periodic reports of the respective stakeholders.

Federal Ministry of Environment, Housing and Urban Development (FMEH&UD)

The ministry ensures that all major development projects in Nigeria conform to the Environmental Impact Assessment Act 1992. The ministry reviews and approves EIAs for development projects and ensure that all project activities are conducted in accordance with National regulations.

Lagos State Ministry of Environment (SMOEnv)

The ministry is charged with establishing guidelines and standards for the management and monitoring of the environment in Lagos. Furthermore, the ministry is responsible for managing environmental problems caused by drainage issues, solid waste, sewage and pollution from inhabited areas, including slums within the urban region. The SMOEnv will liaise with ensure that all project activities complies with state standards.

Lagos State Ministry of Physical Planning and Urban Development

The ministry oversees implementation of physical planning and land use related activities. It approves directs the sitting of public infrastructure including educational institutions with due consultation with relevant institutions and stakeholders.

Lagos State Ministry of Works and Infrastructure

The ministry supervises private sector participation in projects as well as the coordinate government agencies in provision of infrastructure in the State.
Lagos State Environmental Protection Agency (LASEPA)

The agency sets, monitor and enforce environmental standards as well as pollution prevention and environmental management within the state.
**Lagos State Waste Management Authority (LAWMA)**

LAWMA will ensure construction and demolition are promptly collected and adequately disposed.

**Project Coordination Plan**

The coordination of environmental and social management plan for the project spreads amongst several institutions, each carrying out their functions at the inter-agency level thereby creating the possibility of overlap and duplication of efforts. In order to have a well coordinated approach, it is suggested that the PIC create a department dedicated to this purpose. The department should have its members drawn from the various agencies mentioned above, and should be the platform for liaising with stakeholders as well as monitoring the execution of project components. To further enhance the environmental capabilities of this department, it is suggested that proficiency in environmental assessments be made a criteria for appointment of members. Based on this the following the institutional structure depicted in Figure 3.1 below is suggested.

![Figure 0.1: Institutional Framework for SESP](image-url)
**Baseline Data**

**Project Area and Location**

Lagos state was created on May 27, 1967 by virtue of Decree No. 14 of 1967, which restructured Nigeria’s Federation into 12 States. Prior to this, Lagos Municipality had been administered by the Federal Government through the Federal Ministry of Lagos Affairs as the regional authority; while the Lagos City Council (LCC) governed the City of Lagos. The State took off as an administrative entity on April 11, 1968 with Lagos Island serving the dual role of being the State and Federal Capital.

![Map of Lagos](image)

Lagos State lies in the south-western part of the country, on the West Coast of Africa (Figure 4.1). It has boundaries with Ogun State both in the North and East; in the West by the Republic of Benin and in South it stretches for 180 kilometres along the Guinea Coast of the Atlantic Ocean. The state occupies an area of 3,577 sq. km. 22% of which consists of lagoons and creeks. Prominent among these is the Lagos and Elk Lagoons, Kuramo Waters, Ologe and Ogun River. Others are Badagry, Port Novo and the Five Cowrie Creeks.

The main biological, physical and socio-economic characteristics of the state are summarized below.
Physical Environment

Climate and Meteorology

The climate of the project area is that of the humid tropics and it is largely controlled by prevailing winds and nearness to the Atlantic Ocean. The two dominant air masses are the dry wind from the Sahara and the wet from the Atlantic Ocean. Marginal alterations have being recorded due to landform characteristics, especially the dominant ocean currents, configuration of surrounding shoreline and the generally flat topography of the region.

Table 0.1 Meteorological Data (Average of 5 years)

<table>
<thead>
<tr>
<th>Month</th>
<th>Maximum Temp (°C)</th>
<th>Minimum Temp (°C)</th>
<th>Total Rainfall (mm)</th>
<th>Relative Humidity @ 09 hr</th>
<th>Relative Humidity @ 15 hr</th>
</tr>
</thead>
<tbody>
<tr>
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<td>17.07</td>
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<tr>
<td>Feb</td>
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<td>16.41</td>
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<td>13.53</td>
</tr>
<tr>
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<td>0.35</td>
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<tr>
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<td>14.13</td>
<td>0</td>
<td>24.87</td>
<td>18.13</td>
</tr>
</tbody>
</table>

Source: NIMET 2006

Rainfall

Rainfall is the single most important element for defining the climatic seasons in the tropics. Hence, Lagos has two dominant seasons; the wet and the dry seasons. Around the coastal areas however, temperature exerts considerable impact on the micro-climatic regimes. Other significant climatic elements in the area are sunshine (hours), atmospheric pressure, wind (direction, speed and intensity), radiation, relative humidity and evapo-transpiration.

Temperature

Temperature values are high throughout the year. Variation in mean air temperature values ranges between 25°C (June to October) and 27°C - 29°C (November to July). A more detailed analysis shows that the highest value is recorded in March while the lowest is between July and August. The lower coincides with the peaks of the dry season. The slight decline around December is due to the chilling effect of the in-coming northeast trade (harmattan) wind.

Wind

South-westerlies dominate the wetter period of the year in Lagos while north-easterlies dominate the drier season. Depending on the shifts in the pressure belts in the neighbouring Gulf of Guinea, they are interspersed respectively by south-easterlies and north-westerlies in different parts of the year. In view of the fairly strong influence of sea breezes from the adjoining maritime environment, the wetter winds prevail for more than 70% of the time as reflected by the wind rose for the area. Directions are found to vary more in the mornings than in the afternoons. Mean monthly wind speed varies between 2.7 m/s and 4.4 m/s. Speeds in the months of “dry” period (November - March) are lower. In the wet period of April–October, daily average speed
could rise to 15 m/s. Values of up to 25 m/s are sometimes experienced due to inducement by convective rainfall activities and relative diffusion.
**Ambient Air Quality**

Generally, air quality in the area complies with regulatory standards however there are indications of anthropogenic impacts. Air quality screening in Lagos shows that air quality around Apapa LGA appears to be the most impacted; this is attributed to the heavy industrial activities in the area. Mainland LGA appears to be the least affected, where the most important industrial activity in the area is fish smoking. (LAMATA 2006). Primary sources of emissions in Lagos are from incinerated solid waste, bush burning, domestic cooking and hydrocarbon combustion from vehicular activities in and around the state.

**Geology**

The project area falls within the Dahomey sedimentary basin, a basin known to have resulted from events associated with the break-up of Gondwana and subsequent opening of the southern Atlantic. The geology of these areas is underlain by sedimentary rocks with no basement outcrop. Sediment thickness in the basin increases from north to south and from east to west within Nigeria.

**Soil**

The soils are generally sandy on top with varying increasing clay content within the profile. The clayey subsoil is the result of breakaway retreat processes by which colluvial clay has been mixed with sandstone. The soils are slightly acidic in the top horizons (pH range, 4.3 – 6.0) and this acidity increases with soil depth (subsoil pH ranges from 3.5 – 4.8). The exchangeable bases and cation exchange capacity are generally low varying from 0.34 to 14.82 and 1.14 to 21.06 cmol (+) kg\(^{-1}\) soil respectively, suggesting low inherent fertility status of the soils. The percent aluminium saturation of the soils is high especially in the subsoil and this suggests possible mobilization of heavy metals in the subsoil, due mainly to poor drainage, poor aeration and acidic solum.

**Water Quality**

The Lagos Lagoon is the most prominent water body within the state, though there are other of smaller creeks. Generally, the waters of the state are within the alkaline range, with pH ranging from 7.2 to 7.9. Dissolved oxygen is relatively high, ranging between 5.3 and 6.4. This is indicative of constant aeration of the water, probably due to wave action created by vessels moving to and fro on the water.

**Biological Environment**

**Fauna**

The main amphibians documented for Lagos state are the West African Toads (Bufo sp) and various species of frogs. Because of the general wetness of the area and swampy tendency, many of the gutters, filled to overflowing, form suitable breeding grounds for the frogs and toads. The macro benthic fauna are composed primarily of Molluscs (primarily bivalves and gastropods), Crustaceans (most of which are important shellfish), and Polychaete Annelids. The fish fauna comprise over 30 species, dominated by catfishes, Clupeids and Cichlids. The family Cichlidae seemed to dominate both qualitatively and quantitatively. Shrimps have also found in abundance in water bodies around the state.

A number of reptilian species are known to occur within Lagos state. These include crocodiles, turtles, snakes, and lizards. The habitat type largely influences the distribution of these species.
For instance, the Monitor Lizards (Varanus niloticus) occur within the swamps around Makoko and Ilaje. Several snakes can also be found including the Black Cobra (Naja melanueca), Night Adder (Causus maculates), African Beauty Snake (Psammporhis sibilans), and the African Python (Python sebae).

Avian species occur in large numbers around the project area; their distribution is greatly influenced by habitat type. As such, diving birds like the Pied Kingfisher (Ceryl rudis) and White Egrets (Egretta gazetta and E. alba) occur along the coastline and the marshes. Species such as Streptopelia vinacea and S. semitorquata (Doves) and the Village Weaver (Ploceus cuculatus) occur in the inland areas. Generally, their populations are quite high and even though both predatory animals and human beings regularly prey on them, their high fecundity rates enable them to maintain population levels. Other avian species include the Grey Heron (Ardea cinerea), Cattle Egret (Bulbulcus ibis), Black-shouldered Kite (Elanus caeruleus), Black Kite (Milvus migrans), Grey Kestrel (Falco ardosiaeus), African Thick-knee (Burhinus senegalensis), Wood Sandpiper (Tringa glareola), African Green Pigeon (Treron calva), Senegal Coucal (Centropus senegalensis), Pied Kingfisher (Ceryl rudis) and the African Pied Hornbill (Tockus fasciatus).

The most ubiquitous mammalian group in the state are rodents. They are highly fecund and adaptable. Smaller species like the multimammate rat (Rattus natalensis), larger species such as the Giant rat (Cricetomys gambianus), are also found. Other mammals that have been documented include Bats (Eidolon helvum), Colobus monkey (Colobus polykomos) and Mona Monkey (Cercopithecus mona), the African Civet (Viverra civetta), Cape Clawless Otter (Aonyx capensis), the Bushpig or Red River Hog (Potamochoerus porcus), Sitatunga (Tragelaphus spekei), Bushbuck (Tragelaphus scriptus), Maxwell’s Duiker (Cephalophus maxwelli), Tree Pangolin (Manis tricuspis), Long-tailed Pangolin (M. tetradactyla), Brush-tailed Porcupine (Atherurus africanus), Grasscutter (Thryonomys swinderianus), Crawshay’s Hare (Lepus crawshayi), Mongooses, and Genets.

*Flora*

The dominant vegetation of the state is the swamp forest consisting of the fresh water and mangrove swamp forests both of which are influenced by the rainfall pattern of the State, which makes the environment a wetland region. Its wetland environment is characterized by rich alluvial and terrallitic red-yellow soil, which supports dense luxuriant undergrowth, climbers, epiphytes and tropical hard woods.

*Socio-Economic Environment*

**Demographic Characteristics**

The estimated population of Lagos state is 17.5 million with a gender distribution of 9,115,041 males and 8,437,901 females (Lagos state 2006 Census). The rate of population growth is about 600,000 per annum with a population density of about 4,193 persons per sq. km. The metropolitan area occupies 37% of the state total area but accounts for 85% of the population with an average density of over 20,000 persons/km².

Current demographic trend analysis revealed that the state growth rate of 8% has resulted in its capturing of 36.8% of Nigeria’s urban population (World Bank, 1996) estimate at 49.8 million

---

1 Federal Government figure is 9 million. (National Population Commission Census 2006).
people. The implication is that whereas country population growth is 4/5% and global 2%, Lagos population is growing faster with grave implication for urban sustainability.

Table 0.2: Population by Sex and Local Government Area

<table>
<thead>
<tr>
<th>LGA</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agege</td>
<td>564,239</td>
<td>468,825</td>
<td>1,033,064</td>
</tr>
<tr>
<td>Ajeromi-Ifalodun</td>
<td>723,644</td>
<td>711,651</td>
<td>1,435,295</td>
</tr>
<tr>
<td>Alimosho</td>
<td>1,099,656</td>
<td>947,370</td>
<td>2,047,026</td>
</tr>
<tr>
<td>Amuwo-Odofin</td>
<td>301,012</td>
<td>223,959</td>
<td>524,971</td>
</tr>
<tr>
<td>Apapa</td>
<td>264,728</td>
<td>257,656</td>
<td>522,384</td>
</tr>
<tr>
<td>Badagry</td>
<td>187,427</td>
<td>192,993</td>
<td>380,420</td>
</tr>
<tr>
<td>Epe</td>
<td>153,360</td>
<td>170,274</td>
<td>323,634</td>
</tr>
<tr>
<td>Eti-Osa</td>
<td>460,124</td>
<td>523,391</td>
<td>983,515</td>
</tr>
<tr>
<td>Ibeju/Lekki</td>
<td>49,613</td>
<td>49,927</td>
<td>99,540</td>
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<tr>
<td>Ifako-Ijaye</td>
<td>380,112</td>
<td>364,211</td>
<td>744,323</td>
</tr>
<tr>
<td>Ikeja</td>
<td>328,778</td>
<td>319,942</td>
<td>648,720</td>
</tr>
<tr>
<td>Ikorodu</td>
<td>364,207</td>
<td>324,838</td>
<td>689,045</td>
</tr>
<tr>
<td>Kosofe</td>
<td>527,539</td>
<td>407,075</td>
<td>934,614</td>
</tr>
<tr>
<td>Lagos Island</td>
<td>461,830</td>
<td>398,019</td>
<td>859,849</td>
</tr>
<tr>
<td>Lagos Mainland</td>
<td>326,433</td>
<td>303,036</td>
<td>629,469</td>
</tr>
<tr>
<td>Mushin</td>
<td>684,176</td>
<td>637,341</td>
<td>1,321,517</td>
</tr>
<tr>
<td>Ojo</td>
<td>507,693</td>
<td>433,830</td>
<td>941,523</td>
</tr>
<tr>
<td>Oshodi-Isolo</td>
<td>514,857</td>
<td>619,691</td>
<td>1,134,548</td>
</tr>
<tr>
<td>Shomolu</td>
<td>517,210</td>
<td>507,913</td>
<td>1,025,123</td>
</tr>
<tr>
<td>Surulere</td>
<td>698,403</td>
<td>575,959</td>
<td>1,274,362</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,320,265</strong></td>
<td><strong>8,244,908</strong></td>
<td><strong>15,565,173</strong></td>
</tr>
</tbody>
</table>

Source: Lagos State Government 2006

*Ethnic Groups and Religion*

Lagos is predominantly a Yoruba-speaking environment; although, it is a socio-cultural melting pot attracting both Nigerians and foreigners alike. Indigenous inhabitants include the Aworis and Eguns in Ikeja and Badagry divisions respectively, with the Eguns being found mainly in Badagry. There is also a mixture of other pioneer settlers known as the Ekos. The indigenes of Ikorodu and Epe Divisions are mainly the Ijebus with pockets of Eko-Awori settlers along the coastland and riverine areas. English is the official language and predominantly the people are Muslims and Christians with few animists.

*Economics*

Lagos is Nigeria’s most prosperous city, and much of the nation’s wealth and economic activity are concentrated there. Lagos remains the commercial, financial and business nerve centres of Nigeria despite the movement of the federal capital to Abuja. More than half of Nigeria’s industrial capacity is located in Lagos’s mainland suburbs, particularly in the Ikeja industrial area. A wide range of manufactured goods are produced in the city, including machinery, motor vehicles, electronic equipment, chemicals, beer, processed food, and textiles. The standard of living is higher in Lagos than in the rest of Nigeria.

*Infrastructural Facilities*

i. Education

There are 1,050 public primary school, 311 public junior secondary schools, 307 public senior secondary schools and 6, 251 private primary and secondary schools in Lagos.
ii. Roads and transportation

The Lagos–Ibadan Expressway and the Lagos–Abeokuta Expressway are the major arterial routes in the north of the city and serve as inter-state highways to Oyo and Ogun States respectively. To the west Badagry Expressway serves outlying suburbs such as Festac Town as well as being an international highway.

Lagos State Ferry Services Corporation runs a few regular routes, for example between Lagos Island and the mainland are modern ferries and wharves. Private boats run irregular passenger services on the lagoon and on some creeks. The city is served with transit buses - “Danfos” and ”Molues” as well as taxi and motorcycles known as Okadas. Recent transport initiatives include the introduction of Bus Rapid Transport (BRT) route to facilitate access to major hubs of the State. The identified means of transport are a vital part of Lagos’s transport network and highways are congested, due in part to the geography of the city, as well as to its explosive population growth.

iii. Communication

Telecommunication coverage in Lagos is the best in West Africa with many private telephone operators e.g. StarComms, Multilinks etc and the major mobile operators MTN, Celtel, Glo, and MTel. Other means of information dissemination and communication include the internet, postal services, radio, news paper, television etc.

iv. Healthcare

There are 26 state hospitals and 150 public health care centres in Lagos state, in addition to private owned hospitals and clinics.

v. Water sources

The main water sources in Lagos are public taps, yard well/borehole, and water vendors. Few residents of Lagos state use streams and rivers as their water sources.

vi. Electricity Supply

Electricity is served through the Power Holding Company of Nigeria (PHCN). Power supply is generally epileptic in the state and majority of the state inhabitants rely on generators as an alternative power supply.

Cultural Resources

Lagos being a mega city is enriched with numerous cultural resources. Among these numerous sites are the National Museum – Onikan, Eyo Monument Idumota, Didi Museum, Badagry slave relics, Lekki Beach, Coconut beach of Badagry, National Theatre, Bar Beach, Former African Shrine, New African Shrine, Lekki Conservation Centre and Palaces in Lagos Island, Ikorodu, Badagry etc. Diverse shrines also abound in the communities in the state.

Waste Management

One of the foremost challenges confronting the state as an emerging mega city is the management of solid waste. Recent efforts by LAWMA and private sector operators (PSP) have begun to yield noticeable differences in ridding the streets of mounds of waste. The daily estimate of solid waste generation in the state is placed at 10,700 metric tonnes (LAWMA, 2007). Current solid waste and sewage disposal practices pose potential environmental and health issues in the communities. Sewage and drainage facilities are provided in the city areas,
although these facilities are in need of serious repairs. Commonly used for the disposal of human waste are the pit toilet, water system closet, etc.

Public Health

Common health problem reported are malaria diarrhoea, cholera, sexually transmitted diseases (STDs), asthma, hypertension, skin infections, typhoid and paratyphoid fevers and tuberculosis. Previous studies reveal that malaria is the most reported health problem in the State. Malaria has been recognized in Nigeria as a major public health concern. According to the recent estimate, half of the Nigerian population has at least one episode of malaria annually and majority of out patient can be attributed to malaria (FMoH, 2004).

Land Use Pattern

Predominant land uses in the state are residential, industrial, recreational and fisheries and aquaculture. Due to the high demand for the rapidly expanding population requiring additional land, pressure on land is fast increasing. The expansion of demand for land for housing, industry and even the anticipated recreational demands, together with demand from other traditional sectors and environmental conservation can no longer be ignored. The value of land is fast increasing and with it the frequency of disputes about ownership titles and boundary definitions.

Land Tenure

The Land Use Decree 1978 vests all land in the state through the office of the governor. Land is to be held in trust and administered for the use and common benefit of all Nigerians according to the provisions of the Act. By this legal instrument, the state replaced the traditional institutions of obaship and chieftaincy in their roles as keepers of communal land.

Control and management of land in urban areas is the responsibility of the state governor, while all other land (rural, public, etc.) is the responsibility of the local government of the area. The governor is empowered to designate certain areas as urban land and to grant statutory rights of occupancy of fixed periods and rights of access to any person, subject to rental arrangements fixed by and payable to the state. The local government can grant a customary right of occupancy to land in the local government area (LGA) to any person or organization for agriculture, grazing, residential or other purposes. Land so granted should not exceed 200 ha for agricultural purposes, or 2 000 ha for grazing purposes, for any single customary grant. Certificates of occupancy are to be issued in respect of both types of grant.
Potential Environmental and Social Impacts

The project will enhance the economic, social and political development of Lagos through the facilitation of improved access to primary and junior secondary education, infrastructural improvements, and provision of teacher training and local skills development.

Since all sub-activities and beneficiary schools are yet to be identified, the impact assessment is based on potential impacts from anticipated project activities. Site specific project impact would be detailed for each site before the commencement of activities as part of the Environmental and Social Management Plan implementation.

A summary of the main project activities and their potential impacts on the environment is shown in Table 5.1. The impact of each activity is assessed qualitatively through the relevant environmental and social media which are:

1. Environmental media - Air, Water, Soil and Vegetation
2. Social media - Community Structure, Livelihood, Community Infrastructure, Population/Demographics, Public Health, and Land Use

In analysing the impacts, three criteria were used:

1. The Severity of the impact on the existing environment (High, Medium, or Low)
2. The Likelihood of the impact occurring (High, Medium, or Low)
3. The Effect of the impact, whether beneficial (+) or adverse (-)

Environmental Impacts

Construction and Rehabilitation Phase

Flora and Fauna

The rehabilitation and/or expansion of existing schools could result in clearing and depletion of vegetation that will result in: loss of plant cover, disturbance and loss of fauna habitats, soils degradation, disturbance of the natural landscape and disfiguring of the natural morphology.

Soil and Land Degradation

Earth-moving equipment such as excavators will be used in cutting and excavation during the rehabilitation /construction of infrastructural facilities. These equipment will affect soil quality and stability exposing the soil to erosion and compact resulting in the breakdown of soil structure which will potentially decrease the drainage of the areas. Furthermore, the risk of accidental spills of paints, oil or grease and other hazardous products from construction machinery also constitutes potential sources of soil pollution.

Waste Management

Activities at construction sites will produce construction wastes such as excavated soils and debris. Excavated waste piles on road sides could obstruct the general public, the movement of students and workers as well as affect the aesthetics of the environment.

Slope Erosion and Drainage

If the topography of the project area is hilly, erosion problems during construction are likely to be more severe, as compared to a flat area. However, if the area is flat, water will not drain away easily, and stagnant pools of water will be created. These pools, if not drained regularly will provide favourable breeding grounds for mosquito and other disease vectors.
Air Quality
The construction and/or rehabilitation of boreholes, buildings and sanitary facilities could result in the emission of dust and other odours that may lead to the reduction of air quality. Air Quality will also be impacted by emissions from vehicles, earthmoving equipment and released particulate matters.

Water Quality
The rehabilitation and construction of boreholes may affect the groundwater quality. However, water budgeting should be conducted to ensure a balance between groundwater extraction and recharge. There is a high likelihood of the occurrence of wastewater spills/run-off but with minimal adverse effect on the immediate environment due to the small volume of wastewater envisaged.

Operation Phase
Water Resources
Additional demand for water in some of the schools might require more extraction from boreholes; water budgeting is suggested to ensure a balance. Water quality of surrounding water bodies could also be affected due to run-off of waste water generated by the project activities or from improper waste management.

Air Pollution
Laboratory and workshop equipment that may be provided to schools may emit air pollutants which may increase respiratory disorders e.g. nasal discomfort as a result of inhaling air particles from extractor fan.

Solid Waste
Illegal dumping of solid waste in drainage channels may result in blocked drainages and cause flooding, while improper use and disposal of sanitary facilities can attract pests and disease vectors.

Visual intrusion
Rehabilitation activities, e.g. civil works, may mar the landscapes. The clearing of vegetation that will be required for the expansion of existing buildings will impact the visual amenity of nearby houses and surrounding communities.

Social and Health Impacts
Perceived socio-economic were identified from key socio-economic indicators (livelihood, community structure, public health, land use and population) and the projects components at all level of the project implementation.

Construction and Rehabilitation Phase
Disruption of Utilities Service
Excavation and cutting may cause temporary disruptions of utility services such as electricity and water. Such disruptions may incur the anger in targeted project areas.

Occupational Safety and Health
The safety of the local population may be at risk during civil works. The movement of trucks to and from the site, the operation of various equipment and machinery and the actual construction activities will expose the workers to work-related accidents and injuries. Pollutants such as dust and noise could impact health of workers and near-by communities.
Noise
Noise and vibration caused by machines, site vehicles, pneumatic drills etc will be commonplace during construction activities. These impacts can affect the quietness of the communities and provoke irritation and anger.

Traffic
Communities around the construction sites (where schools are being rehabilitated) will experience heavier human and vehicular traffic. Construction related activities will be a nuisance to road users e.g. storage of construction stones by the road side.

Operation Phase
Provision of Development Grants
The impacts of the project on educational development are largely positive. The provision of development grants will improve local skills in schools, enhance relevant teaching, research and development activities as well as increase training opportunities, skill development and income for teachers. Awareness on public health issues is likely to increase among targeted communities.

Improve Quality and Relevance of Basic and Secondary Education
The project implementation will provide training opportunities and learning materials for teachers. This will improve the quality of education at both the basic and secondary level. There is also the likelihood that the training opportunities will lead to improve teaching quality, job satisfaction, improved livelihood as well as standard of living among teachers. The general public health of targeted areas would also be positively impacted.

Conditional Cash Transfers
The project will promote secondary education for children and youth of targeted poor families. This will cause significant improvement in educational culture and performance of children from poor families in the state. The cash transfer will provide additional family income and improve family welfare.

It is anticipated that poor families with children within such age range could migrate to targeted project areas. Also, there is a high likelihood that cash scheme given to mothers and not the fathers who are the head of the families could cause family conflict.

Improved Governance
The project will strengthen government systems for the planning, delivery, monitoring and resourcing of education in Lagos. This could cause a significant improvement in the educational sector of the state.
### Table 0.1: Summary of the Potential Environmental and Social Impacts of the SESP

<table>
<thead>
<tr>
<th>Activities</th>
<th>Environmental Media</th>
<th>Environmental Hazards/Issues</th>
<th>Severity</th>
<th>Likelihood</th>
<th>Effect</th>
<th>Social Media</th>
<th>Social Hazards/Issues</th>
<th>Severity</th>
<th>Likelihood</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Borehole rehabilitation/ construction</strong></td>
<td>Air</td>
<td>Emission/dust</td>
<td>L</td>
<td>M</td>
<td>-</td>
<td>Community Structure</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Groundwater</td>
<td>Discharge of drilling fluids, Wastewater spill</td>
<td>L</td>
<td>L</td>
<td>H</td>
<td>Livelihood</td>
<td>Possible employment for community members</td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>Discharge of drilling fluids, Compaction</td>
<td>L</td>
<td>L</td>
<td>H</td>
<td>Community Infrastructure</td>
<td>Improved access to potable water within schools</td>
<td>M</td>
<td>H</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Vegetation</td>
<td>Dust/PMs, Wastewater spill</td>
<td>L</td>
<td>M</td>
<td>H</td>
<td>Public Health</td>
<td>Improved welfare</td>
<td>M</td>
<td>M</td>
<td>+</td>
</tr>
<tr>
<td><strong>Construction and rehabilitation of sanitary facilities (toilet, drainage, etc)</strong></td>
<td>Air</td>
<td>Emission/dust</td>
<td>N</td>
<td>L</td>
<td>-</td>
<td>Community Structure</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Groundwater</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td>Livelihood</td>
<td>Possible employment for community members</td>
<td>L</td>
<td>M</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>Compaction, excavation, loss of topsoil</td>
<td>L</td>
<td>M</td>
<td>-</td>
<td>Community Infrastructure</td>
<td>Improved hygiene for students</td>
<td>M</td>
<td>M</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Vegetation</td>
<td>Dust, loss of vegetation</td>
<td>L</td>
<td>M</td>
<td>-</td>
<td>Public Health</td>
<td>Improved welfare</td>
<td>M</td>
<td>M</td>
<td>+</td>
</tr>
<tr>
<td><strong>Building repairs: roof, lights, furniture, painting, etc</strong></td>
<td>Air</td>
<td>Dust/PMs</td>
<td>N</td>
<td>L</td>
<td>-</td>
<td>Community Structure</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Groundwater</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td>Livelihood</td>
<td>Possible employment for community members</td>
<td>L</td>
<td>M</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>Wastewater (paint)</td>
<td>N</td>
<td>L</td>
<td>-</td>
<td>Community Infrastructure</td>
<td>Provision of conducive learning facilities</td>
<td>H</td>
<td>H</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Vegetation</td>
<td>Wastewater (paint)</td>
<td>N</td>
<td>L</td>
<td>-</td>
<td>Public Health</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| Land Use                  | None |
| Population/ Demographics | None |</p>
<table>
<thead>
<tr>
<th>Provision of new learning eq. (lab, sports, musical, etc)</th>
<th>Air</th>
<th>None</th>
<th>Community Structure</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>None</td>
<td>Community Infrastructure</td>
<td>Better equipped schools</td>
<td>M M +</td>
</tr>
<tr>
<td>Soil</td>
<td>None</td>
<td>Public Health</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td>None</td>
<td>Land Use</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Population/ Demographics</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fencing (concrete activities)</th>
<th>Air</th>
<th>Emissions/PMs</th>
<th>N L -</th>
<th>Community Structure</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>None</td>
<td>Livelihood</td>
<td>Possible employment for community members</td>
<td>L M +</td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>Compaction, Loss of topsoil</td>
<td>Community Infrastructure</td>
<td>Enhanced security in schools</td>
<td>H H +</td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td>Loss of vegetation</td>
<td>Public Health</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Land Use</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Population/ Demographics</td>
<td>None</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Landscaping (tree planting, grasses, etc)</th>
<th>Air</th>
<th>None</th>
<th>N N</th>
<th>Community Structure</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>None</td>
<td>Livelihood</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>None</td>
<td>Community Infrastructure</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td>Increase in vegetation</td>
<td>Public Health</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Land Use</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Population/ Demographics</td>
<td>None</td>
<td></td>
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<table>
<thead>
<tr>
<th>Development Grants</th>
<th>Air</th>
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<th>Community Structure</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>None</td>
<td>Livelihood</td>
<td>Improvement in local skills, Training opportunities, Increase in income</td>
<td>M M +</td>
</tr>
<tr>
<td>Soil</td>
<td>None</td>
<td>Community Infrastructure</td>
<td>Improved educational sector</td>
<td>M H +</td>
</tr>
<tr>
<td>Vegetation</td>
<td>None</td>
<td>Public Health</td>
<td>Increased awareness on health issues</td>
<td>L M +</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Land Use</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Quality of Education</td>
<td>Air</td>
<td>None</td>
<td>Community Structure</td>
<td>None</td>
</tr>
<tr>
<td>----------------------</td>
<td>------</td>
<td>------</td>
<td>---------------------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>Groundwater</td>
<td>None</td>
<td>Livelihood</td>
<td>Training opportunities, increase in income</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>None</td>
<td>Community Infrastructure</td>
<td>Improved educational quality</td>
</tr>
<tr>
<td></td>
<td>Vegetation</td>
<td>None</td>
<td>Public Health</td>
<td>Increased awareness on health issues</td>
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<tr>
<td></td>
<td>Land Use</td>
<td>None</td>
<td>Population/ Demographics</td>
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</table>

<table>
<thead>
<tr>
<th>Conditional Cash Transfers</th>
<th>Air</th>
<th>None</th>
<th>Community Structure</th>
<th>Improved educational culture in families, Improved education performance</th>
<th>M</th>
<th>H</th>
<th>+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Groundwater</td>
<td>None</td>
<td>Livelihood</td>
<td>Additional source of family income</td>
<td>H</td>
<td>H</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>None</td>
<td>Community Infrastructure</td>
<td>Improved educational performance</td>
<td>L</td>
<td>H</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Vegetation</td>
<td>None</td>
<td>Public Health</td>
<td>Increased awareness on health issues, Improved family welfare</td>
<td>M</td>
<td>M</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Land Use</td>
<td>None</td>
<td>Population/ Demographics</td>
<td>Possible increase in population</td>
<td>L</td>
<td>L</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Improved Governance</th>
<th>Air</th>
<th>None</th>
<th>Community Structure</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Groundwater</td>
<td>None</td>
<td>Livelihood</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>None</td>
<td>Community Infrastructure</td>
<td>Improved educational sector</td>
</tr>
<tr>
<td></td>
<td>Vegetation</td>
<td>None</td>
<td>Public Health</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Land Use</td>
<td>None</td>
<td>Population/ Demographics</td>
<td>None</td>
</tr>
</tbody>
</table>
: Environmental and Social Management Plan (ESMP)

An Environmental and Social Management Plan (ESMP) defines project-specific environmental and social mitigation measures, monitoring programmes, and responsibilities based on the analysis of potential environmental and social impacts of the project. This ESMP is intended to ensure efficient environmental management of these activities. It includes the following sections:

- the potential environmental and social impacts,
- the proposed mitigation measures,
- implementation arrangement,
- responsibilities for implementing mitigation and monitoring measures;
- capacity building needs; and
- implementation cost estimate

Mitigation Measures

This includes measures that can reduce the negative impacts associated with sub-project activities e.g. construction, expansion, rehabilitation etc. Potential impacts and the appropriate mitigation measures are identified in Table 6.1. The table indicates the areas to which the potential impact applies. In addition, mitigation measures are identified as either social or physical measures.

Social mitigation includes minimise noise and other effects on the human environment. Physical measures address impacts on vegetation, air quality, water, and soil. The measures serve as the basis for the cost estimates. During implementation, the mitigation costs will be included in the bid for sub-project activities.
<table>
<thead>
<tr>
<th>Physical</th>
<th>Potential Impacts</th>
<th>Recommended Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Noise</strong></td>
<td>① Disturbance of school and education activities during construction works</td>
<td>① Installation of sound insulation such as silencers, mufflers, etc</td>
</tr>
<tr>
<td></td>
<td>② Employees and communities exposed to high noise level</td>
<td>② Schedule work periods to avoid school hours</td>
</tr>
<tr>
<td></td>
<td>③</td>
<td>③ Use appropriate well serviced machinery to reduce noise output</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td>① Emission of pollutants from vehicles</td>
<td>① Introduction of dust reduction measures at construction sites(sprinkle water on earth roads)</td>
</tr>
<tr>
<td></td>
<td>② Air pollution from burning of demolition wastes e.g. wood, paper etc</td>
<td>② Avoid construction activities during bad weather</td>
</tr>
<tr>
<td></td>
<td>③ Dust and PM emissions from construction works</td>
<td>③ Adopt proper waste management strategy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>④ Prohibit waste combustion on site</td>
</tr>
<tr>
<td></td>
<td></td>
<td>⑤ Service construction vehicles and equipment regularly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>⑥ Workers should use PPEs (nose masks)</td>
</tr>
<tr>
<td><strong>Soil</strong></td>
<td>① Point source contamination around workshop areas</td>
<td>① Appropriate containment measures for all operational areas and proper disposal of used lubricants</td>
</tr>
<tr>
<td></td>
<td>② Increased soil erosion due to vegetation clearing, soil trampling and compaction</td>
<td>(dedicated containers, bund walls).</td>
</tr>
<tr>
<td></td>
<td>③ Increased rapid runoff due to vegetation clearing and soil compaction diminishing infiltration capacity</td>
<td>② Soil erosion control measures (e.g. reforestation, reseeding of grasses, land preparation, terracing etc)</td>
</tr>
<tr>
<td></td>
<td>④ Deterioration of soil characteristics due to increased erosion</td>
<td>③ Restrict site activities to relevant areas only</td>
</tr>
<tr>
<td><strong>Water Quality</strong></td>
<td>① Potential pollution of surface and ground water though runoff of pollutants e.g. lubricating oil, diesel fuel etc from workshop areas etc</td>
<td>① Appropriate containment measures for all operational areas and proper disposal of used lubrication oil (Bund walls, dedicated containers).</td>
</tr>
<tr>
<td></td>
<td>② Water pollution due to seepage from tanks (diesel, sanitary wastes etc)</td>
<td>② Site storage facilities far from water bodies</td>
</tr>
<tr>
<td></td>
<td>③ Lack of water for sanitation or toilet facilities</td>
<td>③ Regular collection of work sites wastes for proper disposal</td>
</tr>
<tr>
<td></td>
<td>④ Heavy water usage resulting in reduction of surface and groundwater sources</td>
<td>④ Liquid waste discharged at designated outfalls after effluent treatment to protect water resources</td>
</tr>
<tr>
<td><strong>Biological Resources</strong></td>
<td>① Vegetation clearing resulting in loss of valuable habitat, species diversity and population levels.</td>
<td>① No siting and excavations in sensitive habitat</td>
</tr>
<tr>
<td></td>
<td>② Impacts on protected areas; critical habitats for rare species or of ecologic or domestic importance.</td>
<td>② Careful planning and selection of sites</td>
</tr>
<tr>
<td></td>
<td>③</td>
<td>③ Forests and cultural heritage sites protection enforced.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>④ Restrict site activities to relevant areas only</td>
</tr>
<tr>
<td>Potential Impacts</td>
<td>Recommended Mitigation Measures</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Wildlife</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>③ Wildlife impacted through direct loss, loss of movement corridors, and indirectly through introduction of noise and pollutants.</td>
<td>① Pre-construction focused surveys, dust and noise abatement measures, and minimization of construction generated pollutants. ② Prohibit hunting activities amongst workers</td>
<td></td>
</tr>
<tr>
<td><strong>Wetlands</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>③ Expansion and new construction encroaching on the wetland and directly impact wetland plant communities.</td>
<td>① Preservation, restoration, and enhancement of existing wetland. ② Sensitive and critical habitats avoided</td>
<td></td>
</tr>
<tr>
<td><strong>Farmlands and Grazing Areas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>③ Land take for new school construction could lead to loss of farmland and grazing areas.</td>
<td>① Farmland and grazing areas should be relocated to other areas. ② If possible avoid farmlands and grazing areas.</td>
<td></td>
</tr>
<tr>
<td><strong>Solid/Hazardous Waste Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>③ Solid waste generated from demolition and construction activities containing potentially hazardous materials (e.g. asbestos). ③ Waste generation during building works piling on the roadside</td>
<td>① Quick sorting, collection and disposal of waste removed from the sites in accordance with applicable regulations. ② Employ services of registered waste management company</td>
<td></td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Health and Safety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>③ Risks of road accidents during work</td>
<td>① Conduct an awareness raising campaign for the work sites staff and the users of school infrastructures (pupils, students, teachers, etc.) ② Develop proper traffic management plan ③ Restrict construction activities to off-peak traffic periods</td>
<td></td>
</tr>
</tbody>
</table>
Implementation Arrangement

The key stakeholders required to implement the ESMP are identified in Figure 6.1 including their relationships and reporting responsibilities.

An Environmental and Social Management Specialist (ESMS), seconded from either SMOEnv or LASEPA to the PIC will be responsible for the implementation and monitoring of the ESMP. The PIC will achieve the following objectives:

- propose management rules and specific measures that are compatible with sustainable development while implementing the project,
- promote awareness of environmental protection, and
- propose concrete means of applying the ESMP.

The ESMS will develop a monitoring plan to ensure ESMP implementation occurs in a structured manner. On behalf of the PIC, the ESMS will implement the monitoring plan and submit periodic environmental monitoring reports to SMOEnv and LASEPA. Each report will indicate that members of the PIC should be contacted for clarification of issues.

The World Bank (WB)

The World Bank has the overall responsibility to ensure that its safeguards polices are complied with. In addition, the WB is responsible for the final review and clearance of the ESMPs or ESIAs; as well as review and approval of TORs.

Capacity Strengthening for ESMP Implementation

Institutional strengthening will be required for the PIC to effectively carry out the environmental and social management responsibilities for sub-project implementation. Capacity building will encompass PIC and state agencies involved in sub-project implementation.
An assessment of training needs and the development of a training strategy plan need to be conducted as an initial implementation activity which will, inter alia, determine and conform whether the training programme proposed will suffice or is required.

Proposed training for the ESMS are as follows:
- Environmental and Social Management Process.
- Use of Screening form and Checklist
- Preparation of terms of reference for carrying out EA
- Design of appropriate mitigation measures.
- Review and approve EA reports
- Public consultations in the ESMF process.
- Monitoring mitigation measures implementation.
- Integrating ESMP into sub-projects implementation.

Monitoring Plan

Monitoring requirements for the implementation of the ESMP are provided in Table 6.3. The monitoring plan establishes appropriate criteria to validate the predicted impacts and ensure that any unforeseen impacts are detected and the mitigation adjusted where needed at an early stage. The plan will ensure that mitigating measures are implemented during renovation, upgrading and maintenance. Specific objectives of the monitoring plan are to:

① check the effectiveness of recommended mitigation measures;
② demonstrate that sub-project activities are carried out in accordance with the prescribed mitigation measures and existing regulatory procedures; and
③ provide early warning signals whenever an impact indicator approaches a critical level.

Monitoring Procedure

The ESMS will prepare a long-term monitoring plan that will encompass clear and definitive parameters to be monitored for each sub-project. The plan will take into consideration the scope of development, the environmental and social sensitivity and the financial and technical means available for monitoring. It will also identify and describe the indicators to be used, the frequency of monitoring and the standard (baseline) against which the indicators will be measured for compliance with the ESMP.

A number of indicators would be used to determine the status of the affected environment:

- Has the pre-project human and natural environmental state been maintained or improved?
- Has the effectiveness of the ESMF technical assistance, review, approval and monitoring process been adequate to pre-empt and correct negative impacts inherent in sub-projects?
- Environmental Indicators: vegetation loss; land degradation; regulatory compliance.
- Social indicators: population incomes; traffic, changes in school attendance and performance.

ESMP Cost Estimate

It is recommended that at least 2.5% of the total budget for the project should be allocated to manage environmental and social concerns. The costs shown in Table 6.2 have been made using an estimate of $500,000 as the total project cost.

<table>
<thead>
<tr>
<th>Table 0.2: Budget and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
</tr>
</tbody>
</table>

EnvironQuest
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation</td>
<td>$20,000</td>
<td>PIC/LASEPA/SMOEnv</td>
</tr>
<tr>
<td>Management</td>
<td>$100,000</td>
<td>PIC</td>
</tr>
<tr>
<td>Capacity Strengthening</td>
<td>$150,000</td>
<td>PIC/World Bank</td>
</tr>
<tr>
<td>Monitoring</td>
<td>$200,000</td>
<td>PIC/LASEPA/SMOEnv</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$500,000</strong></td>
<td></td>
</tr>
<tr>
<td>Potential Impact</td>
<td>Mitigation Measures</td>
<td>Implementation Schedule</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td><strong>Soil</strong>&lt;br&gt;Possible increase in soil erosion as a result of the construction activities (clearing of vegetation and soil excavation)&lt;br&gt;Loss of productive topsoil resulting from soil excavation&lt;br&gt;Soil contamination resulting from the release of chemicals (lubricant, fuel, paint) from the machineries</td>
<td>Re-vegetate the construction site by planting rapidly growing vegetation/plants&lt;br&gt;Use excavated soil for construction work&lt;br&gt;Ensure immediate clean up of the area by removing the contaminated topsoil and disposing properly in a designated place</td>
<td>During and after the construction activities&lt;br&gt;During construction&lt;br&gt;During construction</td>
</tr>
<tr>
<td><strong>Water</strong>&lt;br&gt;Run-off erosion may occur from unprotected excavated areas during heavy rain resulting to sedimentation of nearby water-bodies&lt;br&gt;Potential water pollution through run off of hazardous construction waste (lubricants, paint)&lt;br&gt;Excessive use of water resources</td>
<td>Back fill excavation area as quick as possible or create an embankment to avoid run off&lt;br&gt;Create barrier for appropriate containment measures&lt;br&gt;Proper disposal of construction waste&lt;br&gt;Minimise water usage&lt;br&gt;Install water flow meter</td>
<td>During excavation activities&lt;br&gt;During construction&lt;br&gt;During construction&lt;br&gt;During operation&lt;br&gt;During operation</td>
</tr>
<tr>
<td>Potential Impact</td>
<td>Mitigation Measures</td>
<td>Implementation Schedule</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release of dust and PMs</td>
<td>Spray water to control dust</td>
<td>During excavation and construction activities</td>
</tr>
<tr>
<td>Emission of pollutants from the construction machineries (NOx, SOx, CO, THC)</td>
<td>Limit the vehicles allowed into the site and use efficient machineries</td>
<td>During construction activities</td>
</tr>
<tr>
<td>Noise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise resulting from construction works</td>
<td>Ensure that efficient equipment are used</td>
<td>During construction activities</td>
</tr>
<tr>
<td>Traffic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Possible disruption of vehicle movement pattern leading to traffic congestion</td>
<td>Provide alternative route for traffic</td>
<td>Before construction begins</td>
</tr>
<tr>
<td>Population/Demograph</td>
<td>Increase the infrastructure in the area to accommodate the population</td>
<td>During construction and operational phases</td>
</tr>
</tbody>
</table>
Public Consultation

The PIC has responsibility to effectively engage stakeholders to successfully implement the project and achieve the stated objectives for the benefit of all. The public consultation will aim to assist the government in learning about the interests of, establishing a systematic dialogue with, and earning the trust of the surrounding residents and other stakeholders.

Objectives

This plan provides a framework for achieving effective stakeholder participation and promoting greater awareness and understanding of issues so that the project is carried out effectively within budget and on-time to the satisfaction of all concerned. To ensure effective implementation of this plan, the PIC shall be committed to the following principles:

- promoting openness and communication;
- ensuring effective stakeholder participation in the development of the project;
- increasing public knowledge and understanding of the project implementation process;
- using all strategies and techniques which provide appropriate, timely and adequate opportunities for all stakeholders to participate; and
- evaluating the effectiveness of the engagement plan in accordance with the expected outcomes.

Stakeholders

Government Agencies
- Lagos State Ministry of Education
- Lagos State Secondary Educational Board
- Lagos State Primary Educational Board
- National Union of Teachers (NUT)
- Nigeria Education Research and Development Council (NERDC)
- National Board for Technical Education (NBTE)

Educational Institutions
- Primary, Secondary and Technical Schools (Public and Public)

Others
- National NGOs/ Intergovernmental Organizations
- Scientific Experts/Researchers
- Students/Parents
- Private Sector

Consultation Strategies

A comprehensive public awareness program could include but not limited to the following:

- Meetings and Focus Group Discussions (FGD) with teachers, students, parents etc
- Develop and distribute a project newsletter
- Organize seminars and workshops
- Develop and maintain a project web site
- Develop radio and television adverts
- Prepare project press releases and posters
Concerns/comments from all stakeholders will be compiled by the project social development specialist for periodic feedback to the PICs. This will ensure that concerns are adequately documented and taken into consideration in project design and mitigation measures.
ANNEXES

Annex 1: Summary of World Bank Environmental and Social Safeguard Policies

- **Environmental Assessment (OP 4.01).** Outlines Bank policy and procedure for the environmental assessment of Bank lending operations. The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EA process. This environmental process will apply to all sub-projects to be funded by SESP.

- **Natural Habitats (OP 4.04).** The conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long-term sustainable development. The Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its sitting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs. If the environmental assessment indicates that a project would significantly convert or degrade natural habitats, the project includes mitigation measures acceptable to the Bank. Such mitigation measures include, as appropriate, minimizing habitat loss (e.g. strategic habitat retention and post-development restoration) and establishing and maintaining an ecologically similar protected area. The Bank accepts other forms of mitigation measures only when they are technically justified. Should the sub-project-specific ESMPs indicate that natural habitats might be affected negatively by the proposed sub-project activities with suitable mitigation measures, such sub-projects will not be funded under the SESP.

- **Pest Management (OP 4.09).** The policy supports safe, affective, and environmentally sound pest management. It promotes the use of biological and environmental control methods. An assessment is made of the capacity of the country’s regulatory framework and institutions to promote and support safe, effective, and environmentally sound pest management. This policy will most likely not apply to SESP.

- **Involuntary Resettlement (OP 4.12).** This policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by (a) the involuntary taking of land resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets, or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons. This policy will most likely not apply to SESP as this project will not entail taking of land or restriction of access to sources of livelihood.

- **Indigenous Peoples (OD 4.20).** This directive provides guidance to ensure that indigenous peoples benefit from development projects, and to avoid or mitigate adverse effects of Bank-financed development projects on indigenous peoples. Measures to address issues pertaining to indigenous peoples must be based on the informed participation of the indigenous people themselves. Sub-projects that would have negative impacts on indigenous people will not be funded under SESP.
• **Forests (OP 4.36).** This policy applies to the following types of Bank-financed investment projects: (a) projects that have or may have impacts on the health and quality of forests; (b) projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and (c) projects that aim to bring about changes in the management, protection, or utilization of natural forests or plantations, whether they are publicly, privately, or communally owned. The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical habitats. If a project involves the significant conversion or degradation of natural forests or related natural habitats that the Bank determines are not critical, and the Bank determines that there are no feasible alternatives to the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs, the Bank may finance the project provided that it incorporates appropriate mitigation measures. Sub-projects that are likely to have negative impacts on forests will not be funded under SESP.

• **Cultural Property (OP 11.03).** The term “cultural property” includes sites having archaeological (prehistoric), paleontological, historical, religious, and unique natural values. The Bank’s general policy regarding cultural property is to assist in their preservation, and to seek to avoid their elimination. Specifically, the Bank (i) normally declines to finance projects that will significantly damage non-replicable cultural property, and will assist only those projects that are sited or designed so as to prevent such damage; and (ii) will assist in the protection and enhancement of cultural properties encountered in Bank-financed projects, rather than leaving that protection to chance. The management of cultural property of a country is the responsibility of the government. The government’s attention should be drawn specifically to what is known about the cultural property aspects of the proposed project site and appropriate agencies, NGOs, or university departments should be consulted; if there are any questions concerning cultural property in the area, a brief reconnaissance survey should be undertaken in the field by a specialist. SESP will not fund sub-projects that will have negative impacts on cultural property.

• **Safety of Dams (OP 4.37).** For the life of any dam, the owner is responsible for ensuring that appropriate measures are taken and sufficient resources provided for the safety to the dam, irrespective of its funding sources or construction status. The Bank distinguishes between small and large dams. Small dams are normally less than 15 m in height; this category includes, for example, farm ponds, local silt retention dams, and low embankment tanks. For small dams, generic dam safety measures designed by qualified engineers are usually adequate. This policy does not apply to SESP since the policy is not triggered under the project.

• **Projects on International Waterways (O 7.50).** The Bank recognizes that the cooperation and good will of riparians is essential for the efficient utilization and protection of international waterways and attaches great importance to riparians making appropriate agreements or arrangement for the entire waterway or any part thereof. Projects that trigger this policy include hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial, and similar projects that involve the use or potential pollution of international waterways. This policy will not apply to SESP.
• **Disputed Areas (OP/BP/GP 7.60).** Project in disputed areas may occur between the Bank and its member countries as well as between the borrower and one or more neighbouring countries. Any dispute over an area in which a proposed project is located requires formal procedures at the earliest possible stage. The Bank attempts to acquire assurance that it may proceed with a project in a disputed area if the governments concerned agree that, pending the settlement of the dispute, the project proposed can go forward without prejudice to the claims of the country having a dispute. This policy is not expected to be triggered by sub-projects. This policy is unlikely to be triggered by sub-projects to be funded by SESP.

**Annex 2: Environmental and Social Screening (ESS) of sub-projects**

This stage marks the beginning of the ESIA or ESMP process, which should be initiated as early as possible along with the sub-project planning process after the sub-project is conceived. During this stage, the important functions that need to be performed are:

i. Establish the likely study area by identifying broad boundaries for the sub-project;
ii. Make a preliminary assessment of the significance of potential environmental impacts, and likely mitigating measures;
iii. Identify possible alternatives and the major potential environmental impacts associated with each, as well as the likely corresponding mitigation measures;
iv. Estimate the extent and scope of ESIA to be performed, and offer an initial recommendation as to whether a full ESIA is required;
v. Estimate the time frame of the ESIA study;
vi. Identify the expertise and human resources needed for the ESIA study; and
vii. Prepare the terms of reference for the conduct of an initial environmental examination.

The value of conducting environmental and social screening at the early conception and planning phase of a development project is to provide useful technical input to the project team for their planning and budgeting, thereby eliminating the possibility of costly remedial environmental work and delays caused by problems with adverse environmental damage. Such early input on environmental considerations also provides useful information that helps the project team to gain government approval and win public acceptance.

The environmental and social screening process considers the following aspects in the recommendation: project type, environmental and social setting, and magnitude and significance of potential environmental and social impacts. Some of the typical questions asked in the environmental and social screening process are outlined in the figure in the next page.
Annex Figure 1: Typical Environmental Screening Procedure
Standard Format for Screening Report

1. GENERAL DESCRIPTION
   1.1. Overview of the study area
   1.2. List of Selected Schools

2. PROJECT-SPECIFIC SCREENING (FOR EACH SUB-PROJECT):
   2.1. Existing infrastructure
   2.2. Proposed Works
   2.3. Estimated Cost
   2.4. Summary of Environmental and Social Issues
      2.4.1. Land Resources
      2.4.2. Hydrology and Water Resources
      2.4.3. Air and Noise
      2.4.4. Biological Resources
      2.4.5. Socio-Economic and Cultural
         2.4.5.1. Population
         2.4.5.2. Employment and Other Benefits
         2.4.5.3. Resettlement
         2.4.5.4. Other site-specific issues
   2.5. Environmental Screening Category
   2.6. Applicable Safeguard Policies

3. ESMP ACTION PLAN

4. ATTACHMENTS
   4.1. Maps
   4.2. Photos
   4.3. Location and Administrative Maps
   4.4. Environmental and Social Checklist
Annex Table 1: Environmental and Social Checklist for Screening Report

<table>
<thead>
<tr>
<th>Local Government:</th>
<th>Ward:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Name:</td>
<td>Address:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issue</th>
<th>Degree*</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Resources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worksite/Campsite Areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavation Areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposal Areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
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<tr>
<td><strong>Water Resources &amp; Hydrology</strong></td>
<td></td>
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<tr>
<td>Sources of Water for Construction</td>
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<tr>
<td>Drainage Issues</td>
<td></td>
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<tr>
<td>Others</td>
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<tr>
<td><strong>Biological Resources</strong></td>
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<tr>
<td>Special Trees/Vegetation around</td>
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<tr>
<td>Protected Areas directly affected</td>
<td></td>
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<tr>
<td>Others</td>
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<tr>
<td><strong>Air Quality &amp; Noise</strong></td>
<td></td>
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<tr>
<td>Special issues (e.g. quiet zone for hospital)</td>
<td></td>
<td></td>
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<tr>
<td>Residential Areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Socio-Economic &amp; Cultural</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Involuntary Resettlement**</td>
<td></td>
<td></td>
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<tr>
<td>Graveyards and Sacred Areas affected</td>
<td></td>
<td></td>
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<tr>
<td>Cultural Resources</td>
<td></td>
<td></td>
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<tr>
<td>Population affected/provided access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Degree:  
N = Negligible or Not Applicable  
L = Low  
M = Moderate  
H = High

**If yes, indicate # of persons likely to be affected and nature of the effect
Annex 3: Standard Format for Environmental and Social Management Plan (ESMP)

EXECUTIVE SUMMARY

1 PROJECT DESCRIPTION

1.1. Overview of the Local Government where the school are located
1.2. List of Selected Schools
1.3. Environmental Screening Category

2 POLICY AND ADMINISTRATIVE AND LEGAL FRAMEWORK

3 SCHOOL-SPECIFIC ESMPs (FOR EACH SCHOOL):

3.1. Location
3.2. Proposed Works
3.3. Estimated Cost
3.4. Baseline Data
  3.4.1. Land Resources
  3.4.2. Hydrology and Water Resources
  3.4.3. Air and Noise
  3.4.4. Biological Resources
  3.4.5. Socio-Economic and Cultural
3.5. Potential Impacts
  3.5.1. Land Resources
    3.5.1.1. Construction Phase
    3.5.1.2. Post Construction Phase
  3.5.2. Hydrology and Water Resources
    3.5.2.1. Construction Phase
    3.5.2.2. Post Construction Phase
  3.5.3. Air Quality and Noise
    3.5.3.1. Construction Phase
    3.5.3.2. Post Construction Phase
  3.5.4. Biological Resources
    3.5.4.1. Construction Phase
    3.5.4.2. Post Construction Phase
  3.5.5. Socio-Economic and Cultural
    3.5.5.1. Construction Phase
    3.5.5.2. Post Construction Phase
3.6. Analysis of Alternatives
3.7. Mitigation Measures
  3.7.1. Construction Phase
  3.7.2. Post Construction Phase
3.8. Monitoring and Supervision Arrangements
3.9. Summary ESMP Table

4 ATTACHMENTS

4.1. Photos
4.2. Summary of Consultations and Disclosure
4.3. Other
## Annex 4: Guidance on Environmental and Social Management Plan (ESMP) by Project Phases

<table>
<thead>
<tr>
<th>Phases</th>
<th>Issue/Potential Impact</th>
<th>Mitigation Measure(s)</th>
<th>Implementing Responsibility</th>
<th>Monitoring Responsibility</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Phase</td>
<td>Impacts on physical environment: air quality, hydrology, waste, soils, noise</td>
<td>Consider the impact of the construction activities on the physical environment for the design of civil works</td>
<td>Design Consultant</td>
<td>PIC</td>
<td>To be determined</td>
</tr>
</tbody>
</table>
| Impact on Air Quality: Emission of dust and other pollutants | Bid document will include requirement to ensure:  
- Adequate watering for dust control  
- Prohibition of open burning  
- Ensure stockpile of materials are properly secured  
- Proper unloading/storage of construction materials  
- On-site mixing of materials in shielded area  
- Equipment and materials to be properly covered during transportation. | Design Consultant | PIC | To be determined |
| Noise impact | Bid document to include requirement to ensure:  
- Noise silencers be installed on all exhaust system  
- Use of ear plugs for construction workers  
- Equipment placed as far as possible from sensitive land users. | Design Consultant | ESMU/PIC | To be determined |
| Impact on hydrology: Degradation of surface water quality | The contract document should specify:  
- use of good engineering practice during construction, including adequate supervision  
- Minimal water usage in construction area  
- Minimal soil exposure time during construction  
- Minimal chemical usage (lubricants, solvents, petroleum products. | Design Consultant | ESMU/PIC | To be determined |
| Alteration of surface drainage | Contract document to include requirement to ensure:  
- installation of adequately sized drainage channels  
- stabilization of slopes to avoid erosion | Design Consultant | ESMU/PIC | To be determined |
| Waste generation and disposal (solid/oily/hazardous) | Contract document to include requirement to ensure:  
- Provision of waste management plan.  
- Proper handling and disposal/recycling of oily waste | Design Consultant | ESMU/PIC | To be determined |
| Impact on Soil: Increased soil erosion | Contract document to include requirement to ensure:  
- Use of less erodible materials,  
- Lined down-drains to prevent erosion | Design Consultant | ESMU/PIC | To be determined |
<table>
<thead>
<tr>
<th>Phases</th>
<th>Issue/Potential Impact</th>
<th>Mitigation Measure(s)</th>
<th>Implementing Responsibility</th>
<th>Monitoring Responsibility</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socioeconomic Impact: Disruption during work-demand for local infrastructure increase</td>
<td>- Avoid the creation of congested and unsafe road conditions at intersections and in villages or cities.</td>
<td>Design Consultant</td>
<td>ESMU/PIC</td>
<td>To be determined</td>
<td></td>
</tr>
<tr>
<td>Disruption to traditional lifestyles and other services</td>
<td>- Ensures access to homes, businesses, other key services</td>
<td>Design Consultant</td>
<td>ESMU/PIC</td>
<td>To be determined</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>Impact on Air Quality: Emission of dust and other pollutants</td>
<td>- Periodically use water to spray areas under construction - Construction workers to wear face masks and gloves - Ensure that all equipment and materials loaded on trucks are covered during transportation</td>
<td>Contractor, Supervising consultant</td>
<td>ESMU/PIC</td>
<td>To be determined</td>
</tr>
<tr>
<td>Noise Impact</td>
<td>- Noise standards to be enforced to protect construction workers - Ensure that silencers are installed on all exhaust systems. - Ear plugs to be worn by construction workers - Turn off construction equipment when not in use</td>
<td>Contractor, Supervising consultant</td>
<td>ESMU/PIC</td>
<td>To be determined</td>
<td></td>
</tr>
<tr>
<td>Impact on hydrology: Degradation of surface water quality</td>
<td>- Use good engineering practice during construction - Ensure wastewater from cleaning of equipment is not disposed of in water course. - Wastewater should be collected and treated suitably before being disposed of in water courses. - Ensure minimal use of water in construction area - Minimal soil exposure time during construction</td>
<td>Contractor, Supervising consultant</td>
<td>ESMU/PIC</td>
<td>To be determined</td>
<td></td>
</tr>
<tr>
<td>Alteration of surface drainage</td>
<td>- Install adequately sized drainage channels - Ensure stabilization of slopes to avoid erosion</td>
<td>Contractor, Supervising consultant</td>
<td>ESMU/PIC</td>
<td>To be determined</td>
<td></td>
</tr>
<tr>
<td>Solid waste generation and disposal</td>
<td>- Ensure all waste earth and materials associated with construction activities are disposed land without prior consent of PPT. - Daily life rubbish and waste materials associated with construction activities should be daily collected and disposed of in suitable approved dumpsites.</td>
<td>Contractor, Supervising consultant</td>
<td>ESMU/PIC</td>
<td>To be determined</td>
<td></td>
</tr>
<tr>
<td>Phases</td>
<td>Issue/Potential Impact</td>
<td>Mitigation Measure(s)</td>
<td>Implementing Responsibility</td>
<td>Monitoring Responsibility</td>
<td>Cost</td>
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</tr>
<tr>
<td></td>
<td>Poor sanitation at sites</td>
<td>- Ensure that solid wastes are not disposed of in water courses.</td>
<td>Contractor</td>
<td>ESMU/PIC</td>
<td></td>
</tr>
</tbody>
</table>
|                             | Accidental spill of toxic material/oil          | - Design and implement safety measures  
- Provide an emergency plan to contain accidental spill                                                                                                                                                                   | Contractor                   | ESMU/PIC                  |                      |
|                             | Impact on Soil:  
Increased soil erosion | - Avoid erosion of cuts and fills by providing proper drainage.  
- Lined down-drains to prevent erosion                                                                                                                                                                                 | Contractor, Supervising Consultant | ESMU/PIC                  |                      |
|                             | Impact on vegetation                           | - Replanting of land within project area.                                                                                                                                                                                | Contractor, Supervising Consultant | ESMU/PIC                  |                      |
|                             | Health and Safety Impact                        | - Ensure adequate health facility systems are in place on-site to deal with influx of temporary workers.  
- Ensure use of nets, insect repellent and other malaria preventive measure for workers on site.  
- Health education about STDs should be introduced.  
- Training of construction crew and supervisors on health and safety guidelines  
- Personal protective equipment to be worn by all workers.                                                                                                                                                   | Contractor, Supervising Consultant | ESMU/PIC                  |                      |
|                             | Socioeconomic Impact:  
Loss of property | - Avoid or reduce loss of property  
- Avoid land where farmers will be displaced.                                                                                                                                                                           | Contractor                   | Supervising Consultant/ESMU | To be determined      |
Annex 5: Procedures for determining sub-projects requiring an ESIA

Step 1: Screening

To determine the depth of ESIA required, potential impacts in the following areas need to be considered:

♦ Social issues
♦ Health issues
♦ Protected areas
♦ Cultural heritage
♦ Existing natural resources such as forests, soils, wetlands, water resources
♦ Wildlife or endangered species habitats

Step 2: Scoping

To identify the relevant environmental and social issues, this step determines:

♦ Level of detail required for the ESIA
♦ Extent of the area to be covered in light of the potential impact zones
♦ Timeframe for the ESIA based on the potential impact zones
♦ Sequencing and scheduling of the various ESIA tasks
♦ Preliminary budgets

Step 3: Preparation of Terms of Reference for Sub-project ESIsAs

Based on the screening and scoping results. ESIA terms of reference will be prepared. A local consultant will conduct the ESIA and the report should have the following format:

♦ Description of the study area
♦ Description of the sub-project
♦ Legislative and regulatory considerations
♦ Determination of the potential impacts of the proposed sub-projects
♦ Environmental Management Plan
♦ Public consultations process
♦ Development of mitigation measures and a monitoring plan, including cost estimates.
Annex 6: General Environmental Management Conditions for Construction Contracts

**General**

1. In addition to these general conditions, the Contractor shall comply with any specific Environmental Management Plan (EMP) or Environmental and Social Management Plan (ESMP) for the works he is responsible for. The Contractor shall inform himself about such an EMP, and prepare his work strategy and plan to fully take into account relevant provisions of that EMP. If the Contractor fails to implement the approved EMP after written instruction by the Supervising Engineer (SE) to fulfil his obligation within the requested time, the Owner reserves the right to arrange through the SE for execution of the missing action by a third party on account of the Contractor.

2. Notwithstanding the Contractor’s obligation under the above clause, the Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in an EMP. In general these measures shall include but not be limited to:

   a) Minimize the effect of dust on the surrounding environment resulting from earth mixing sites, asphalt mixing sites, dispersing coal ashes, vibrating equipment, temporary access roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity dust producing activities.

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

   c) Ensure that existing water flow regimes in rivers, streams and other natural or irrigation channels is maintained and/or re-established where they are disrupted due to works being carried out.

   d) Prevent bitumen, oils, lubricants and waste water used or produced during the execution of works from entering into rivers, streams, irrigation channels and other natural water bodies/reservoirs, and also ensure that stagnant water in uncovered borrow pits is treated in the best way to avoid creating possible breeding grounds for mosquitoes.

   e) Prevent and minimize the impacts of quarrying, earth borrowing, piling and building of temporary construction camps and access roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. In as much as possible restore/rehabilitate all sites to acceptable standards.

   f) Upon discovery of ancient heritage, relics or anything that might or believed to be of archaeological or historical importance during the execution of works, immediately report such findings to the SE so that the appropriate authorities may be expeditiously contacted for fulfilment of the measures aimed at protecting such historical or archaeological resources.

   g) Discourage construction workers from engaging in the exploitation of natural resources such as hunting, fishing, and collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities.

   h) Implement soil erosion control measures in order to avoid surface run off and prevents siltation, etc.

   i) Ensure that garbage, sanitation and drinking water facilities are provided in construction worker camps.

   j) Ensure that, in as much as possible, local materials are used to avoid importation of foreign material and long distance transportation.
k) Ensure public safety, and meet traffic safety requirements for the operation of work to avoid accidents.

3 The Contractor shall indicate the period within which he/she shall maintain status on site after completion of civil works to ensure that significant adverse impacts arising from such works have been appropriately addressed.

4 The Contractor shall adhere to the proposed activity implementation schedule and the monitoring plan/strategy to ensure effective feedback of monitoring information to project management so that impact management can be implemented properly, and if necessary, adapt to changing and unforeseen conditions.

5 Besides the regular inspection of the sites by the SE for adherence to the contract conditions and specifications, the Owner may appoint an Inspector to oversee the compliance with these environmental conditions and any proposed mitigation measures. State environmental authorities may carry out similar inspection duties. In all cases, as directed by the SE, the Contractor shall comply with directives from such inspectors to implement measures required to ensure the adequacy rehabilitation measures carried out on the bio-physical environment and compensation for socio-economic disruption resulting from implementation of any works.

**Worksite/Campsite Waste Management**

6 All vessels (drums, containers, bags, etc.) containing oil/fuel/surfacing materials and other hazardous chemicals shall be bunded in order to contain spillage. All waste containers, litter and any other waste generated during the construction shall be collected and disposed off at designated disposal sites in line with applicable government waste management regulations.

7 All drainage and effluent from storage areas, workshops and camp sites shall be captured and treated before being discharged into the drainage system in line with applicable government water pollution control regulations.

8 Used oil from maintenance shall be collected and disposed off appropriately at designated sites or be re-used or sold for re-use locally.

9 Entry of runoff to the site shall be restricted by constructing diversion channels or holding structures such as banks, drains, dams, etc. to reduce the potential of soil erosion and water pollution.

10 Construction waste shall not be left in stockpiles along the road, but removed and reused or disposed of on a daily basis.

11 If disposal sites for clean spoil are necessary, they shall be located in areas, approved by the SE, of low land use value and where they will not result in material being easily washed into drainage channels. Whenever possible, spoil materials should be placed in low-lying areas and should be compacted and planted with species indigenous to the locality.

**Material Excavation and Deposit**

12 The Contractor shall obtain appropriate licenses/permits from relevant authorities to operate quarries or borrow areas.

13 The location of quarries and borrow areas shall be subject to approval by relevant local and national authorities, including traditional authorities if the land on which the quarry or borrow areas fall in traditional land.

14 New extraction sites:

   a) Shall not be located in the vicinity of settlement areas, cultural sites, wetlands or any other valued ecosystem component, or on high or steep ground or in areas of high scenic value, and shall not be located less than 1km from such areas.
b) Shall not be located adjacent to stream channels wherever possible to avoid siltation of river channels. Where they are located near water sources, borrow pits and perimeter drains shall surround quarry sites.

c) Shall not be located in archaeological areas. Excavations in the vicinity of such areas shall proceed with great care and shall be done in the presence of government authorities having a mandate for their protection.

d) Shall not be located in forest reserves. However, where there are no other alternatives, permission shall be obtained from the appropriate authorities and an environmental impact study shall be conducted.

e) Shall be easily rehabilitated. Areas with minimal vegetation cover such as flat and bare ground, or areas covered with grass only or covered with shrubs less than 1.5m in height, are preferred.

f) Shall have clearly demarcated and marked boundaries to minimize vegetation clearing.

15 Vegetation clearing shall be restricted to the area required for safe operation of construction work. Vegetation clearing shall not be done more than two months in advance of operations.

16 Stockpile areas shall be located in areas where trees can act as buffers to prevent dust pollution. Perimeter drains shall be built around stockpile areas. Sediment and other pollutant traps shall be located at drainage exits from workings.

17 The Contractor shall deposit any excess material in accordance with the principles of these general conditions, and any applicable EMP, in areas approved by local authorities and/or the SE.

18 Areas for depositing hazardous materials such as contaminated liquid and solid materials shall be approved by the SE and appropriate local and/or national authorities before the commencement of work. Use of existing, approved sites shall be preferred over the establishment of new sites.

Rehabilitation and Soil Erosion Prevention

19 To the extent practicable, the Contractor shall rehabilitate the site progressively so that the rate of rehabilitation is similar to the rate of construction.

20 Always remove and retain topsoil for subsequent rehabilitation. Soils shall not be stripped when they are wet as this can lead to soil compaction and loss of structure.

21 Topsoil shall not be stored in large heaps. Low mounds of no more than 1 to 2m high are recommended.

22 Re-vegetate stockpiles to protect the soil from erosion, discourage weeds and maintain an active population of beneficial soil microbes.

23 Locate stockpiles where they will not be disturbed by future construction activities.

24 To the extent practicable, reinstate natural drainage patterns where they have been altered or impaired.

25 Remove toxic materials and dispose of them in designated sites. Backfill excavated areas with soils or overburden that is free of foreign material that could pollute groundwater and soil.

26 Identify potentially toxic overburden and screen with suitable material to prevent mobilization of toxins.

27 Ensure reshaped land is formed so as to be inherently stable, adequately drained and suitable for the desired long-term land use, and allow natural regeneration of vegetation.

28 Minimize the long-term visual impact by creating landforms that are compatible with the adjacent landscape.
29 Minimize erosion by wind and water both during and after the process of reinstatement.

30 Compacted surfaces shall be deep ripped to relieve compaction unless subsurface conditions dictate otherwise.

31 Re-vegetate with plant species that will control erosion, provide vegetative diversity and, through succession, contribute to a resilient ecosystem. The choice of plant species for rehabilitation shall be done in consultation with local research institutions, forest department and the local people.

**Water Resources Management**

32 The Contractor shall at all costs avoid conflicting with water demands of local communities.

33 Abstraction of both surface and underground water shall only be done with the consultation of the local community and after obtaining a permit from the relevant Water Authority.

34 Abstraction of water from wetlands shall be avoided. Where necessary, authority has to be obtained from relevant authorities.

35 Temporary damming of streams and rivers shall be done in such a way avoids disrupting water supplies to communities down stream, and maintains the ecological balance of the river system.

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

37 Wash water from washing out of equipment shall not be discharged into water courses or road drains.

38 Site spoils and temporary stockpiles shall be located away from the drainage system, and surface run off shall be directed away from stockpiles to prevent erosion.

**Traffic Management**

39 Location of access roads/detours shall be done in consultation with the local community especially in important or sensitive environments. Access roads shall not traverse wetland areas.

40 Upon the completion of civil works, all access roads shall be ripped and rehabilitated.

41 Access roads shall be sprinkled with water at least five times a day in settled areas, and three times in unsettled areas, to suppress dust emissions.

**Disposal of Unusable Elements**

42 Unusable materials and construction elements such as electro-mechanical equipment, pipes, accessories and demolished structures will be disposed of in a manner approved by the SE. The Contractor has to agree with the SE which elements are to be surrendered to the Client’s premises, which will be recycled or reused, and which will be disposed of at approved landfill sites.

43 As far as possible, abandoned pipelines shall remain in place. Where for any reason no alternative alignment for the new pipeline is possible, the old pipes shall be safely removed and stored at a safe place to be agreed upon with the SE and the local authorities concerned.

44 AC-pipes as well as broken parts thereof have to be treated as hazardous material and disposed of as specified above.

45 Unsuitable and demolished elements shall be dismantled to a size fitting on ordinary trucks for transport.

**Health and Safety**

46 In advance of the construction work, the Contractor shall mount an awareness and hygiene campaign. Workers and local residents shall be sensitized on health risks particularly of AIDS.
47 Adequate road signs to warn pedestrians and motorists of construction activities, diversions, etc. shall be provided at appropriate points.

48 Construction vehicles shall not exceed maximum speed limit of 40km per hour.

**Repair of Private Property**

49 Should the Contractor, deliberately or accidentally, damage private property, he shall repair the property to the owner’s satisfaction and at his own cost. For each repair, the Contractor shall obtain from the owner a certificate that the damage has been made good satisfactorily in order to indemnify the Client from subsequent claims.

50 In cases where compensation for inconveniences, damage of crops etc. are claimed by the owner, the Client has to be informed by the Contractor through the SE. This compensation is in general settled under the responsibility of the Client before signing the Contract. In unforeseeable cases, the respective administrative entities of the Client will take care of compensation.

**Contractor’s Health, Safety and Environment Management Plan (HSE-MP)**

51 Within 6 weeks of signing the Contract, the Contractor shall prepare an EHS-MP to ensure the adequate management of the health, safety, environmental and social aspects of the works, including implementation of the requirements of these general conditions and any specific requirements of an EMP for the works. The Contractor’s EHS-MP will serve two main purposes:

- For the Contractor, for internal purposes, to ensure that all measures are in place for adequate HSE management, and as an operational manual for his staff.
- For the Client, supported where necessary by a SE, to ensure that the Contractor is fully prepared for the adequate management of the HSE aspects of the project, and as a basis for monitoring of the Contractor’s HSE performance.

52 The Contractor’s EHS-MP shall provide at least:

- a description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in an EMP;
- a description of specific mitigation measures that will be implemented in order to minimize adverse impacts;
- a description of all planned monitoring activities (e.g. sediment discharges from borrow areas) and the reporting thereof; and
- the internal organizational, management and reporting mechanisms put in place for such.

53 The Contractor’s EHS-MP will be reviewed and approved by the Client before start of the works. This review should demonstrate if the Contractor’s EHS-MP covers all of the identified impacts, and has defined appropriate measures to counteract any potential impacts.

**HSE Reporting**

54 The Contractor shall prepare bi-weekly progress reports to the SE on compliance with these general conditions, the project EMP if any, and his own EHS-MP. An example format for a Contractor HSE report is given below. It is expected that the Contractor’s reports will include information on:

- HSE management actions/measures taken, including approvals sought from local or national authorities;
- Problems encountered in relation to HSE aspects (incidents, including delays, cost consequences, etc. as a result thereof);
• Lack of compliance with contract requirements on the part of the Contractor;
• Changes of assumptions, conditions, measures, designs and actual works in relation to HSE aspects; and
• Observations, concerns raised and/or decisions taken with regard to HSE management during site meetings.

55 It is advisable that reporting of significant HSE incidents be done “as soon as practicable”. Such incident reporting shall therefore be done individually. Also, it is advisable that the Contractor keeps his own records on health, safety and welfare of persons, and damage to property. It is advisable to include such records, as well as copies of incident reports, as appendixes to the bi-weekly reports. Example formats for an incident notification and detailed report are given below. Details of HSE performance will be reported to the Client through the SE’s reports to the Client.

Training of Contractor’s Personnel

56 The Contractor shall provide sufficient training to his own personnel to ensure that they are all aware of the relevant aspects of these general conditions, any project EMP, and his own EHS-MP, and are able to fulfil their expected roles and functions. Specific training should be provided to those employees that have particular responsibilities associated with the implementation of the EHS-MP. General topics should be:
• HSE in general (working procedures);
• emergency procedures; and
• social and cultural aspects (awareness raising on social issues).

Cost of Compliance

57 It is expected that compliance with these conditions is already part of standard good workmanship and state of art as generally required under this Contract. The item “Compliance with Environmental Management Conditions” in the Bill of Quantities covers these costs. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable HSE impact.
Example Format: HSE Report

Contract:

Period of reporting:

HSE Management Actions/Measures:
Summarize HSE management actions/measures taken during period of reporting, including planning and management activities (e.g. risk and impact assessments), HSE training, specific design and work measures taken, etc.

HSE Incidents:
Report on any problems encountered in relation to HSE aspects, including its consequences (delays, costs) and corrective measures taken. Include relevant incident reports.

HSE Compliance:
Report on compliance with Contract HSE conditions, including any cases of non-compliance.

Changes:
Report on any changes of assumptions, conditions, measures, designs and actual works in relation to HSE aspects.

Concerns and Observations:
Report on any observations, concerns raised and/or decisions taken with regard to HSE management during site meetings and visits.

Signature (Name, Title Date):
Contractor Representative
Example Format: HSE Incident Notification

Provide within 24 hrs to the Supervising Engineer

Originators Reference No:

Date of Incident: Time:

Location of incident:

Name of Person(s) involved:

Employing Company:

Type of Incident:

Description of Incident:
Where, when, what, how, who, operation in progress at the time (only factual)

Immediate Action:
Immediate remedial action and actions taken to prevent reoccurrence or escalation

Signature (Name, Title, Date):
Contractor Representative