REPUBLIC OF THE GAMBIA

THIRD EDUCATION PROJECT

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

PRESENTED TO

PROJECT COORDINATION UNIT

BY

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>BDO</td>
<td>Biochemical Oxygen Demand</td>
</tr>
<tr>
<td>COD</td>
<td>Chemical Oxygen Demand</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>EFP</td>
<td>Environmental Focal Point</td>
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<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<tr>
<td>EMP</td>
<td>Environmental Management Plan</td>
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<tr>
<td>ESSF</td>
<td>Environmental and Social Screening Form</td>
</tr>
<tr>
<td>GEAP</td>
<td>Gambia’s Environmental Action Plan</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>LBC</td>
<td>Lower Basic School</td>
</tr>
<tr>
<td>NAA</td>
<td>Non-Governmental Organisation Affairs Agency</td>
</tr>
<tr>
<td>NEMA</td>
<td>National Environment Management Act</td>
</tr>
<tr>
<td>NEMAC</td>
<td>National Environmental Management Council</td>
</tr>
<tr>
<td>NEMP</td>
<td>National Environmental Management Programme</td>
</tr>
<tr>
<td>NEA</td>
<td>National Environment Agency</td>
</tr>
<tr>
<td>NGO</td>
<td>Non governmental organization</td>
</tr>
<tr>
<td>OP</td>
<td>Operational Policy</td>
</tr>
<tr>
<td>PCU</td>
<td>Project Coordination Unit</td>
</tr>
<tr>
<td>RAP</td>
<td>Resettlement Action Plan</td>
</tr>
<tr>
<td>RETF</td>
<td>Regional Environmental Task Force</td>
</tr>
<tr>
<td>RPF</td>
<td>Resettlement Policy Framework</td>
</tr>
<tr>
<td>SSS</td>
<td>Senior Secondary School</td>
</tr>
<tr>
<td>TAC</td>
<td>Technical Advisory Committee</td>
</tr>
<tr>
<td>TANGO</td>
<td>The Association of Non-Governmental Organisations</td>
</tr>
<tr>
<td>TEP</td>
<td>Third Education Project</td>
</tr>
<tr>
<td>TOR</td>
<td>Terms of Reference</td>
</tr>
<tr>
<td>UBC</td>
<td>Upper Basic School</td>
</tr>
<tr>
<td>VDC</td>
<td>Village Development Committee</td>
</tr>
<tr>
<td>WB</td>
<td>World Bank</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

BACKGROUND
The Government of the Republic of Gambia through the department of State for Education is preparing the third phase of its education programme aimed at improvement of educational standards throughout the country irrespective of gender or age.

PROJECT COMPONENTS

Basic Education: The purpose of this component is to enhance enrolment and quality at the basic level by increasing access to Early Childhood Education, and the universalization of basic education and improvement of quality and relevance. With an extended basic education system, this component also aims for an increased access to relevant and high quality adult and non-formal education.

Secondary Education: This component is geared towards an improved access to relevant and quality secondary education through the provision of a curriculum that is responsive to the socioeconomic needs of the country, ensuring gender parity and attainment of minimum grade level competency.

Tertiary and Higher Education: This component’s purpose is to improve access to relevant quality tertiary education through the integration of tertiary institutions under the umbrella of the University of The Gambia to ensure effective and efficient service delivery for an increased number of Gambians.

Technical and Vocational Education and Training: The component aims for an improved access to and quality of technical and vocational education and training by increasing access to relevant programmes that are locally accredited.

Quality Assurance: As a corner stone to the policy, this component is aimed at improving learning outcomes through the provision of adequate and appropriate teaching learning materials and ensuring its effective usage to enhance grade level competency and mastery.

Sector Management: The component is tasked to ensure that effective and efficient delivery of education services is achieved.

Objectives of the Environmental and Social Management Framework (ESMF)
The objective of this Environmental and Social Management Framework (ESMF) is to provide an environmental and social screening process to allow for the identification, assessment and mitigation of potential negative environmental and social impacts related to the Education Programme. Whilst this third education project does not appear at first sight not to present any major environmental or social concerns, the consultant’s mission has shown that the level of monitoring of environmental and social impacts subsequent to provision of infrastructure and services was inadequate.

The consultant, on the basis of this mission has identified a number of environmentally unsound practices on the completed education infrastructure and services and has made a certain number of recommendations to redress the conditions prevailing in a lot of the schools in the country and in conformity with NEMA and World Bank policies.

Methodology used to prepare the ESMF
The present ESMF was prepared based on existing general literature, among them: Gambian Environmental Impact Assessment Guidelines, and the World Bank’s Safeguard Policies. Besides these documents, a lot of consultations with various stakeholders, including communities and the general public, were undertaken before writing the framework.
The Screening Process
The different stages of the environmental and social screening process are summarized in the following paragraphs. The scope of the environmental and social measures required for the education project activities will be dependent on the results of the screening process. Thus, the results will determine whether

(a) No environmental work will be required;
(b) The implementation of simple mitigation measures will suffice; or
(c) A separate EIA will be required.

ENVIRONMENTAL AND SOCIAL IMPACTS
Under this project physical environmental impacts will result mainly from the construction of infrastructure and the related services such as water and sanitation and activities such as small scale agricultural production, agricultural activities, etc.).

These environmental and social impacts occur prior to, during and after construction of the main educational infrastructure and the associated services such as water and sanitation.

The main concerns prior to construction are:
- land acquisition resulting in relocation of persons or loss of land and related assets or access to services, alienation engendering morbidity or distress to cite only these,
- loss of vegetation, soil erosion, dislocation of natural waterways or drainage systems or the destruction of natural habitats for various fauna, displacement of indigenous people and destruction of protected sites prior to construction.
- The generation of all manner of solid and liquid wastes, increased dust and noise pollution during construction and notably the use of toxic and other hazardous materials,
- Failure to restore the sites to at least their previous condition in respect to vegetation cover and protection by fences from unwanted encroachment.

As regards the land acquisition issue, specifically on resettlement and its consequences, this is dealt with in separate framework document (RPF) incorporation the existing Gambia Government and World Bank prescriptions on the measures to be taken by the project to avoid the negative social impacts or to redress these impacts where unavoidable.

National Environmental legislation
At national level, there are various legal instruments in place are:
- The National Environmental Management Act,
- EIA regulations, related on the process of IEA.

World Bank’s Safeguard Policies
A list of the policies is contained in the main report. Suffices to say that:
- OP 4.01, Environmental Assessment,
- OP4.04, Natural Habitats,
- OP4.09, Pest Management,
- OP4.10, Indigenous People
- OP4.11, Cultural Heritage,
- OP4.12, Involuntary Settlement,
- OP4.36, Forests,

could well be triggered by this project and other non-bank funded projects if the screening process is not cognizant of the negative impacts and the mitigating measures associated with them.
<table>
<thead>
<tr>
<th>Stages</th>
<th>Responsibilities</th>
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</thead>
<tbody>
<tr>
<td>1. Screening of teaching facilities and related water supply and sanitation systems at each of the sites of these facilities, using the Environmental and Social Screening Form (Annex 1)</td>
<td>Environmental Focal Point located Project Construction Unit in collaboration with Gamworks.</td>
</tr>
<tr>
<td>2. Assigning the appropriate Environmental Categories (A, B, or C)</td>
<td>Environmental Focal Point located in MDFT in each division</td>
</tr>
<tr>
<td>3. Carrying out Environmental Work, i.e. implementing simple mitigation measures (Annex 2), or, carrying out a separate EIA</td>
<td>Environmental Focal Point located Project Construction Unit in collaboration with Gamworks.</td>
</tr>
<tr>
<td>4. Review and Approval</td>
<td>NEA</td>
</tr>
</tbody>
</table>
| 4.1 Approval of (i) the screening results; (ii) the assigned environmental category; and (iii) recommendations of the EFP | • The EFP will (i) draft EIA terms of reference; (ii) prepare criteria analysis and analyse proposed candidatures; (iii) select the most qualified consultant and submit it to the approval of coordinator of the project coordination unit; (iv) lead the public consultations; and (v) lead the EIA/ESMP authorization procedure by the NEA.  
• The Project Coordination Unit approves the selection of the consultant. |
| 4.2 Selection of the consultant in case of the need for a separate EIA | Authorized Consultant.                                                                                                                             |
| 4.3 Carrying out the Environmental Impact Assessment (EIA)           | NEA                                                                                                                                               |
| 4.4 Approval of environmental assessment                            | Environmental Focal Point located in each division                                                                                               |
| 5. Public consultations and disclosure                              |                                                                                                                                                  |
| 6. Monitoring                                                        | - at regional level, by the cluster monitors and Directors.                                                                                    |
| 7. Environmental and Social Indicators                              | The EFP in each region will ensure that the environmental and social monitoring indicators listed in the ESMF are included in project’s monitoring program and followed regularly. |
Environmental Management Plan (EMP)
An Environmental Management Plan (EMP) for the project is intended to ensure efficient environmental management of the Project. Thus, the EMP lists:
(a) the relevant project activities,
(b) the potential negative environmental and social impacts,
(c) the proposed mitigation measures,
(d) those who will be responsible for implementing the mitigation measures,
(e) those who will monitor the implementation of the mitigation measures,
(f) the frequency of the afore-mentioned measures,
(g) capacity building needs and
(h) the cost estimates for these activities.

The EMP will be included in Education Project Implementation Manual, with costs.

Capacity building
Capacity for environmental management and monitoring will be required at the national and regional levels. It is therefore important that the project organises workshops and seminars to impart the basic requirements on screening, EA and EIA at the level of regional directorates and their cluster monitors as well as at the PCU, its Construction Unit and Gamworks in order to sustain the environmental and social management process over the foreseeable future.

INSTITUTIONS RESPONSIBLE FOR MANAGEMENT AND MONITORING
After much thought, the consultant felt that the planning and construction units of the PCU as well as the regional directorates are the key institutions to manage and monitor the measures put in place to avoid the adverse effects that could emanate from this education sector project:

National Regional Coordination/Supervision
- In each region, the Environmental Focal Point l will be responsible for completing the environmental and social screening lists (Annex 1); the environmental and social checklists (Annex 2); and determining the environmental category of the screened activity to be able to identify and mitigate the potential environmental and social impacts of construction and rehabilitation activities. As required, he/will receive environmental training to be able to carry out this task.
- The Environmental Focal Point will ensure that the supervision and overseeing of the implementation of mitigation measures are adhered to by the private contractors.

Implementation
- Individual consultants or consultancy firms will be responsible for carrying out the EIA studies;
- The private contractors are responsible for the implementation of the mitigation measures as indicated in the Environmental Guidelines for Contractors (Annex 4).

Monitoring
- At regional level

The Regional Directors and their cluster monitors and Gamworks will, in a consistent manner report to the PCU any deviation on the norms set out in the environmental and social management plan.
- At national level,
NEA will supervise the implementation of these environmental measures.
1. INTRODUCTION

1.1 Background
The Government of The Gambia’s Poverty Reduction Strategy Paper issued in June 2002 included a detailed assessment of poverty in the country. It noted that despite being on the increase in urban areas, poverty remains predominantly a rural phenomenon. Income poverty and poor access to social services are pervasive, resulting in reduced opportunities for human and economic development. Rural communities are particularly hard hit by poverty, due to a narrow agricultural-based livelihood system. Among the critical interventions discussed in The Gambia’s PRSP is the need to co-ordinate and provide funding for community-driven development interventions in order to improve the scope and impact of poverty reduction programs. One key element of that vision and indeed the Gambia’s Poverty Reduction Strategy Paper (PRSP) is to promote growth and employment, the provision of social services, building the capacity for local development, and mainstreaming gender equity and environmental issues.

The Government of the Republic of Gambia, with the World Bank support, is preparing the third phase of its education programme aimed at enhancing the level of learning for a broad spectrum of Gambian society.

It is within this context that this current Environmental and Social Management Framework (ESMF) was prepared to ensure that the environmental and social aspects of future education initiatives and investments are correctly taken into account.

To ensure that these investments are carried out in an environmentally and socially sustainable manner, the project developed the present Environmental and Social Management Framework (ESMF) as per terms of reference below. A Resettlement Policy Framework (RPF) has been prepared under separate terms of reference, and will be implemented in conjunction with this ESMF.

2. PROJECT DESCRIPTION

2.1 Context and Objectives of Education Project
The project will evolve in the framework of the Local Government Act of 2002, which establishes and regulates a decentralized local government system for The Gambia. It has been established that the project will address issues concerning both rural development and health areas of intervention, at the decentralized level.

2.2 Project Components
The Education Project comprises several components as follows:

**Basic Education:** The purpose of this component is to enhance enrolment and quality at the basic level by increasing access to Early Childhood Education, and the universalization of basic education and improvement of quality and relevance. With an extended basic education system, this component also aims for an increased access to relevant and high quality adult and non-formal education.

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**Sector Management:** The component is tasked to ensure that effective and efficient delivery of education services is achieved.

The ESMF is designed to identify, assess and mitigate potential negative environmental and social impacts of all infrastructure and services related to all these components notably the building materials, water and sanitation and security aspects such as fencing.. To the extent that project activities involve land acquisition, the principles and procedures outlined in the afore-mentioned RPF will be applied to ensure that potential negative social impacts are mitigated appropriately.

### 3. BIOPHYSICAL AND SOCIOECONOMIC ENVIRONMENT OF THE COUNTRY

#### 3.1. Biophysical Environment

The Gambia has an area of 11,300 km² and is bounded by Senegal to the North, South and East and by the Atlantic Ocean to the West. The country is widest (48 km) at its westerly end and narrows to about half this width at its eastern tip, 480 km inland. The country is bisected by the River Gambia forming the North and South banks. Banjul, the administrative centre and capital, is situated on an island at the estuary of this river.

**Climate and Vegetation**

The Gambia lies in the Sahelian belt with a sudano-sahelian type of climate characterised by a long dry season from October to early June and a short rainy season from mid-June to early October. Rainfall in most parts of the country is about 1020 mm ranging from 800 mm in the east to 1700 mm at the western end of the country. A slight warming and a decrease in rainfall have been realised in time series climate data covering the past 40 years.

Rainfall has, over the last 15 years been erratic with some years of relatively low total rainfall with some years of drought. With the economy heavily dependent on rain-fed agriculture, these adverse climatic conditions have registered a negative effect on agricultural production, eroding farmers’ productivity and their purchasing power.

The natural vegetation type is Guinea savanna woodland in the West changing into typical open Sudan Savanna towards the eastern part of the country. This area is also characterised by extensive marginal lands with lateritic ridges and shallow soils unsuitable for crop production.

**Drainage**

Except for a few coastal streams in the Kombo Peninsula and lower Niumi, natural drainage in The Gambia is centered on the River Gambia and its tributaries. As it enters the Gambian territory, 680 kilometers from its source in the Fouta Djallon Highlands in Guinea, the River Gambia flows generally along an East-West axis. Drainage density is quite low reflecting the quasi-linear nature of the River Gambia system, with permeable soils and low topography.
Geology
The country occupies the south-central part of a regional sedimentary basin that extends along the coast of West Africa from Mauritania to Guinea (Conakry) usually known as the Senegal Basin or now the Mauritania, Senegal, The Gambia, Guinea Bissau and Guinea Conakry Basin (MSGBG). The surface geology of The Gambia is entirely Upper Tertiary and Quaternary. The Upper Tertiary consists of mainly poorly consolidated sandstones, white to pink or red in colour and they are composed of quartz grains with very minor amounts of stable heavy minerals, such as ilmenite, zircon, tourmaline, staurolite and rutile. The clay stones are commonly kaolinitic.

Soils
Four basic elements make up the landscape of The Gambia. Flat areas represent the recent past comprising the floodplains in which alluvial material was deposited. This landscape lies adjacent to the main river and its major tributaries. Narrow bands of similar alluvium occur in the depressions associated with the minor tributaries and are subjected to waterlogging.

Lying above the alluvial flats occur the colluvial slopes, being very gently sloping areas covered by the colluvial deposits of eroded Tertiary material. The remainder of the terrain comprises a Tertiary plateau in which two different levels may be distinguished. The upper plateau level is the dominant element of the landscape in the Eastern sector of the country. West of Farafenni on the North bank and Bwiam on the South bank this sector occurs only rarely. The lower plateau level is exposed by dissection and erosion of the higher plateau and forms the basic landscape of most of the North Bank Division and Western Division. Further east, this segment occurs in depressions associated with tributary streams.

The distribution of the soils is closely related to the landform and can be described within their broad landscape units.

Wildlife
The system to protect Nature in The Gambia dates back to 1916 when Abuko Nature Reserve was sealed off as a water catchment area. Abuko was given reserve status in 1968 and extended to its current size of 105 ha. In that same year, the 500 ha. River Gambia National Park was created while both the Niumi National Park of 4,900 ha and the Kiang West National Park extending 11,000 ha were identified in 1987. Kiang West represents a departure from the traditional concept of National Park management in that its goal is to conserve the existing flora and fauna. In 1993 Tanji Bird Reservation (612 ha) was declared. Bao Bolong Wetland Reserve with an area of about 22,000 ha has been earmarked.

Today, the large mammal fauna in The Gambia is only a remnant of the past diversity and many of the remaining species occur in limited areas and in small populations. The main threat to larger mammals is primarily habitat destruction. Hunting pressure may have a larger impact than generally believed. The Government of The Gambia is committed to the conservation and restoration of natural habitats and their biodiversity and to provide direct benefits to local communities around protected areas. This will be achieved through enhanced natural resource management practices and ecotourism development.

Protected Areas
There are currently six protected areas under the management of the Department of Parks and Wildlife Management (DPWM). The total land area covers 39,236 ha which equates to 3.4 per cent of the total land area of The Gambia. The Bao Bolong Wetland Reserve with an area of about 22,000 ha, Abuko Nature Reserve, Tanji Bird Reserve and Kiang West National Park are already open to the public. Apart from KWNP, all other protected areas need a management plan. The DPWM aims to have 5.0 per cent of the land area ultimately protected and including samples of all major habitats within the country.
The information on the resources of the protected area, its utilisation, threats to it, etc. are useful to assist in the management of these areas. A plan also acts as a tool to assist the park staff in the gathering of the data and in determining the potential impact of their various actions such as infrastructure development, zoning and resource utilisation.

### Locations and Surface Area of National Parks in The Gambia

<table>
<thead>
<tr>
<th>National Parks</th>
<th>Date Gazetted</th>
<th>Location</th>
<th>Area (hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total area</strong></td>
<td></td>
<td></td>
<td><strong>17,052.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Parks</th>
<th>Date Gazetted</th>
<th>Location</th>
<th>Area (hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Baobolong</td>
<td>not yet gazetted</td>
<td>NBD</td>
<td>20,000.</td>
</tr>
<tr>
<td><strong>Total area</strong></td>
<td></td>
<td></td>
<td><strong>20,717.</strong></td>
</tr>
</tbody>
</table>

### Mangrove Forests

The mangrove forests in The Gambia are located in the coastal area and inland to the extent of the saline intrusion up the river. Four major species of mangrove forests exist in the area such as Avicennia africana, Laguncularia racemosa, Rhizophora racemosa and Rhizophora mangle. The mangrove ecosystem has remained stable over the years although clear signs exist of a slow decline in the Rhizophora species either through increased acidification of the soils, viral or bacterial infections. They are also threatened by the clearing of swamps for rice cultivation in the rural areas or the cutting down of mangroves for oyster harvesting and as fuel wood.

### Water resources

The Gambia is marked off by catchment divides of the River Gambia and its tributaries. The totality of the territory lies in the Gambia River basin. The Gambia is further distinguished by its location in the central part of the coastal sedimentary basin known as the Mauritania-Senegal-Gambia-Guinea-Guinea Bissau basin which add up to make The Gambia a focal point of extensive regional surface and groundwater systems. The water resources comprise seasonal rains, ephemeral ponds and depression storage, inflows the River Gambia and two aquifer systems underlying the entire country.

### Surface Water

Rainfall in The Gambia is generally between the months of June and October, with maximum precipitation occurring in August. Over the past three decades reduction in rainfall has resulted in recurrent drought years. The mean annual rainfall in 1968 of 1,100 mm now stands at 900 mm.

The River Gambia is tidal throughout its length in the eastern most part of the country, particularly in the wet season. Despite its large area, the Gambia section of the basin contributes little to the flow in the river. The bulk of flow is derived from the headwater regions and middle basin in Guinea and Senegal, which together form 86 per cent of the basin area. Persistent drought in the Sahel region has caused a dramatic slippage in the mean annual river flow of the River Gambia. The River Gambia is a fully mixed estuary with no evidence of stratification.
Groundwater
Exploitable groundwater occurs in the Shallow Sandstone and the Deep Sandstone aquifers separated by marls, clays and argillaceous limestones. Both aquifers occur throughout the country. In some places the Shallow aquifer consists of two units: the phreatic occurring at depths between 10 and 30 metres below ground level, and the semi-confined at depths between 40 and 120 meters. The Deep Sandstone aquifer occurs at depths exceeding 250 metres and is estimated to hold reserves of good quality water in the order of 80,000 M m3.

3.2. Socioeconomic Environment

Population growth and distribution
The Gambia’s population stood at 1.3 million people in 2003 Population and Housing Census Provisional Report. The age distribution of the population continued to skew towards the younger age bands. Those aged 0-15 years comprise about 44% of the total population. This has a lot of implications in the provision of social services and distribution of meagre resources.

Population distribution by area, gender and sex

<table>
<thead>
<tr>
<th>Age group</th>
<th>Gambia Both Sex</th>
<th>Female</th>
<th>Urban Both Sex</th>
<th>Female</th>
<th>Rural Both Sex</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>193,921</td>
<td>96,341</td>
<td>88,910</td>
<td>44,061</td>
<td>105,011</td>
<td>52,280</td>
</tr>
<tr>
<td>5-9</td>
<td>206,204</td>
<td>102,108</td>
<td>89,274</td>
<td>44,913</td>
<td>116,930</td>
<td>57,195</td>
</tr>
<tr>
<td>10-19</td>
<td>329,505</td>
<td>167,091</td>
<td>162,668</td>
<td>84,661</td>
<td>166,837</td>
<td>82,430</td>
</tr>
<tr>
<td>20-39</td>
<td>403,454</td>
<td>213,284</td>
<td>235,605</td>
<td>114,890</td>
<td>167,849</td>
<td>98,394</td>
</tr>
<tr>
<td>40-59</td>
<td>146,578</td>
<td>71,440</td>
<td>74,522</td>
<td>32,984</td>
<td>72,056</td>
<td>38,456</td>
</tr>
<tr>
<td>60+</td>
<td>81,019</td>
<td>39,576</td>
<td>35,111</td>
<td>17,042</td>
<td>45,908</td>
<td>22,534</td>
</tr>
<tr>
<td>Total</td>
<td>1,360,681</td>
<td>689,840</td>
<td>686,090</td>
<td>338,551</td>
<td>674,591</td>
<td>351,289</td>
</tr>
</tbody>
</table>

(Source: CSD, 2003 Preliminary Census estimates)

Agricultural Production and Marketing
Nearly 75 per cent of the rural population of The Gambia are employed in agriculture. This sector contributes between 20 to 25 per cent to the country’s GDP. Several environmental factors affect agricultural production. Irrational utilisation of resources including soils, vegetation cover and water resources are only a part. The traditional nature of production puts little or no emphasis on environmental management. Land degradation, deforestation, water use, agro-chemical utilisation and salinisation significantly reduce agricultural production.

Livestock
Conditions in The Gambia greatly favour livestock production which is exclusively traditional although there is some intensive and semi-intensive commercial poultry farming in the peri-urban areas. Semi-intensive sheep fattening schemes are also popular. Cattle are managed in herds (average herd size is about 55 heads) tethered overnight to pegs in holding grounds. They are herded during the day to avoid damage to field crops and vegetables.
Forestry
The forests of The Gambia are significant with multiple functions particularly for subsistence of the rural communities.

The upland forests provide fuel wood, construction and building materials, food and local medicines for both rural and urban settlements. The forests contribute significantly to the socio-economic development of the country by providing resources, job opportunities and income. However, the local commercialisation of forest products, such as fuel wood, timber, fruits etc. contribute to the destructive exploitation of the resources.

The coastal forests, including the mangrove forests, also provide the local communities with wood products for construction and energy. The coastal forests also provide protection against coastal and river bank erosion and crucially they provide they provide the habitats for spawning the many varieties of fish, oyster and other sea mammals.

Land Tenure and Property Rights
Property rights and land tenure provide equal incentives to all groups for improved land management. The State Lands Act of 1990 and the Land Acquisition and Compensation Act, 1990, which takes care of land tenure and property rights has a cautious land acquisition plan. The Act designates State Lands in Banjul, the Kanifing Municipality, Kombo South, Kombo Central and Kombo North to be administered by the State rather than by district authority.

4. OBJECTIVES OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

4.1. The objective of this ESMF
The objective of this ESMF is to provide an environmental and social screening process for the future implementation of Education infrastructure investments and activities, as the exact investments could not be identified prior to appraisal. It has not been determined where these activities will take place. The ESMF is intended to be used as a practical tool during project implementation. The ESMF describes the steps involved in identifying and mitigating the potential environmental and social impacts of future construction and rehabilitation activities. It also provides guidance in cases where the screening results indicate that a separate Environmental Impact Assessment (EIA) is required.

This ESMF has been prepared in recognition of the fact that Gambia’s regulation on EIA includes a tool only for pre-assessment of projects based on preliminary environmental information. The provisions of the national law on EIA are less comprehensive than those of the World Bank’s OP.4.01 Environmental Assessment which calls for the environmental screening of all Bank-financed projects, and subsequently the assignment of an environmental category, ranging from category A (significant negative impacts); to category B (impacts less significant than those of category A) and which can be mitigated effectively); to category C (no significant environmental impacts, and hence, no additional environmental work required).

In comparison, the assessment form of existing projects at the level of the NEA seem not only very brief and even incomplete in the procedures for project classification but also in the conditions for the execution of related environmental assessments.

To close this gap, an Environmental and Social Screening Form (Annex 1) has been designed to assist in the evaluation of planned construction and rehabilitation activities under the education project. The form is designed to place information in the hands of implementers and reviewers so that impacts and their mitigation measures, if any, can be identified and/or that requirements for further environmental impact assessment be determined.
According to Gambia Environmental law, specific investment activities require EIAs, whereas there are no clear EIA requirements for activities of a smaller scale, but which might have negative localized impacts that would require appropriate mitigation. This is the reason why this project will use the environmental and social screening process outlined in the ESMF. This process will allow the PCU to identify, assess and mitigate potential negative environmental and social impacts at the conception and planning of building and rehabilitation activities, and, if necessary, carry out separate EIAs should the screening results indicate the need for such.

The ESSF contains information that will allow reviewers to determine the characteristics of the prevailing local bio-physical and social environment with the aim to assess the potential impacts of the rehabilitation activities on this environment. The ESSF will also identify potential socio-economic impacts that will require mitigation measures and/or resettlement and compensation. As mentioned earlier, any resettlement and/or compensation measures will be implemented in accordance with the RPF, and will be completed before any building/rehabilitation activities can begin.

The ESMF includes an Environmental Management Plan (EMP) for the project’s implementation. The EMP summarizes institutional arrangements for the implementation of mitigation measures, the monitoring, through certain indicators of the implementation of these measures, capacity building needs as well as cost estimates. The EMP will be included in the Project Implementation Manual.

As stated earlier, the proposed screening process would be consistent with the Bank’s safeguard policy OP 4.01 Environmental Assessment. This policy requires that all Bank-financed operations are screened for potential environmental and social impacts, and that the required environmental work be carried out on the basis of the screening results. Thus, the screening results may indicate that (i) no additional environmental work would be required; (ii) the application of simple mitigation measures by qualified staff would suffice; or, (iii) a separate environmental impact assessment (EIA) would be required.

Although the potential negative environmental and social impacts of the education project activities be generally minimal, potentially significant localized impacts may occur, thus requiring appropriate mitigation. Potential negative environmental impacts such as pollution, waste management, loss of vegetation, soil erosion, soil and groundwater pollution, risks linked to pesticides, would be addressed in the context of this ESMF, potential social impacts due to land acquisition such as loss of livelihoods or loss of access to economic assets would be addressed in the context of the Resettlement Policy Framework (RPF). The RPF has been prepared as a separate document and outlines the policies and procedures to be applied in the event of land acquisition.

4.2. Methodology used to prepare the ESMF
The present ESMF was prepared based on existing general literature, among them: the Gambian Education Policy Framework, Gambian Environmental Impact Assessment Guidelines, and the World Bank’s Safeguard Policies. Besides these documents, a lot of consultations with various stakeholders, including educationists, communities and the general public, were undertaken during the write-up of this framework.

Our methodological approach was based on the systemic approach, in collaboration with all stakeholders and partners concerned with education and related services and NGOs.

The work plan was articulated around four major areas of intervention:
- Analysis of project documents and of other strategic planning documents at national and local levels (Project Appraisal Documents, Aide-memoires, Action Plans for Poverty Reduction,
- Review of National Strategies on Environmental Management,
- Field visits to sample educational institutions and regional directorates in all six regions of the Gambia mainly to assess the scope rehabilitation required at these institutions, the lapses in environmental fabric of the institutions,
Discussions with key stakeholders mainly school Principals/Headmasters and students, regional Education Directors, Divisional Commissioners, Area councillors and some communities in order to better articulate the requirements of services such as water and sanitation in schools and surrounding communities.

4.3. Summary of the Outcome of the Visits

The main social issues in Gambia today are: (i) Acute Poverty (poverty is wide spread in the country, despite its potential and rich resource endowment); Gender Issues (women are often poorer than men, own less land and livestock and have fewer years of schooling); and HIV/AIDS. All institutional stakeholders met have recognized the relevance of CDP. The CDP has been welcomed, particularly in the rural communities without basic infrastructures, and where populations very poor.

5. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT

In this section the policies, legal and institutional framework for environmental management in the Gambia are summarised including national legislation and international conventions subscribed to:

5.1. Policy framework

a. Gambia’s Environmental Action Plan (GEAP)

The Gambia’s Environmental Action Plan seeks to promote and implement sound environmental policy. The GEAP represents the culmination of a series of initiatives and activities coordinated by the NEA. It is the master plan for the environment in the Gambia and contains a National Environment Policy, Framework Environmental Legislation and Environmental Strategy. The GEAP consists of Sectoral Plans for the medium and long term intended to lead to sustainable development in Gambia.

The GEAP has had to depend and still depends upon bold risks. The most important of these are innovative trial and error steps include the following:

(i) The development of a National Consensus on the GEAP,
(ii) The setting up of the National Environmental Management Council,
(iii) The establishment of the NEA,
(iv) The enactment of the legislation of the National Environmental Management Act,
(v) The establishment of Working Groups to address thematic environmental issues.

The successful coordination and implementation of all the measures needs calls for national and international consensus. The other environmental strategies existing are:

- The National Strategy and action Plan on Biodiversity Conservation,
- The National Strategy on Climate Change,
- The National Action Plan to combat Desertification.

The GEAP puts special emphasis on environmental management, pollutions and nuisances, and the necessity to safeguard the well-being of the populations.

The Second Poverty Reduction Strategy Paper aims to provide the blueprint for economic and social development and reflects the commitments of both the Government and its external partners. The overall goal is to reduce income disparities and disparities in access to sources of income and empowerment. The Second PRSP will concentrate on four development objectives. To avoid the occurrence of the weakness in the last strategy, the already guaranteed political commitment must be translated in terms of ensuring performance-based management towards implementation. Allocating adequate resources to support the planned activities must also be reinforced. However, slight changes/modifications were done to suit PRSP II. Four Pillars are identified as follows:

- Creating an enabling policy Environment for Economic Growth & Poverty Reduction;
- Improving Productive Capacity and Social Protection of the Poor and Vulnerable;
- Increasing coverage of Basic Social Services needs of the poor and vulnerable (Social Protection/Safety Nets);
- Building the Capacity of Local Communities & Civil Society Organisations to play an active role in the process poverty reduction;

Issues of development concerns (Gender, Environment, Nutrition, HIV/AIDS, Population, Governance and Youths) are now integrated/mainstreamed into the above four pillars to be addressed using cross-sectoral approach.

c. **Health Care Waste Management Plan 2005-2010**

Under the AIDS project, with educational institutions being one of the most vulnerable in the general population, the Gambia has developed a Health care waste management plan (2005-2010) which comprise (i) detailed assessment on current situation in health facilities, (ii) analysis of national policies, programmes and legislation on health care waste management, and strategic orientations and action plans, as follows:

- strengthening of institutional, legal and regulatory framework,
- improving the current health care waste management practices,
- minimizing health care waste volume,
- health waste identification, segregation and packaging,
- collection, transportation and storage,
- treatment and disposal,
- strengthening institutional capacity,
- training and capacity building,
- public education and awareness,
- training of waste handlers,
- training of HCW treatment plant operators/attendants,
- monitoring and evaluation,

Whilst health care facilities appear to be singularly lacking in schools, management of health care wastes should not be excluded from this framework document as awareness programmes in this subject can be vehiculed through the educational institutions.

5.2. **Legal framework**

a. **International Conventions**

The Gambia has signed but not ratified both the Basel and Bamako Conventions. Both conventions aim at controlling the movement and disposal of hazardous and toxic wastes. The Bamako Convention highlights similar concerns specific to Africa. It completely rules out the exportation of hazardous wastes from the developed countries into developing or under-developed States.
The Gambia has also subscribed to the Convention for Cooperation in the Protection of the Marine and Coastal Environment of the West and Central African region. It aims to curb the major problem of regional coastal erosion. The Gambia, like many other coastal states of Africa, is at risk of having all its coastal land area submerged. This agreement aims at protecting the marine environment and coastal and freshwater resources in the region. As regards atmospheric and waterways pollution, the Gambia has ratified the London Convention and all its protocols on the prevention of pollution of waterways as it has done with the protocol concerning cooperation in combating emergency pollution cases.

The Gambia has subscribed to the convention establishing the Economic Commission for Africa (ECA) whose main intention is the development of sustainable industry and to encourage States in the transfer to each other, as far as possible, relevant and appropriate science and technology. The Conventions on Biological Diversity, on Appropriate Transfer of Technology, the Convention on the Protection of Cultural and World Natural Heritage Sites have been ratified.

The Gambia has signed but not yet ratified the UN Framework Convention on Climate Change (1992) which aims to regulate levels of greenhouse gases in the atmosphere and avoid climate change that impedes sustainable development. The Ramsar Convention aimed at stopping the encroachment on and loss of wetlands has been signed and ratified. The UN Convention to Combat Desertification particularly in Africa has also been ratified.

b. National Environmental Legislation

National Environment Management ACT 1994
At national level, the National Environmental Management Act, NEMA, 1994, is the main document setting out the overall management of the environment. The NEMA is an Act of general legislation that provides a legal framework for activities in the environmental sector. The objective of this law is to define some legal basis for a correct use and a viable management of the environment and its components, in order to establish a system of sustainable development in the Gambia. This law forbids storage or disposal of toxic pollutant products on the ground, underground, on water bodies and in the atmosphere. It also recommends that the Government establishes environmental quality standards in order to ensure the sustainable use of the Nation’s resources. This law contains chapters on environmental pollution and environmental quality standards. It focuses on the necessity of realizing environmental impact assessment (EIA) for projects and programs having negative effects on the environment or public health. In this field, the NEA had formulated guidelines and regulations on the EIA, including: checklists and screen forms; the main component of the assessment and the approval procedures. In this respect, the environmental law is directly relevant to the education infrastructure activities.

EIA regulations: the EIA procedure focuses on the following points: Categorization of projects and sub-projects (A, B, C); Competencies in EIA field; Process of EIA; Initial Assessment ; Criteria for Assessment ; Technical commission for assessment (members, functioning, etc.) ; Contains typical Terms of reference; Public participation process ; Modalities of assessment of EIA ; Procedures of consultation. The procedure concerns directly some education infrastructure activities, particularly as regards the classification of activities and the carrying out of the EIAs. In the annex on EIA guidelines, there is a nominative list of areas and sectors of activities (for instance: infrastructures, forest exploitation, Agriculture; Industry; Energy; etc.) for which EIA is necessary.

The EIA procedure involves the following:

Screening Process
The screening process is designed to determine which projects require a full EIA process. Screening is done with the aid of EIA « Screening Forms ». The screening process ensures objectivity and transparency.
Screening Form
A standardised project brief is submitted by a developer using the « Screening Form ». The Screening Form (Annex 3) requires that the developer provide information inter-alia on the following:
-  Developer;
-  Contact points;
-  Location and size of the site/facility;
-  Inputs required (utilities and raw materials);
-  Products and by-products (finished products and wastes);
-  Methods of waste disposal;
-  Anticipated environmental impacts.

General information is required at this first stage. If in-depth analysis has already been done, results should be indicated on the screening form. If however, only preliminary analysis/surveys have been done, this will in general suffice for the screening form.

Where the developer needs assistance to complete the screening form, a lead sectoral department or the NEA will be in a position to help. Upon completion by the developer, the form is submitted to the lead department or the Agency. If the form has been completed correctly, the lead department forwards the form to the Agency for consideration. The Agency determines the next actions in consultation with the lead department. If necessary, the Agency, the lead department, and/or the Working Group may visit the proposed project site to clarify details or complete the information required.

Project Classification
Based on information obtained from the screening form, a systematic review of the information is completed by the Agency to determine whether an environmental impact study needs to be conducted. Evaluation criteria have been established which provide a general guide for determining whether or not a full EIA is required. This ensures a fair and consistent review of all proposed projects at this screening stage, based on the information provided by the project proponent. As a result of this screening, the project is classified in the following manner:

-  Class A: Full Environmental Impact Assessment Required – If the Agency, either based on the screening form or after additional information has been provided, has sufficient reason to believe that the project will cause a significant negative impact on the environment, it will require that an environmental impact assessment be made in accordance with the provisions made below.

-  Class B: Additional Information Necessary – In case where doubts remain as to the significance of potential impacts on the environment, further information is required. Projects rated as Class B will be required to provide additional information prior to the Agency making a decision on classification. In this case, the Agency will give the project proponent, in writing, a clear indication of the information that needs to be provided. The Executive Director reserves the right to determine what additional information is required. After additional information has been provided, the Agency will reassess the proposed project and will determine if it falls into Class A or C.

-  Class C: No Full Environmental Impact Assessment required – A project may be categorised as Class C if it is determined that the proposed project will have no significant or adverse impact on the environment. The Executive Director may grant environmental approval to the project without further analysis.

In cases where it is obvious that a project will not be in line with the laws of The Gambia, the Executive Director may reject a project without any obligation to carry out an EIA.
Consultations with relevant government Departments of State and Members of the Public
The Agency, upon receiving a project brief consults the lead sectoral department. It invites public comments on statements of project intent submitted to it especially from those most likely to be affected by a proposed project. It is only subsequent to these two consultations that the Agency is required to invite interested organs of the State to comment on both the statement and the comments made there-on. A public enquiry is the final form of consultation. This style of consultation is unique with fluid and consistent geographical and sectoral nuances.

To facilitate the EIA process, the following arrangements are proposed:

- A special file be opened for every developer. Proper documentation of all the transactions and consultations for each EIA case, in addition to, where deemed necessary an environmental and social statement.

- The Agency designs standard letters to be issued to developers who have submitted Project Briefs. The letter specifies the class of EIA required.

- The Statement or its summary is published in local papers, also: (i) requesting members of the public to forward to the Agency any comments they may have and (ii) inviting the public to study and comment on the Statement which will be available at the Agency, the lead sectoral Department and the Offices of the Commissioner of the affected Division.

- The Agency, the developer, and the Permanent Advisory Group on EIA and interest groups hold consultative meetings with the communities after the public comments on a Statement.

- The Agency issues a Certificate of Environmental Approval to any developer whose project has been approved.

- Test cases assess the capabilities of local consultants to contribute to an environmental impact study (and in the process receive training); assess the strengths and limitations of the guidelines.

Testing will lead to modifications of procedures and guidelines. Documentation and annual statistics will be vital for modelling possible future expansion of industries and related projects requiring EIA.

According to Gambian EIA Regulations, all development projects are subject to environmental screening. Prior to granting permission to proceed with a project, a proponent is obliged to complete a Pre-evaluation Form that has been developed by the NEA. The nature, type and location of the project is described in the environmental screening form with a preliminary indication of potential socio-economic and biophysical impacts (number of people/communities affected, sensitive habitats, threatened species, etc). Based on the screening exercise, NEA makes a decision on whether an EIA is required or not. In the event of an EIA is not required, the proponent is still obliged to describe methods and procedures for proper environmental management (storage of semi-hazardous materials, solid waste disposal, etc).

Apart from the EIA content, the procedures require a public survey prior to the issuance of any authorization on the basis of the EIA. The EIA conducted by the consultants at the request of the promoter is submitted for approval to the NEA that looks after the procedure for the conduction of EIAs (approval of the TOR, approval of the studies, authorization given to consultants and consultancy firms, etc.). According to the classification level of the project (category A, B or C) the conduction of the procedure is monitored at national level.
The Public Health Act 1990
The Public Health Act was enacted to make provision for public and environmental health-connected matters. This Act empowers the Secretary of State to formulate regulations regarding the collection, removal and disposal of sanitary waste and other noxious waste. The Act also mandates the Director of Health Services who also heads the Department of Public Health Services to abate nuisances and to remove or correct any condition that may be injurious to public health. It empowers public health officers to monitor environmental and public health regulations.

Waste Management Bill 2003
The Draft Waste Management Bill is the only specific legislation on waste. It has provision for the development of regulations on all solid and liquid wastes.

The Draft Environmental Health Policy
The draft Environmental Health Policy has identified poor solid waste management as a major health problem particularly in the urban centres. This policy also fails to address specifically the management of HCW among its policy issues.

Hazardous Chemicals and Pesticides Control and Management act 1994
To regulate the use of hazardous chemicals and pesticides, the Hazardous Chemicals and Pesticides Control & Management Act was enacted in Parliament in April 1994 making it compulsory to register all hazardous chemicals and pesticides sold and used in the Gambia. This regulatory framework replaced the 1983 Pesticides Management Act and made the provision for the establishment of Hazardous Chemical and Pesticide Management Board (HCPMB), a regulatory body responsible for the registration, licensing and management of all hazardous chemicals & pesticides.

5.3 Institutional framework
There are several levels (central, division and district/municipal) of decision-making involved in environmental protection, land allocation and resource management. Central (national) institutions comprise ministries with their respective national directorates based in Banjul. These agencies have the competence to formulate policies and strategies and to enforce and control their implementation. NEMA established the main institutions involved in EIA process: the National Environmental Management Council (NEMAC), the National Environment Agency (NEA) and the Technical Advisory Committee (TAC).

a. National Environmental Management Council (NEMAC)
The National Environmental Management Council (NEMAC), the Governing Council of the NEA was officially inaugurated in 1993 and established under the National Environmental Management Act. The NEMAC is chaired by the President of The Republic, and brings together the Secretaries of State from all key Government Departments whose activities may impact the environment and whose mandate include monitoring developments relating to the environment. The Council oversees environmental policies, adopts environmental standards, guidelines, and regulations proposed by the NEA, and sets the terms and conditions of service of the staff.

b. National Environment Agency (NEA)
The National Environment Agency was established by an Act of Parliament in 1993. Broadly the Agency is the principal body responsible for the management of the environment and co-ordinates all activities of the Government in this field. In doing so, it is responsible for liaison with all Government and external agencies, NGOs, interest groups and the general public. The responsibilities of the NEA are: to revise and develop policies and sustainable environment inter-sectoral development plans, promote sectoral legislation; co-ordinate policy implementation; promote public awareness. The Agency has elaborated National Environmental Action Programmes and specifics strategies on Biodiversity Conservation, Climate Change and Desertification.
The NEA is also responsible for regulating Environmental Impact Assessment (EIA) procedures in the Gambia. As indicated above, all projects likely to have significant environmental impacts are obliged by the Environmental Act to carry out an EIA prior to authorisation. Legislation stipulates that it is NEA's role to coordinate, assess, control and evaluate the utilization of the natural resources of the country, and in doing so, to promote their preservation and rational use. It should also coordinate the activities in the area of environment, in order to ensure the integration of environmental variables in the process of planning and managing socio-economic development.

In the environmental management of this education project, the NEA will be responsible for giving the final approval of environmental assessments and certifying, where appropriate the compliance of the proposed activities with Gambia’s environmental protection legislation.

c. **Technical Advisory Committee (TAC)**
As an advisory body to the NEA, the TAC consists of fifteen members whose expertise reflects the various fields of environment management. The TAC advises the NEA on any issues which may be referred to it, and in particular, it reviews the achievements of the NEA, reviews and advises on any environmental impact assessment of major projects, and reviews environmental plans, environmental standards, guidelines and regulations relating to NEMA. The executive Director of the NEA is the Chairperson of the TAC.

d. **National Level Coordinating Structures**
The national structures consist of eight working groups formed between 1994 and 1996. These working groups are the following:
- Agriculture and Natural Resources,
- Environmental Information Systems ,
- Chemicals and Pesticides Management Board ,
- Environmental Education and Communication ,
- Coastal and Marine Environment ,
- Environmental Impact Assessment ,
- Environmental Legislation , and
- Environmental Quality ,

The working groups are composed of representatives from Government Institutions, Non-Government Organisations, and the Private Sector addressing aspects and issues of the environment. Membership depending on the vocation and mandate of the institution. The increase in numbers assumes the working groups are viable, functional and effective in coordinating and implementing the GEAP.

e. **Non-Governmental Organisation (NGO) Coordinating Structures**
The coordination of both international and local Non-Governmental Organisations is carried out jointly by The Association of Non-Governmental Organisations (TANGO), and the newly established Non-Governmental Organisation Affairs Agency (NAA). There are about 49 registered NGOs (30 local and 19 international) operating in The Gambia with TANGO as the main coordination body for all the NGOs. Eight NGOs have signed a memorandum of understanding with Government and are actively involved in environmental projects throughout the five administrative Divisions of the country.

5.4. **Decentralization – Regional Directorates of Education.**

a. **Decentralisation Policy**
Decentralisation is on track. The Regional Education Directorates have been set up to foster the decentralisation policies of the Government. They have been provided with seemingly adequate and functional facilities in terms of infrastructure and logistics to sustain their work load. Their operating costs, notably in the maintenance of these facilities will have to be reviewed to avoid the creeping degeneration noticed by the consultant.
Decentralization will not affect environmental management; however the municipalities and Local Communities will be involved in the screening process and implementation of operational activities. These communities will also participate in the supervision of the works that will take place in their area, particularly in urban areas; they can even help in the regulation of the works (regulating diversions).

Some municipalities have Technical services which should be involved during the monitoring of mitigation measures, if their capacities are reinforced in environmental issues.

**Local Level Coordinating Structures**

However, The NEA is not represented at the lower levels of government in any of the regions and hence the proposal to create environmental focal points whose composition and roles are defined under environmental screening and management. With the various conventions subscribed to by government, the need for local level overall environmental management is now crucial

**5.5. Institutional and Legal Constraints.**

The institutional framework for the GEAP coordination and implementation is well established. However, there exist key constraints:

- The National Environmental Management Council has been dormant for nearly two years. Political support for the GEAP and the infant National Environment Agency, indeed, lost some considerable momentum.

- The design of the Capacity Building for the Environmental Management Technical Assistance Project underestimated the NEA staff time needed for the various processes required for the GEAP coordination and implementation.

In this regard, the Consultant in discussions with the Executive Director of the Agency noted that of the six regions of the country only two regions will have each a resident programme officer and an inspector to cover the provinces and this for all sectors of the economy including at least four World Bank funded projects.

There is, for the latter projects a clear need for their coordination units to meet with the NEA with the view to reinforcing the capacity of the latter in the screening, inspection or monitoring of the broad spectrum of environmental issues emanating from their projects.

Meanwhile the Consultant under the EMP Chapter below proposes, with costs an institutional support to the NEA.

- The coordination and implementation of the Action Plan is a new area for both the coordinators, and the implementers of the GEAP. This lack of capacity has resulted in heavy dependence on international and local consultants. Considerable amount of time is spent on identifying consultants, hiring them and reviewing their work. In fact due to the lack of capacity, consultants are sometimes hired to review the work of other consultants.

**Needs to Improve the Environmental Selection Process for the Education sector Programmes**

While the institutional responsibilities and the environmental legislation are clearly defined during the conduct, development, and approval of environmental assessments (between the NEA departments, the PCU as project promoters, the consultants and the concerned populations), the environmental and social screening at decentralised level requires improvement. The regional directorates, with their cluster monitors should be trained in the screening process and subsequent monitoring of adverse environmental conditions in the education facilities in their respective areas of operation.
The World Bank’s ten safeguard policies are designed to help ensure that projects proposed for Bank financing are environmentally and socially sustainable, and thus improve decision-making. These operational policies include:

- OP 4.01 Environmental Assessment;
- OP 4.04 Natural Habitats;
- OP 4.09 Pest Management;
- OP 4.11 Cultural Heritage;
- OP 4.12 Involuntary Resettlement;
- OP 4.10 Indigenous People;
- OP 4.36 Forests;
- OP 4.37 Safety of Dams;
- OP 7.50 Projects on International Waterways;
- OP 7.60 Projects in Disputed Areas.

In addition, there is the Bank’s Disclosure Policy BP 17.50 which requires that all safeguard documents are disclosed in the respective countries and at the Bank’s Info shop prior to appraisal. Of these operational policies, OP 4.01 is the “umbrella” policy as the environmental screening results will determine which of the afore-mentioned safeguard policies are likely to be triggered, in addition to OP 4.01.

The Education Infrastructure Programme and the related services will trigger some of these operational policies but this could be avoided if proper citing of the facilities is made among other considerations.

Annex 5 summarizes these safeguard policies.

**OP 4.01 Environmental Assessment**: The objective of OP 4.01 is to ensure that projects financed by the Bank are environmentally and socially sustainable, and that the decision making process is improved through an appropriate analysis of the actions including their potential environmental impacts. Environmental assessment (EA) is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project. EA takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and cultural property); and trans-boundary and global environmental aspects.

EA considers natural and social aspects in an integrated way. OP 4.01 is triggered if a project is likely to present some risks and potential adverse environmental impacts in its area of influence. Thus, in the case of the education projects, potential negative environmental and social impacts due to construction and rehabilitation activities and likely to include loss of vegetation, soil erosion, soil and groundwater pollution, air pollution, public health impacts such as traffic hazards, noise, dust, and loss of livelihoods. The ESMF has been designed to address potential impacts at the planning stage of new construction programmes and the rehabilitation activities.

**OP 4.12 Involuntary Resettlement**: The objective of this operational policy is to

(i) avoid or minimize involuntary resettlement where feasible and explore all viable alternative project designs and location,

(ii) assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them;
(iii) encourage community participation in planning and implementing resettlement, and

(iv) provide assistance to affected people regardless of the legality of land tenure (encroachers and squatters included).

The policy does not only cover physical relocation, but:

(i) relocation causing loss of land and or loss of shelter;
(ii) loss of assets or access to assets; and
(iii) loss of income sources or means of livelihood, whether or not the affected people must move to another location.

This policy also applies to the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons. In the event of land acquisition, the education project will implement the provisions of the Resettlement Policy Framework (RPF) which has been prepared as a separate document.

**OP 4.09 Pest Management**: The objective of this policy is to promote the use of biological or environmental control methods and reduce reliance on synthetic chemical pesticides.

In Bank-financed agricultural operations such as school orchards and small irrigated perimeters, pest populations are normally controlled through Integrated Pest Management (IPM) approaches.

The policy further ensures that health and environmental hazards associated with pesticides are minimized. The procurement of pesticides in a Bank-financed project is contingent on an assessment of the nature and degree of associated risk, taking into account the proposed use and the intended user. The policy is triggered, even where the project does not envisage the procurement of pesticides.

7. **ENVIRONMENTAL AND SOCIAL IMPACTS OF THE THIRD EDUCATION PROJECT**

7.1 **Environmental Impacts of Third Education Project Activities**

a. **Positive Environmental Impacts**

More specifically:

- Construction and rehabilitation of water and sanitation facilities creating probably the most significant positive impacts on the student community and populations of the satellite communities,

- Construction and rehabilitation of infrastructure and access roads will promote and motivate the more reticent groups on education, in particular the female population,

- The activities will help to identify and to implement the necessary measures for the protection of biodiversity areas thus preserving the wealth of the species at the local and national level. Also, they are going to contribute to combat desertification, reforestation, soil restoration and conservation activities, etc. The protection of school compounds and associated market gardening areas will permit the conservation of both flora and fauna in sensitive areas,

- The water catchment basins will help develop the vegetation all around infrastructures areas,

- The bore holes and wells will make the water fully available to the riparian populations and essentially improve the quality of life,
• Schools and homes are places that can be used for environmental education and awareness programmes. Consequently, they can play a very important indirect role in the protection and conservation of fauna and flora.

b. Negative environmental impacts
The adverse environmental impacts of the project will mainly come from construction activities related to the project infrastructure and related services prior to, during and after the construction activities and notably the lack of or inadequacy of water and sanitation facilities as well as fencing.

During the mission, it was observed that the major problems were in relation to the afore-mentioned activities and that these should be addressed at the level of the contractors and the contractual agreements ensuring that any mitigation measures are incorporated into the contracts.

The consultant found that the major problems related to completed projects were:

- The continued existence of asbestos roofing in several schools,
- The absence of fencing in many of these schools,
- The inadequacy of water and sanitation facilities in the education facilities,
- The absence of proper solid and liquid waste disposal.

In this regard, a major rehabilitation programme of educational infrastructure should be undertaken.

It was impossible to go through all the establishments requiring some measure of rehabilitation and it was in this regard that the consultant requested that the cluster monitors prepare a list of the main concerns for each school in their cluster covering the issues cited above.

The consultant felt, however, that it was necessary to highlight certain schools where environmental and social degradation appears to have set in. The nature of this degradation, seemingly pervasive could result in morbidity in the student and staffing compliments.

The case of Armitage Senior Secondary School calls for particular attention. It is the view of the consultant that a full audit is required for this school if any meaningful environmental and social redressment of the prevailing conditions is to take place.

Water and sanitation facilities are at their worst conditions imaginable.

It is difficult to cite specific schools as there are so many requiring attentions in one form or the other that only the lists from the cluster monitors can identify the scope of mitigation measures required at this stage in completed projects.

Schools such as Soma Upper Basic, Pakalinding UBS and LBS, Tahir Ahmadiya SSS visited by the consultant all require special attention notably for fencing and water supply.

As regards the management of solid and liquid wastes during and after construction, the manual for contractors contained in annex 4 adequately addresses these issues as well as dust and noise abatement measures during the works.

Most wells and boreholes have not got protective surrounds or drainage systems resulting in water logging at most of the well sites and standpipes visited. The department of water resources should therefore be party to all water supply systems in the education sector.
The associated mitigating measures of all the environmental impacts should be embodied in the designs and contractual obligations of all contractors.

These impacts depend mainly on the scope and scale of the works, but also on the rolling stock to be mobilized, the surface area needs and the surface area availability, the importance of the supply needs.

The construction of all education infrastructures will be a major source of soil degradation due to excavation for building materials, creating burrow pits which if not filled after construction will provide the ideal environment for the schistosomias snail and the anopheles mosquito.

The excavations themselves could serve to dislocate water courses or natural drainage systems.

Services such as water and sanitation facilities requiring land would engender some measure of deforestation.

Boreholes and wells equipped with watering troughs are concentration points for animals. Apart from damage to soils and vegetation in the surroundings, the prevalence of nitrates will cause pollution of the aquifers and the watering points.

**Pest Management**

A variety of pests have been reported in several educational establishments mainly snakes and rodents. The use of pesticides and fertilizers be it in small scale for now, could, given the perspectives cited in the previous paragraph be significant in the future and could have adverse effects on biodiversity, soils and surface and groundwater as follows:

- Vegetable garden plots can be a source of pollution of surfaces or underground waters through the agricultural input residues (pesticides, fertilizers). In some low land zones, the use of synthetic chemicals (NPK fertilizer) in the Vegetable garden could contribute to soil salinity; while some pesticides can have adverse effects on the micro-organisms that have important roles in the restoration of soils,

- Pesticides are sources of several adverse impacts such as pollution of underground water tables; rivers; ponds; contamination of livestock drinking water, human poisoning especially in areas of high population density such as the coastal sedimentary zone.

**Unsafe Medical Waste Management**

Where education institutions are equipped to provide first aid or other clinical/health facilities, the disposal of health care waste material has to be incorporated in the project design.

The disposal of sharps, pharmaceutical or chemical wastes or residues, toxic metals, expired drugs, disinfectants; antiseptics should be reflected in the obligations of the contractors.

The risk of air pollution arises largely from the fact that health care wastes are often incinerated or burnt in the open air in order to eliminate or reduce infection. If poorly designed (or poorly operated), incinerators can pollute the air with: particulate matter arising from inefficient combustion; acidic gases due to the presence of PVC plastic, pharmaceuticals and chemicals (containing chlorine, sulphur, nitrogen, etc.); dioxins formed from organic substances in contact with chlorine during combustion; and heavy metals, in particular mercury which is volatile when heated. The majority of the substances emitted during incomplete incineration is poisonous and cancerogenic.
Given the foregoing observations and remarks, the consultant has prepared in the following tables a summary of the major concerns in the existing and projected infrastructure. With the perspective of expansion of socio-economic activities in education establishments the consultant has consigned in annex 3 all the concerns before, during and after construction of the facilities and the mitigation measure designed to eliminate or attenuate the adverse effects of activities related to educational establishments.

Adverse Environmental Impacts due to Infrastructure Construction / Rehabilitation

<table>
<thead>
<tr>
<th>Phase</th>
<th>Potential adverse impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to and during construction</td>
<td>- degradation of storage sites of construction materials and equipment,</td>
</tr>
<tr>
<td></td>
<td>- loss of vegetation and degradation of soils,</td>
</tr>
<tr>
<td></td>
<td>- surface water pollution,</td>
</tr>
<tr>
<td></td>
<td>- deforestation for construction site access,</td>
</tr>
<tr>
<td></td>
<td>- air pollution due to vehicle rotation, noise,</td>
</tr>
<tr>
<td></td>
<td>- soil pollution from motor oil and lubrifiants,</td>
</tr>
<tr>
<td></td>
<td>- waste generated by construction work,</td>
</tr>
<tr>
<td></td>
<td>- pollution resulting in degradation of the living environment,</td>
</tr>
<tr>
<td></td>
<td>- soil erosion,</td>
</tr>
<tr>
<td></td>
<td>- loss of natural habitat zones and biodiversity,</td>
</tr>
<tr>
<td>After construction</td>
<td>- Unserviceable sanitation facilities and absence of access to water and electricity.</td>
</tr>
<tr>
<td></td>
<td>- unrehabilitated quarries and borrow pits (habitats for the malaria vector and bilharzia</td>
</tr>
<tr>
<td></td>
<td>snail),</td>
</tr>
<tr>
<td></td>
<td>- Non-restoration of the landscape and regeneration of the vegetation cover.</td>
</tr>
</tbody>
</table>

Other Adverse Environmental Impacts of the Education Sector Construction Programme

<table>
<thead>
<tr>
<th>Specific activities</th>
<th>Potential Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implantation of</td>
<td><strong>Impacts on the biophysical environment</strong></td>
</tr>
<tr>
<td>contractor and</td>
<td>- Deforestation with the opening and the exploitation of the quarries</td>
</tr>
<tr>
<td>works phase</td>
<td>- Risks of bush fires by uncontrolled burning</td>
</tr>
<tr>
<td></td>
<td>- River sedimentation</td>
</tr>
<tr>
<td></td>
<td>- Obstruction of drainage patterns</td>
</tr>
<tr>
<td></td>
<td>- Loss of vegetation when site preparation and quarries opening</td>
</tr>
<tr>
<td></td>
<td>- Pollution and temporary disruption of river out-flow (by storage of construction</td>
</tr>
<tr>
<td></td>
<td>materials)</td>
</tr>
<tr>
<td></td>
<td>- Accidental discharge of oils, of greases,</td>
</tr>
<tr>
<td>Operation</td>
<td>- Accidents (turns, critical points, etc.)</td>
</tr>
<tr>
<td></td>
<td>- Flying dust on lateritic roads (crossing villages)</td>
</tr>
<tr>
<td></td>
<td>- Facilitation of access to the protected natural resources</td>
</tr>
</tbody>
</table>
Adverse Environmental Impacts of the Water Supply infrastructures

<table>
<thead>
<tr>
<th>Phase</th>
<th>Potential adverse Impacts</th>
</tr>
</thead>
</table>
| Construction | - emanation of dust  
|            |   - Loss of vegetation (clearings, reticulation systems and piped water connections.  
|            |   - Disruption of the traffic during works, trench digging, and excavations,           
|            |   - Accident risks (non protected trenches, machinery, etc.)                           
|            |   - disruption of the surrounding drainage system                                      |
| Operation | - Increase of water use,  
|           |   - over-extraction of the ground water,                                                
|           |   - Increased competition for the use of natural resources (                             
|           |   - Increase levels of soil salinity,                                                    
|           |   - proliferation of invading aquatic plants,                                             
|           |   - development of water related diseases (malaria, bilharzias, etc.)                   
|           |   - reduction of arable and pastoral surfaces                                            
|           |   - increase in the population density around the infrastructures                       |

Socio-Economic Activities
In addition to these environmental and social implications related to infrastructure, the consultant reviewed several school-related activities in several sub-sectors of the Gambian economy such as small scale agriculture, animal husbandry, fishing, forestry, some cottage industries.

Whilst our immediate concerns are schools infrastructure and services, these educational facilities, as the consultant has found in several other countries may opt for engagement, be it at a small scale in these socio-economic activities some of which already exist in some schools. Whether this third education project will look into the creation of vocational or professional or technical institutes associated with the specific ecological zones in the Gambia is not clear to the consultant.

In formulating the ESMF, the consultant attempts to pre-empt this development whether World Bank funded or not and to present in annex 3 a compendium of socio-economic activities that already are or could eventually be incorporated extra curricula activities of educational establishments.
Adverse Environmental Impacts of Socio-Economic Activities e.g., Agricultural Activities

<table>
<thead>
<tr>
<th>Sub-sector</th>
<th>Potential Adverse Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit trees (e.g Cashew)</td>
<td>- sensitive habitat destruction,</td>
</tr>
<tr>
<td>Promotion of agricultural activities</td>
<td>- reclamation of wooded zones,</td>
</tr>
<tr>
<td>Market gardening</td>
<td>- soil erosion, disruption of the water cycle,</td>
</tr>
<tr>
<td>Nurseries, school orchards and small irrigated market gardening</td>
<td>- loss of grazing land,</td>
</tr>
<tr>
<td></td>
<td>- pollution of underground water tables, rivers, water bodies,</td>
</tr>
<tr>
<td></td>
<td>- contamination of livestock watering points,</td>
</tr>
<tr>
<td></td>
<td>- pesticides poisoning,</td>
</tr>
<tr>
<td></td>
<td>- pesticides residues in the food chain,</td>
</tr>
<tr>
<td></td>
<td>- use of empty containers to store food or water,</td>
</tr>
<tr>
<td></td>
<td>- dislocation of non-targeted populations,</td>
</tr>
<tr>
<td>Animal Husbandry</td>
<td>- reduction of grazing capacity</td>
</tr>
<tr>
<td></td>
<td>- tree felling for the establishment of paddocks,</td>
</tr>
<tr>
<td></td>
<td>- soil erosion</td>
</tr>
<tr>
<td></td>
<td>- Loss of vegetation around the works (watering points, etc.),</td>
</tr>
<tr>
<td></td>
<td>- excessive withdrawal of the underground waters.</td>
</tr>
<tr>
<td>Fisheries</td>
<td>- stripping of humid zones</td>
</tr>
<tr>
<td></td>
<td>- disappearance of grazing lands</td>
</tr>
<tr>
<td></td>
<td>- change in water flows</td>
</tr>
<tr>
<td></td>
<td>- competition with other water uses</td>
</tr>
<tr>
<td></td>
<td>- water pollution (chemicals, etc.)</td>
</tr>
<tr>
<td></td>
<td>- depletion of local fish populations with the introduction of exotic species</td>
</tr>
<tr>
<td></td>
<td>- development of water related diseases</td>
</tr>
</tbody>
</table>

In order to cope with these adverse impacts, the environmental and social screening process proposed in the ESMF will be conducted in such a way as to ensure that potential negative impacts are mitigated appropriately. It is recommended that Environmental Guidelines for Contractors (Annex 5) are used to ensure that the constructor’s activities are carried out in compliance with the mitigation measures proposed in the ESMF. These guidelines can be written into contractual agreements and form the basis for monitoring compliance. In addition, ESMF would have to mitigate potential health impacts on the surrounding population such as dust, noise, traffic accidents and an increase in water-related diseases due to standing waters in the burrow pits.

7.2 Social Impacts of the Education Project Activities

a. Positive Social Impacts

Overall, the Education Project is likely to have a positive impact on the social issues in the communities’ development in the Gambia, in the short, medium and long term. The infrastructures that will be financed in the framework of the project are supposed to have positive social impacts responding to the educational needs of the population. These positive impacts can be summarized as follows:

- The enhancement of educational standards,
- The diversification of knowledge notably in the scientific and technical fields,
- A better access to non-formal education and literacy to-date unavailable to a large spectrum of Gambian society.
At the institutional level:

- **Improving the capacity of the regional directorates to promote and monitor performance in the sector and ensuring that the environment for learning and the social well-being of the student populations are conducive to their educational objectives.**

- **Gender and Fairness:** Increased enrolment of the female gender, the senior citizenry and those who up to now have been ignored or have not had access to educational facilities. Women, who constitute essential levers in the organization and the animation of the Local Communities, will actively participate in the activities of the project of which they will be privileged recipients, in terms of improvement in their educational standards and social well-being as well as accessing new technologies and management skills.

**Construction of Schools Infrastructure**

The construction of teaching facilities will facilitate the reintegration of a great number of pupils into the school system, and particularly boost a qualitative and quantitative development of the education system in the concerned areas (increase of school attendance by boys and girls; etc.). The works, (including sanitation and water points) will contribute towards recreating a healthy school environment for pupils and teachers. This will encourage also many more parents to send their children to school and mainly strengthen proximity teaching in concerned areas. This situation will also help to improve hygiene, reduce precarity amongst the young taking them off the streets. School infrastructures (classrooms, literacy centres for both the young and adults, training centres for the young will improve the school attendance rate.

**Socio-Economic and Cultural Infrastructures**

Some socio-cultural infrastructures incorporated into the school’s infrastructure programme such playgrounds and sports facilities will have significant beneficial impacts on the communities served as well contributing towards the reduction of delinquency.

**Water supply infrastructures**

The construction of water supply facilities (bore holes, watering points, wells, etc.) will contribute to improving the availability of water in the villages reducing thus both the time and energy spent by women to go and fetch water. Thus these achievements, will contribute to improving the health situation of the school’s riparian populations by making available to them clean water.

**Fishing Activities**

The development of fishing (in coastal areas and riverbank environments) contribute to improving nutrition levels (availability of proteins) among the students and surrounding populations. The vocational implications for education and enhancement of living standards cannot be neglected now and in the future as the resource base for development of economic activity will of have to be diversified.

**Forestry**

The development of school’s forestry nursery programmes could assist and motivate communities in reforestation undertakings. These schools, with their level of awareness of the positive impacts of reforestation and other conservation activities could well uplift the culture of environmental and social enhancement practices that could improve their social and financial situations.

**Agricultural activities**

The promotion of orchards and other agricultural pursuits in schools has been a feature recognised in the curriculum of most establishments in the Gambia.
It is important that these activities be nurtured and promoted to the extent that, apart from their vocational role, they can serve as catalysts to

- Improvement of nutrition standards,
- Improvement of production and productivity on high-value crops,
- Satisfaction of some of the basic needs of the student population and in certain cases provide key elements of the requirements of their communities.

**Other income Generating Activities**
The development of activities due essentially to cultural sensitivities such as weaving, dyeing, the processing of agricultural products and fruit picking will help improve the life of all genders and their household economies in general.

**Other Adverse Social Impact**
In addition, other adverse social impacts are likely to arise from the following:

- Absence of a participatory process involving local communities in the preparation of their Educational Regional Development Plans by their Local Governments.
- Exclusion of vulnerable groups from participating in and benefiting from project activities, due to stigmatization, harmful cultural practices, acute poverty among vulnerable groups, discrimination, lack of participation in the planning process etc.
- Land acquisitions/use resulting in involuntary resettlement or loss of land assets and livelihoods.

The consultant noted certain amount reticence of populations in certain regions to avail themselves of the facilities being provided, in particular access to education for the female gender. The regional education directorates have a significant amount of sensitisation to be carried out to remove the socio-cultural prejudices associated with education.

The environmental and social screening form (Annex 1); the environmental and social checklist (Annex 2); the mitigation measures described in Annex 3 and the environmental guidelines for contractors described in Annex 4 are specifically designed to ensure that adverse social impacts from this third education project are captured at the planning stages and effectively mitigated. Both environmental and social mitigation measures would be verifiable and monitored during the various stages of the program cycle.

**8. THE ENVIRONMENTAL AND SOCIAL SCREENING PROCESS**

**8.1. The Environmental and Social Screening Process**
The sections below illustrate the stages (steps 1-7) of the environmental and social screening process leading to the review and approval of the education project activities to be implemented. The purpose of this screening process is to determine which activities are likely to have negative environmental and social impacts; to determine appropriate mitigation measures for activities with adverse impacts; to incorporate mitigation measures into the project as appropriate; to review and approve the project’s proposals; to monitor environmental parameters during the implementation of activities.

The extent of environmental work that might be required prior to the commencement of the projects will depend on the outcome of the screening process described below.
8.2. The Screening Steps
The process of screening can be broken down into the following steps:

**Step 1: Screening of the Education Project’s Infrastructure and Locations.**
The initial screening in the field will be carried out by the Environmental Focal Point (EFP) located in each Region composed but not limited to representatives of the Commissioners, the Area Councils, the regional Directors of Education, the Project Construction Unit and Project monitors Gamworks and members of the communities. The EFPs will facilitate the screening process, under the guidelines of the NEA. The EFPs will complete the Environmental and Social Screening Form (Annex 1). Completion of this screening form will facilitate the identification of potential environmental and social impacts, determination of their significance, assignment of the appropriate environmental category, proposal of appropriate environmental mitigation measures, or recommend the execution of an Environmental Impact Assessment (EIA), if necessary. To ensure that the screening form is completed correctly in the various project locations, environmental and social training will be provided to the EFPs in each region.

**Step 2: Assigning the appropriate Environmental Categories**
The assignment of the appropriate environmental category to a particular construction/rehabilitation activity will be based on the information provided in the environmental and social screening form (Annex 1). The EFP will be responsible for categorizing a rehabilitation activity either as A, B, or C.

- Category A: activities requiring an environmental impact assessment,
- Category B: activities requiring an environmental impact statement or the implementation of simple mitigation measures,
- Category C: activities neither requiring an environmental impact statement nor an environmental impact assessment.

The assignment of the appropriate environmental category will be based on the provisions in OP 4.01 Environmental Assessment. Consistent with this operational policy, most activities under the education project are likely to be categorized as B or C for that matter, meaning that their potential adverse environmental impacts on human populations or environmentally important areas – including wetlands, forests, grasslands, and other natural habitats – are site-specific, few if any of the impacts are irreversible, and can be mitigated readily.

Some schools infrastructure, water and sanitation facilities, fencing and roofing could simply be the subject of a contractor’s manual and embodied in their contracts and strictly monitored in this regard. Such projects could well be classified C and allowed to proceed immediately.

**Step 3: Carrying out Environmental Work**
After analyzing the data contained in the environmental and social screening form and after having identified the right environmental category and thus the scope of the environmental work required, the EFP will make a recommendation to establish whether: (a) no environmental work will be required; (b) the implementation of simple mitigation measures will be enough; or (c) a separate environmental impact assessment EIA will be carried out.

According to the results of the screening process, the following environmental work can be carried out:

(a) **Use of the environmental and social check list (Annex 2):** The environmental and social check list (Annex 2) will be filled by the Environmental Focal Point (EFP) of the project. Activities categorized as simple category B activities might benefit from the application of simple mitigation measures outlined in this checklist. In situations where the screening process identifies the need for land acquisition, qualified service providers would prepare a RAP, consistent with OP 4.12.
(b) Carrying out Environmental impact assessment (EIA): In some cases, the results of the environmental and social screening process may indicate that the activities scheduled are more complex and they consequently require conducting a separate EIA. The EIA will be conducted by consultants authorized/agreed by the PCU. The EIA will identify and assess the potential environmental impacts for the planned rehabilitation activities, assess the alternatives solutions and will design the mitigation, management and monitoring measures to be proposed. These measures will be quoted in the Environmental and Social Management Plan (ESMP) that will be prepared as part of the EIA for each activity. The preparation of the EIA and the ESMP will be done in collaboration with the concerned parties, including the people likely to be affected.

The EIA will follow the national procedure established in the framework of the Environmental Framework Law and the decree regulating EIAs and will be consistent with OP 4.01. Draft EIA terms of reference have been provided in Annex 6 of the ESMF, to be adapted as necessary.

Step 4: Review and Approval
Review: At the division level, the EFP will review the environmental and social screening forms as well as the EIA reports, and will make recommendations as to whether the results of the screening process or the EIA reports are acceptable. This structure at the regional level will review:

(i) the results and recommendations presented in the environmental and social screening forms,
(ii) the propose mitigation measures presented in the environmental and social checklists and,
(iii) as appropriate, the results of EIAs to ensure that all environmental and social impacts have been identified and effective mitigation measures have been proposed and incorporated into the project implementation and costs.

Recommendation for Approval/Rejection: Based on the results of the above review process, the EFP will make recommendations to the NEA for approval/rejection of the review results and the proposed mitigation measures.

Approval/Disapproval: The EIA reports will have to be reviewed in the light of the EFP recommendations prior to approve/rejection by the NEA. If the EIA is approved, the NEA issues the necessary environmental permit that confirms the EIA has been satisfactorily completed and the project may proceed. A decision is made and a record of the decision explains how environmental issues were taken into consideration.

Stage 5: Public Consultations and Disclosure:
Public consultations will also take place during the screening process, and the results will be communicated to the public by the EFP. According to the procedures governing the EIA, public information and participation must be ensured during the scoping period and the preparation of the Environmental Impact Assessment, in collaboration with the competent bodies of the administrative constituency and the concerned community. Public information includes particularly:

- One or several meetings for the presentation of the project with a gathering of local authorities, the populations, the concerned organizations;
- The opening of a register available to all the populations where will be consigned the preoccupations, the appreciations, remarks and suggestions formulated on the project.

A public information program is initiated, and public notices are issued during the scoping and EIA stages. Whenever a strong public concern over the proposed project is indicated and impacts are extensive and far-reaching, the PCU is required to organize a public hearing. The results of the public hearing should be taken into account when a decision is taken whether or not a permit is to be issued.
These consultations should allow for the identification of the main issues and determine how the concerns of all parties will be tackled in the terms of reference for the EIA. The results of the consultations will be included in the EIA report and made available to the public by the PCU, through its EFP.

For the education project infrastructure activities, the public consultation process will be carried out by the EFP, in two phases: (i) during the screening and classification of project activities and (ii) during the analysis of environmental and social impacts.

**Stage 6: Environmental Monitoring and Follow-up**

Environmental monitoring aims at checking the effectiveness and relevance of the implementation of the proposed mitigation measures. In coordination with the Project Coordination Unit, monitoring will be done:

- At regional levels, by the regional directorates and their cluster monitors,
- at national level, by the project construction unit and Gamworks.

**Stage 7: Monitoring indicators:**

In order to assess the efficiency of the education project’s construction/ rehabilitation activities, it is we proposed that the following below monitoring indicators be used:

**Environmental and social indicators**

- Water quality in schools and surrounding communities meet international standards,
- Safe waste management related to construction works
- Reforestation and land restoration after construction and or rehabilitation,
- Compliance with the Environmental Guidelines for Contractors
- Pest management training received by the students and communities,
- Best practice in the implementation of project activities,
- Equipment for safe medical waste management provided by projects where required.

These monitoring indicators will be included in the education Project Monitoring Manual.

**8.3. Responsibilities for the Implementation of the Screening Process**

The ESMF will be applied by qualified Environmental Focal Points (EFPs) located in the regions. The EFPs will coordinate their activities with the NEA at central level and probably at the district level. To ensure that the screening process is carried out effectively, the project will provide support for environmental training, as required.

The table shown below gives a summary of the stages and institutional responsibilities for the screening, preparation, assessment, approval and implementation of the education construction/rehabilitation activities.
<table>
<thead>
<tr>
<th>Stages</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Screening of teaching facilities and related water supply and sanitation systems at each of the sites of these facilities, using the Environmental and Social Screening Form (Annex 1)</td>
<td>Regional Environmental Focal Points</td>
</tr>
<tr>
<td>2. Assigning the appropriate Environmental Categories (A, B, or C)</td>
<td>Regional Environmental Focal Points</td>
</tr>
<tr>
<td>3. Carrying out Environmental Work, i.e. implementing simple mitigation measures (Annex 2), or, carrying out a separate EIA</td>
<td>Regional Environmental Focal Points</td>
</tr>
<tr>
<td>4. Review and Approval</td>
<td></td>
</tr>
<tr>
<td>4.1 Approval of (i) the screening results ; (ii) the assigned environmental category; and (iii) recommendations of the EFP</td>
<td>NEA</td>
</tr>
<tr>
<td>4.2 Selection of the consultant s in cases where EIA is required.</td>
<td>• The Project Coordination Unit shall approve the designation of consultants.</td>
</tr>
<tr>
<td>4.3 Execution of the environmental Impact Assessment (EIA)</td>
<td>Authorized Consultants</td>
</tr>
<tr>
<td>4.4 Approval of environmental assessment</td>
<td>NEA</td>
</tr>
<tr>
<td>5. Public consultations and disclosure</td>
<td>Environmental Focal Points and the PCU.</td>
</tr>
<tr>
<td>6. Monitoring</td>
<td>Environmental Focal Points, the PCU and NEA.</td>
</tr>
<tr>
<td>7. Environmental and Social Indicators</td>
<td>The EFP in each region will ensure that the environmental and social monitoring indicators listed in the ESMF are included and adhered to in all education project construction/rehabilitation activities.</td>
</tr>
</tbody>
</table>

9. ENVIRONMENTAL MANAGEMENT PLAN (EMP)


An Environmental Management Plan (EMP) for Education sector construction or rehabilitation of infrastructure is intended to ensure efficient environmental management of these activities. The EMP lists: (a) the relevant project activities,
(a) the potential negative environmental and social impacts,
(b) the proposed mitigating measures,
(c) the proposed mitigation measures,
(d) those who will be responsible for implementing the mitigation measures,
(e) those who will monitor the implementation of the mitigation measures;
(f) the frequency of the afore-mentioned measures;
(g) capacity building needs; and
(h) the cost estimates for these activities.
The EMP will be included in project’s Implementation manual with the associated costs.

At the time of the implementation of some of the activities of the education infrastructure program, the potential environmental and social impacts must be clearly identified and a management plan formulated, implemented and the plan’s performance monitored before, during and after construction or rehabilitation of the works. The impacts must be avoided or neutralised where possible or mitigated in conformity with Gambia’s and world bank prescriptions.

With this perspective in mind, the present EMP proposes to emulate the acquisitions and environmental lessons developed or learnt elsewhere in the continent with the view to orient the mechanisms that will enable the project to achieve and sustain the objectives desired.

The EMP presented in the form of a table in annex 3. below emphasises the crucial role if mitigation.

9.2. Institutions responsible for Implementing and Monitoring the Mitigation Measures
Roles and responsibilities regarding environmental planning and approval for construction or rehabilitation activities are outlined and summarised below. The main institutions with key roles and responsibilities for environmental and social management are:

National Coordination/Supervision
- At the central level, the NEA, the PCU and Gamworks will coordinate and supervise the EFPs located in the regions.
- At the regional levels, these EFPs will carry out the initial screening process as per the forms contained in annex 1 as well the checklist prepared for this purpose (annex 2) in order to present to the NEA and PCU the appropriate observations and recommendations as to the project’s environmental and social soundness of the activities under consideration.

Execution/Implementation
- Individual consultants or consultancy firms will be responsible for carrying out the EIA studies;
- Private contractors will be responsible for the implementation of the mitigation measures as indicated in the Environmental Guidelines for Contractors (Annex 4).

Monitoring
- This exercise will be carried out by the NEA, the PPCU and Gamworks at the national level and EFPs at regional level.

9.3. Capacity Building for the Environmental and Social Management of the Project

(a) Training Needs:
Capacity to undertake screening of educational infrastructure and services will have to be imparted to EFPs, personnel of the PCU, Gamworks and local government authorities to enable them to make sound judgments, in particular on siting of infrastructure and the implications on the environmental and social conditions in place and to understand where these can be impacted positively or negatively and the measures required to eliminate or attenuate the latter.

The consultant felt that a series of seminars and workshops could be organised by the NEA or consultants to transfer this knowledge.
Concerning the environmental management of CDP activities, the specific needs in the field of environmental capacity building are the following ones by category of stakeholders.
<table>
<thead>
<tr>
<th>Concerned stakeholders</th>
<th>Topic of the training</th>
</tr>
</thead>
</table>
| EFPs, PCU and Gamworks, Local government and community personnel. | Training in the field of:  
- Environmental assessment (screening and classification of sub-projects; EIA procedures, etc.)  
- Impacts identification.  
- Draft terms of reference for environmental assessments.  
- Selection of simplified mitigation measures in the checklists  
- Pollution, waste management, hygiene and quality standards  
- Gambia's national environmental policies, procedures, and legislation  
- World bank Safeguards Policies  
- Monitoring the implementation of measures and environmental indicators.  
- Pest management |

The following environmental training would be necessary to ensure that CDP activities will be implemented in an environmentally and socially sustainable manner:

**Environmental and Social Management process**
- Review of Environmental and Social Management Process.  
- Assignment of environmental categories  
- Use of Screening form and Checklist  
- Preparation of terms of reference for carrying out EA  
- Design of appropriate mitigation measures.  
- How to review and approve EA reports  
- The importance of public consultations in the ESMF process.  
- How to monitor project implementation and mitigation measures.  
- How to embed the Environmental and Social Management process into the implementation of sub-projects.

**Environmental and Social Policies, Procedures and Guidelines**
- Review and discussion of Gambia's national environmental policies, procedures, and legislation,  
- Review and discussion of the Bank's safeguards policies,  
- Strategies for consultation, participation and social inclusion,  
- Collaboration with institutions and stakeholders at all levels (local, provincial, national.)

**Selected Topics on Environmental Protection**
- Hygiene and security during the works,  
- Maintenance of infrastructures and equipments,  
- Medical waste management,  
- Pest management,  
- Groundwater management.

In the Gambia, there are a number of consultants/firms specialised in EIA issues. These independent consultants or firms or the NEA could be contracted to design short courses tailored to environmental conditions and problems specific to the scope of work conceptualised for each of the regions.

**Training and Sensitizing Cost Estimates**
The training program is to be implemented by the Project Coordination Unit in collaboration with the NEA. The costs estimates, including travel expenses, and training modalities will be prepared by the EFP. Qualified trainers will be recruited by the PCU.
For planning purposes, a national workshop should be organized during the implementation of the project. (5 days of duration, total cost to be determined).

Public awareness programs need to be conducted at community level using the media and direct contacts through the cluster monitors, in order to inform populations on environmental issues arising out of the education project activities. The duration and costs should be estimated by the regional directorates.

**Provision for EIA and RAP:**
No budgetary provisions have been made for EIA or RAPs as at the time of formulating this ESMF, the scope, extent or nature of the project infrastructure associated with the components/activities and related services were yet to be finalised nor was evident that these or just statements would suffice for project approvals.

**9.4. Monitoring Plan - Monitoring Indicators**
The objective for monitoring is two fold: (i) to alert project authorities and to provide timely information about the effectiveness of the Environmental and Social Management process outlined in the ESMF in such a manner that changes can be made as required to ensure continuous improvement to the process,

(ii) to make a final evaluation in order to determine whether the mitigation measures have been successful in such a way that the pre-programme environmental and social conditions have been restored, improved upon or worst than before and to determine what further mitigation measures may be required.

A number of indicators would be used in order to determine the status of the affected environment as follows:

Has the pre-project human and natural environmental state been maintained or improved at the education facilities and;

Has the effectiveness of the ESMF technical assistance, review, approval and monitoring process been adequate to pre-empt and correct negative impacts inherent in certain types of educational infrastructure projects.
**Environmental Indicators:** Loss of vegetation; Land degradation; Compliance with Legislations.

<table>
<thead>
<tr>
<th>Mesures</th>
<th>Actions considère</th>
<th>Responsible</th>
<th>Costs US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional measures</td>
<td>To designate the Environmental Focal Points (EFPs) in all regions (Local government representatives, PCU, NEA, Gamworks Community representatives and appropriate NGOS) to serve as regional actors in the execution of the education activities and notably in the application of the prescriptions of this ESMF and the RPF (see separate document).</td>
<td>PCU</td>
<td>30,000</td>
</tr>
<tr>
<td><strong>Technical Measures</strong></td>
<td>To undertake the regional exercises related to planning, assessment and follow-up, in a systematic manner, of the ESMF and RPF provisions on the Environmental and social components of these, especially prior to, during and after construction or rehabilitation of all the Education Infrastructure funded by the project.</td>
<td>EPF, NEA, Gamworks PCU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To undertake Environmental Impact and Resettlement Action Plan Studies</td>
<td>The local communities (Council; Wards; VDC)</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-Total 1</strong></td>
<td></td>
<td>PCU/Consultants</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>Training in environmental and social management of the projects with follow-up and execution of environmental measures</td>
<td>PCU/NEA, Consultants</td>
<td></td>
</tr>
<tr>
<td>(including local communities)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEC Sensitisation (including media campaigns for local communities)</td>
<td>Sensitization on HIV/AIDS Communication and sensitization campaign before, during and after works Sensitization and advocacy on the environmental and social stakes of the projects, good environmental practices, appropriate behaviour in the yards, respect of customs and traditions, of the measures of hygiene and security, the use of the pesticides, respect for the planning normes,</td>
<td>PCU/NEA, Consultants</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-Total 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GENERAL TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These indicators must be reviewed in conjunction with:

- Environmental Guidelines for Contractors; Pesticides use; Waste management; Maintenance of Facilities (schools infrastructure water and sanitation facilities fences, gates roofs etc.)

- **Social indicators:** Population incomes; number of people provided with environmental training to implement the ESMF; The number of local workers used during of the works

These monitoring indicators will be included in the PCU Project Monitoring Manual.

**9.4. Budget for the Environmental and Social Management of the Education Project**

An overall budget for the infrastructure components of this project cannot be made as the infrastructures are site-specific and unknown at this time.

The infrastructure and services management costs should be determined for each sub-project and built into the project before, during and after sub-project completion.
The Consultant felt that the EFPs with Gamworks should define the plans with a systematic follow-up plan, notably in the maintenance of the facilities.

A budget for Institutional support for NEA and Gamworks is as follows:

Institutional support to the NEA
(N.B.) 2 regions have already been provided each with 2 inspectors and 2 programme officers leaving 4 regions to be covered as follows:

A. Personnel Costs
   4 Inspectors @ D3500 per month D 168,000
   4 Programme Officers @ D4100 per month D 196,800
   Sub-Total (Personnel) D 364,800

B. Logistics
   12 Motorcycles @ D100,000 D1,200,000
   6 Fax Machines @D15,000 90,000
   6 Laptop Computers plus Printers @ D72,000 each 432,000
   6 Rented Houses (accommodation + office) @ D4000/month 288,000
   Sub-Total D2,010,000

C. Operation and Maintenance
   (spares, fuel, electricity, water, etc.) D 120,000

D. NEA Headquarters Backstopping
   Total Annual Costs D 100,000
   i.e. D28.00 to $1.00 $ 92,671

The Consultant recommends that the project covers these costs phased out over a period of 4 years.

TRAINING OF GAMWORKS PERSONNEL

The Consultant is also suggesting a one year construction engineering course for three staff of Gamworks i.e.

3 No. @ $24,000 per person $ 72,000

10. RECOMMENDATIONS

10.1 Specific Recommendations
The consultant, during his field trip in all regions of the country has found certain key areas that need to be addressed in most of the education infrastructures visited as follows:

a) the absence of fencing in some schools or where it exists, the gates have been damaged or not functional. This situation must be remedied.

b) Some of the facilities still retain their asbestos roofing materials with a clear need for these to be replaced over time.

c) Water facilities in-some cases are in disrepair as for example at Nyakoi in region 6 where the solar-driven pump is not functional. A systematic programme of inspection of educational establishments by the cluster monitors reporting to PCU or the appropriate authorities for remedial action should be put in place.
d) In certain cases the hand pumps of the shallow aquifer wells are also not operational with broken levers or spindles requiring repairs or replacement as for example at Tahir Ahmadiya SSS. In addition, most well sites are water-logged due to absence of any drainage system built into the construction, nor protector surrounds to isolate the well-head from encroaching animals. In fact some wells even have animal watering troughs built into the structure, a practice that has been discouraged a long time ago. Case of wells being close to sanitation facilities such as toilets and latrines have been found at Armitage SSS and Pakalinding LBS.

e) Where liquid waste is significant, soakaways have been used in most cases. Biodegradable waste is hardly generated by the existing establishments. In the future it may be necessary to provide settling tanks to treat liquid waste up to certain quality standards prior to discharge into any aquatic or terrestrial environment.

f) As regards solid waste, comprising presently of mostly papers and in the absence of recycling services in the country, it is recommended that simple incinerators in the form of 200 litre drums with an oven section at the bottom can be used except for synthetic non-organic waste.

The cases of Armitage SSS, Soma UBS, Pakalinding UBS and Tahir Ahmadiya require special mention as they may reflect conditions prevailing in a large number of other educational establishments.

As regards Armitage SSS, the entire infrastructure is in an advanced state of decay and the consultant felt it necessary to cite the following:

a) Some of the blocks still maintain their asbestos roofing materials those that have been replaced by aluminium sheeting are actually now being used as partitions in different parts of the school compound.

b) The toilet facilities have not been serviceable for some time and the school had to resort to construction of pit latrines to cater for the sanitation needs of students and staff.

c) The existing septic tank and sewerage system is the source of intensive and noxious pollution of the soils and groundwaters throughout the school and staff premises but more dramatic at the female dormitories, making the latter the niche for all manner of water-borne or water-related bacterial or viral organisms.

d) The students, because of the precarious nature of NAWEC water supply has for days if not weeks been relying on untreated water for drinking and other uses as the well existing has been too polluted as to non-potable.

The kitchen and bakery, especially the latter constructed in mud without roofing are not fit health wise to prepare any meals.

The consultant is therefore recommending a full environmental audit of the school with the view to determining the scope and extent of any rehabilitation work that the project might wish to undertake if the school is to avoid a major environmental and health disaster.

With reference to Soma UBS, Pakalinding UBS and Tahir Ahmadiya SSS, apart from the problems of fencing presence of asbestos, the major issue is water supply stemming from the unreliability of NAWEC, apparently incapable of sustaining a 2-hour supply if not total absence of water sometimes for a week or more. For Soma UBS, the project should consider the option, in agreement with NAWEC of a ground tank from which water can be pumped to an overhead tower and for supplies to be available to the school at agreed hours of the day or night. This option can be applied to Pakalinding UBS and Tahir Ahmadiya SSS to include also the modern regional education headquarters at Mansakonko. The latter three can in fact be connected to one tank system with a reticulation system serving all of them.

Failing this the only other option is to construct a solar-powered borehole and water tower system for Soma and a joint system with reticulation for Pakalinding UBS, Tahir Ahmadiya and the regional directorate at Mansakonko.
The water and sanitation problems have also been found at Essau and Brikamaba to cite only these.

In discussions with The Project coordinator, and in order to avoid any discrimination of any school facility, the cluster monitors should carry out an inventory of all the major environmental concerns in each school in their cluster and consign these in a form for review by the EFPs and the PCU.

The EFPs should as soon as possible be set up in consultation with the NEA, Gamworks and Local government authorities and clearly stipulating their roles as prescribed in ESMF and the RPF.

Training programmes should be formulated and instituted as soon as the EFPs are created. Particular attention should be given to capacity for screening, categorising and EIA procedures and processes.

10.2 General Recommendations
These relate to fencing of the education facilities, replacement of all asbestos roofing, and construction of drainage systems at all well heads and protection of these with well surrounds. The blueprint for the latter is available at the department of water resources.

The consultant has, in the short time available not been able obtain information on self-flushing toilet systems appropriate for Senior Secondary Schools and less likely to suffer the rash handling that the systems found, for example at Armitage SSS have been subjected to. This information will be made available to the PCU in the near future.

The project should take in hand the rehabilitation and maintenance of the modern complexes built at regional directorates to avoid the decay that appears to be setting in some if not all of them as they are crucial to the education sector development and sustainability.

The contractors should:

- Comply with the environmental guidelines described in Annex 5
- Comply with all of the requirements of the EIA and ESMP and shall, in accordance with accepted standards, employ techniques, practices and methods of construction that will ensure compliance with these standards and, in general, minimise environmental damage, control waste, avoid pollution, prevent loss or damage to natural resources, and minimise effects on surrounding landowners, occupants and the general public.
- Such agreed remedial measures shall be undertaken immediately to prevent further damage and to repair and restore any damage that may have occurred prior to during and after construction.
- Organise labour, plant, transport and equipment to perform the work in accordance with the environmental requirements.
- Ensure the project is implemented in accordance with the environmental standards specified in the ESMP.
- Implement agreed actions resulting from routine monitoring, or inspections.
- In addition the contractor shall implement their own audits to ensure conformity with the requirements of the ESMP.
11. ANNEXES

11.1. Annex 1: Environmental and Social Screening Form (ESSF)

EIA Screening Form

ENVIRONMENTAL IMPACT ASSESSMENT SCREENING FORM

Please type or print clearly, completing this form in its entirety. You may provide additional information on a separate sheet of paper if necessary. Kindly note that the information you are to provide is required by Section 22 of the National Environmental Management Act of 1994 and it is an offence to give inaccurate information under Section 53 (C) of the same Act.

SECTION 1: INFORMATION ON THE CONTACT PERSON

Name: ___________________________________________________________

Institutional Affiliation: ____________________________________________

Business Title / position: ___________________________________________

Business Address: _________________________________________________

Telephone: _______________________________________________________

SECTION 2: DESCRIPTION OF THE PROPOSED PROJECT

Name of Proposed Project: ___________________________________________

Date expected to start construction: _________________________________

Proposed location of project: _______________________________________

(Attach a map or maps, covering the proposed site and surrounding 5 km radius)

Land Area: _______________________________________________________

(Approximate land area and of proposed location)

Current Land Use (Describe how the land is being used at present)

_________________________________________________________________

_________________________________________________________________

Describe any Possible Alternative Site(s): ____________________________

_________________________________________________________________
Describe other types of industries or facilities (including health centres and school) which are located within 100 metres of the site, or are proposed to be located near the proposed facility. Indicate the proximity of the proposed industrial site to residential areas, national parks or areas of ecological, historical or cultural importance.

Indicate whether adequate infrastructure exists at the proposed location, or whether new building, roads, electricity and water lines, or drainage systems will need to be constructed as a part of the proposed project.

SECTION 3: EMPLOYEES AND LABOURERS

Number of people to be employed:

<table>
<thead>
<tr>
<th>Employees and Labourers</th>
<th>During Construction</th>
<th>During Routine Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULL-TIME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PART-TIME</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Indicate whether you plan to construct housing / sanitation facilities for temporary or permanent workers.

SECTION 4: DESCRIPTION OF INDUSTRIAL PROCESS

Briefly describe the type and nature of industrial processes to be conducted at the installation.
State the type and quantity of energy to be used (including the origin of the energy, i.e. public utility, on-site generator, wood, solar, wind, etc.)

<table>
<thead>
<tr>
<th>Type(s) and Source</th>
<th>Quantity</th>
<th>Period (per day / week / etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Estimate the quantities of water to be used for the following:

<table>
<thead>
<tr>
<th>Use(s) of Water</th>
<th>Quantity</th>
<th>Period</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steam Generation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production Process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List the type and quantity of raw materials to be used per year in the production process (including soil, sand, cement, aggregates, wood, animals, etc.). Identify if the sources of all raw materials.

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List of all the chemical expected to be used for any aspect of the production process (A separate list may be attached with more detailed information)

<table>
<thead>
<tr>
<th>Name / Type</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

SECTION 6: PRODUCTS

Briefly state the nature of the product(s) or output of the proposed facility, and the expected quantities on a quarterly or annual basis. Indicate the intended uses of the product(s).

<table>
<thead>
<tr>
<th>Name of Product / Output</th>
<th>Description of Uses</th>
<th>Anticipated Output per Qtr/Yr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 7: BY-PRODUCTS, WASTE MANAGEMENT AND DISPOSAL

Specify the nature of each waste or by-product and the quantity to be generated

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Quantity in Kg per wk/mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid (Bulk)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid (particulate)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaseous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proposed method of disposal or management of wasted (e.g. burning, bury, etc.)

<table>
<thead>
<tr>
<th>Type(s) and Source</th>
<th>Method of Disposal / Management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Indicate sources of noise pollution, the type / quality of noise (i.e. machinery / repetitive pounding, etc.)

<table>
<thead>
<tr>
<th>Source of Noise</th>
<th>Type of Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 8: ENVIRONMENTAL IMPACTS

Please indicate environmental impacts that may occur as a result of the proposed project.

<table>
<thead>
<tr>
<th>Nature of Impact</th>
<th>Y/N</th>
<th>Brief Description of the Anticipated Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal Population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Erosion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tranquillity / Noise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Habitats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 9: PROPOSED MITIGATION MEASURES

Indicate whether measures are being considered to mitigate against damage likely to be caused by the proposed project to human health and/or the environment. Briefly describe these measures.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Pollution</td>
<td></td>
</tr>
<tr>
<td>Water Pollution</td>
<td></td>
</tr>
<tr>
<td>Noise Pollution</td>
<td></td>
</tr>
<tr>
<td>Removal of vegetation</td>
<td></td>
</tr>
<tr>
<td>Wastes</td>
<td></td>
</tr>
<tr>
<td>Displacement of human populations</td>
<td></td>
</tr>
<tr>
<td>Destruction of fish habitat</td>
<td></td>
</tr>
<tr>
<td>Destruction of special habitats</td>
<td></td>
</tr>
<tr>
<td>Soil Erosion</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
</tbody>
</table>

State any and all experience you have with implementing the above mentioned mitigation measures. If you do not have prior experience, what skills do you possess to implement these mitigating measures.

What staff training will be provided to ensure compliance with health and environmental safety standards?
SECTION 10: TESTIMONY

I confirm that the information provided herein is accurate to the best of my knowledge. I will also endeavour to provide additional information and facilitate a site visit if required.

Signed: Developer

Date:

<table>
<thead>
<tr>
<th>Classified</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
</table>

Reasons for the Classification:

Endorsed by: 

Date:

Approved by Executive Director: 

Date:
Annex 2: Environmental and Social Checklist

For each building or renovation activity proposed, fill the corresponding section on the checklist; Annex 4 includes several mitigations measures; that can be amended if necessary.
For every proposed agricultural activity, the corresponding section of the control list should be filled in; annex 3 presents several measures of possible reduction; these can be amended if necessary.

<table>
<thead>
<tr>
<th>Activity PSAOP 2</th>
<th>Questions requiring obligatory answers</th>
<th>YES</th>
<th>NO</th>
<th>IF YES,</th>
</tr>
</thead>
</table>
| Implementation and exploitation project activities (small scale agriculture; forestry, etc.) | • Will there be any vegetation loss during the exploitation of the agricultural sectors?  
• Are there adequate services for the evacuation of waste foreseen during the exploitation?  
• Is waste generated during implementation and exploitation and will it be cleaned and will it be eliminated ecologically?  
• Will the facilities of security and emergency materials be available in case of accident during implementation and exploitation?  
• Are there risks of pollution of the underground or superficial water by the activities of the project?  
• Are there sensitive ecological zones in the vicinity of the project zone which could have adverse impacts?  
• Are there any impacts on the health of the riverside population or of the implementation and exploitation staff?  
• Are there visual impacts caused by the works?  
• Are there any odours capable of coming from the waste from the project activities?  
• Are there human establishments, or sites of cultural, religious or historical importance close to the agricultural exploitation site? | | | If Yes, take note of the measures of reduction possible described in annex 3 |
| Building of socioeconomic infrastructures (education; health) | • Are there cultivated or non-cultivated lands, natural resources, structures or other properties, used or un-used for any purpose, and in any way?  
• Will there be any vegetation loss during construction?  
• Are there appropriate services for the collection of scheduled waste during construction works?  
• Will the construction site be often cleaned?  
• Will the refuse generated during works collected?  
• Will the materials and assistance facilities be available during construction works? | Refer to general mitigation measures (Annex 3) |
| --- | --- | --- |
| Operation of infrastructures | • Are there pollution risks of groundwaters by work site activities?  
• Are there ecologic and sensitive zones in the neighboring areas of the infrastructure that could be adversely impacted?  
• Are there impacts on the health of the populations living next to the infrastructure scheduled to be built /renovated?  
• Are there visual impacts caused by work site installations but also during the transport and discharge of work site wastes  
• Are there smells coming from the discharge of work site wastes?  
• Are there human settlements and land uses (such as agriculture, recreational areas) next to the school infrastructures, or sites of cultural, religious or historic importance? | If yes, see the Plan for the appropriate mitigation and monitoring measures |
## 11.3. Annex 3: Mitigation Measures List

### General Mitigation Measures

<table>
<thead>
<tr>
<th>Potential adverse impacts</th>
<th>Potential Mitigation measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual impact following the disposal of work sites discharge areas into waste dumps</td>
<td>Regular collection and evacuation of work site refuse towards authorized dumps</td>
</tr>
<tr>
<td>Air pollution during the burning of some work site wastes (wheels, papers, etc...)</td>
<td>Involve the Local Communities in the selection of discharge sites</td>
</tr>
<tr>
<td>Risks of accidents during works</td>
<td>Put in place safety measures</td>
</tr>
<tr>
<td>Contamination risk by HIV from the labour force.</td>
<td>Conduct an awareness raising campaign for the work sites staff and the users of school infrastructures (schoolboys, teachers, etc.)</td>
</tr>
<tr>
<td>Disturbance of school and education activities during works</td>
<td>Conduct awareness raising campaigns on HIV/AIDS</td>
</tr>
<tr>
<td>Disturbance of the circulation of goods and persons by the engines, the storage of materials (works done in town)</td>
<td>Select work periods (avoiding as much as possible periods of classes)</td>
</tr>
<tr>
<td>Involuntary displacement of populations or economic activities</td>
<td>Design traffic deviation plans approved by the concerned administrative authorities</td>
</tr>
<tr>
<td>Waste generation during building works</td>
<td>Make careful and motivated selection of installation sites</td>
</tr>
<tr>
<td>Pollution and noise nuisances; degradation of the living environment</td>
<td>Conduct an awareness raising campaign before the start of the works</td>
</tr>
<tr>
<td>Non use of local manpower</td>
<td>Ensure hygiene and security measures are respected in work sites</td>
</tr>
<tr>
<td>Use of the lands of displaced people</td>
<td>Post signaling systems for the works</td>
</tr>
<tr>
<td>Disruption or destruction of sites of cultural, historic or religious importance</td>
<td>Hire in priority local man power</td>
</tr>
<tr>
<td>Involuntary displacement of populations or economic activities</td>
<td>Ensure the safety rules are complied with during works</td>
</tr>
<tr>
<td>Waste generation during building works</td>
<td>Include in the project support measures (connection to water and electricity and sanitation facilities</td>
</tr>
<tr>
<td>Pollution and noise nuisances; degradation of the living environment</td>
<td>Design an action plan for resettlement in case of involuntary relocation of populations as per RPF</td>
</tr>
<tr>
<td>Non use of local manpower</td>
<td>Avoid to install the facilities in a way that will need resettlement, the displacement of other important land users; or the encroachment on historic, cultural or traditional use areas; refer to the Bank’s safeguard policies in Annex 6</td>
</tr>
</tbody>
</table>

### Exploitation phase

- Lack of maintenance measures
- Lack of support measures (equipment; staff; connection to water and electricity network)
- Non operation because the non execution of the works

### Impacts on the natural environment

- Impacts on protected areas; critical habitats for rare species or of ecologic or domestic importance; and wills areas.
- Avoid excavations of building materials in natural protected areas
- Careful planning and selection of new installation sites
- Respect protected areas particularly forests and cultural heritage sites.
- Refer to the Bank’s safeguard policies, Annex 6
### Impacts on water quality

- Potential pollution of the quality of surface and groundwaters
- Install work sites far from waterways
- Regular collection of work sites refuse towards authorized dumps
- Protect water resources; discharges of liquid waste at designated outfalls after effluent treatment.

### Specific Mitigation Measures for Education Facilities

<table>
<thead>
<tr>
<th>Potential Negative Impacts</th>
<th>Possible Mitigation measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Septic tanks</strong></td>
<td></td>
</tr>
<tr>
<td>Soil and water pollution due to seepage from tanks</td>
<td>Ensure regular emptying; conduct hygiene education campaign to raise awareness of the health risks of exposed sewage; establish and support affordable pump out services</td>
</tr>
<tr>
<td>Contamination of water supply sources</td>
<td>Locate latrine at least 30, but preferably 60m away from well, springs and boreholes</td>
</tr>
<tr>
<td>Soakaways overflowing and contaminating ground and surface waters.</td>
<td>Ensure that pits are located in soil where seepage can percolate Establish and support affordable pump out services</td>
</tr>
<tr>
<td>Blocked and overflowing latrines (health risks)</td>
<td>Establish routine maintenance and cleaning service</td>
</tr>
<tr>
<td>Lack of water for sanitation or toilet facilities</td>
<td>Ensure the installation of adequate water supply facilities and or water reservoirs with enough capacity</td>
</tr>
<tr>
<td>Inadequate cleaning and maintenance service, creating unhygienic conditions, and as a result students avoid using them</td>
<td>Establish a system to support the employment of caretakers or use of routine cleaning and maintenance services.</td>
</tr>
<tr>
<td>Animals serve as vectors from latrines of flies and rodents carriers of diseases.</td>
<td>Ensure regular cleaning Establish access pathways to decomposing excrements for flies and rodents are blocked</td>
</tr>
<tr>
<td>Students defecating in open areas</td>
<td>Design, promote and conduct public hygiene awareness campaigns focusing on adverse health impacts arising as a consequence of open defecation and promote latrine use</td>
</tr>
</tbody>
</table>
# Small-Scale Animal Husbandry

<table>
<thead>
<tr>
<th>Potential Environmental Effects</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human Environment</strong></td>
<td></td>
</tr>
<tr>
<td>• Human health hazards</td>
<td>• Collect and store manure for composting and later application to fields</td>
</tr>
<tr>
<td>- Introduction of diseases to humans and contamination of water supplies for human use by animal manures and urine</td>
<td>• Keep manure and urine away from household areas and water bodies</td>
</tr>
<tr>
<td>- Pollution and environmental disruption from inappropriate use of agro-chemicals</td>
<td>• Consider using a bio-gas system</td>
</tr>
<tr>
<td>• Transformation of indigenous (sometimes communal) tenure systems and organizations</td>
<td>• Provide protective clothes to minimize danger to field workers applying agro-chemicals</td>
</tr>
<tr>
<td><strong>Soil and Vegetation</strong></td>
<td></td>
</tr>
<tr>
<td>• Degradation of vegetation due to</td>
<td>• Limit animal numbers</td>
</tr>
<tr>
<td>- Too many animals and overgrazing, possibly as a result of stock improvement measures</td>
<td>• Control length of grazing times and succession of use on particular areas</td>
</tr>
<tr>
<td>- Excess harvesting of fodder and forage resources</td>
<td>- Rotational grazing</td>
</tr>
<tr>
<td>- Decrease in favoured fodder species and increase in inedible weedy species</td>
<td>- Development of dry-season grazing areas and grazing reserves</td>
</tr>
<tr>
<td>• Increased soil erosion due to</td>
<td>• Mix animal species to maximize use of vegetation resources</td>
</tr>
<tr>
<td>- Clearing and degradation of vegetation</td>
<td>• Reseed and produce fodder</td>
</tr>
<tr>
<td>- Trampling and loosening of soil</td>
<td>• Use cut-and-carry feed from elsewhere</td>
</tr>
<tr>
<td>- Animal paths scarring hillsides and triggering erosion, sediment-laden runoff and, possibly, gully formation</td>
<td>• Restrict animal access to unstable areas (e.g. by defining and fencing-off critical slopes)</td>
</tr>
<tr>
<td>• Increased rapid runoff due to</td>
<td>• Use soil erosion control measures (e.g. reforestation, reseeding of grasses, land preparation, terracing)</td>
</tr>
<tr>
<td>- Vegetation clearing</td>
<td></td>
</tr>
<tr>
<td>- Soil compaction diminishing infiltration capacity</td>
<td></td>
</tr>
<tr>
<td>• Deterioration of soil fertility and physical characteristics due to</td>
<td></td>
</tr>
<tr>
<td>- Removal of vegetation</td>
<td></td>
</tr>
<tr>
<td>- Increased erosion</td>
<td></td>
</tr>
<tr>
<td>- Soil compaction</td>
<td></td>
</tr>
<tr>
<td><strong>Water Points</strong></td>
<td></td>
</tr>
<tr>
<td>• Degradation or depletion of vegetation and soil around water points</td>
<td>• Place water points strategically to spread the effect</td>
</tr>
<tr>
<td>• Too much use of surface and groundwater sources results in reductions in surface flow</td>
<td>• Develop many small-capacity water sources</td>
</tr>
<tr>
<td>• Avoid overuse of fertilizers</td>
<td>• Control use of water points (animal numbers)</td>
</tr>
<tr>
<td>• Collect and store manure for composting and later application to fields</td>
<td></td>
</tr>
<tr>
<td><strong>Potential Environmental Effects</strong></td>
<td><strong>Mitigation Measures</strong></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>and the water table · Lowering of the immediate water table and degradation of local vegetation through drilling wells and use of boreholes · Aggravation of the effect of droughts through poor planning, placement, management and control of water points</td>
<td>and time of year) · Fence off permanent water sources when temporary pools and streams are available · Limit well capacity by choice of technologies (e.g. hand pumps or buckets instead of motor pumps)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Water Quality</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· Increased muddiness of surface water courses due to soil disturbances from grazing and increased soil erosion · Contamination of surface and groundwaters - and negative effects on wildlife, vegetation, crop yields, aquatic ecology and wildlife -- by agro-chemicals used to control pests and diseases · Contamination of water supplies from leaching or runoff of animal urine and manures</td>
<td>· Use biological pest controls before chemical controls to reduce adding toxic residues to the environment · Choose agro-chemicals that are species-specific, with short active periods and low impact on other plants · Choose appropriate spraying measures and timing to minimize water pollution · Fence off water bodies from grazing animals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Wildlife</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· Displacement or reduction of wildlife populations by loss of habitat · Disruption of migratory stop-over points · Competition for food and water resources · Increased poaching and killing of wildlife considered as pests or predators to animals, or as human food sources · Introduction of diseases to wildlife</td>
<td>· Plan and implement range management strategies (choice of species, animal numbers, grazing areas) that minimize adverse effects on wildlife and avoid excessive competition · Rehabilitate degraded areas nearby as wildlife habitat · Investigate management of wildlife ranching which will help protect wildlife resources · Consider wildlife ranching, tourism and controlled hunting as alternatives to animal production</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Animal Processing</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· Degradation of surface waters by effluents with high biochemical oxygen demand (BOD), chemical oxygen demand (COD), and suspended and dissolved solids · Introduction of diseases to humans through bacteria in discharge effluent · Land degradation through inappropriate disposal of solid wastes on- or off-site · Damage to aquatic ecosystem and water supply quality from equipment washing detergents · Human health effects within the facility · Unhygienic work conditions · Spread of animal diseases to humans · Attraction of predators and scavengers</td>
<td>· Liquid and solid waste disposal or treatment to prevent contamination of water supplies by effluent from tanneries, abattoirs and other animal processing facilities · Proper management of animal processing facilities to reduce health impacts · Institute hygienic work practices · Ensure adequate refrigeration · Clean machinery · Implement an operational health and safety programme · Monitor for changes in human health and water quality</td>
</tr>
</tbody>
</table>

| **Environmental Standards** | **Environmental Quality Indicators** |
### POTENTIAL ENVIRONMENTAL EFFECTS

- National environmental standards and controls concerning the use and application of agro-chemicals
- Alternatively, internationally recognized standards (e.g. World Health Organization)

### MITIGATION MEASURES

#### Pollution
- Concentrations of pollutants in air and surface and groundwaters
- Concentrations of suspended sediments in surface waters
- Noise levels

#### Environmental Health
- Variety and numbers of plant, animal and bird species (degree of biodiversity)
- Extent of critical habitats

#### Human Wellbeing
- Incidence of human and animal illness or disease
- Poverty levels

---

### Small Irrigation Schemes

#### POTENTIAL ENVIRONMENTAL EFFECTS

- Upsetting existing social and economic community management relationships, land tenure system, security of livelihoods, and gender division of labour
- Conflicting demands on surface or groundwater supplies

#### MITIGATION MEASURES

- Avoid sites that require:
  - Resettlement
  - Displacement of other important land users, or
  - Encroachment on historical, cultural, or traditional use areas
- Locate and size irrigation schemes:
  - Where water supplies are adequate and the scheme will not conflict with existing human, livestock, wildlife or aquatic water uses, especially during dry seasons
  - So that withdrawals do not exceed “safe yield” from groundwater resources
- Encourage crops with lower water demands
- Ensure effective community organization for equitable distribution of water

#### Human Health

- Creating habitats in canals and ditches for disease carriers such as mosquitoes and

#### MITIGATION MEASURES

- Assess ecology of disease carriers in the project area, and employ suitable prevention and
### Potential Environmental Effects

- Snails responsible for spreading diseases such as malaria and schistosomiasis (bilharzia)
- Spreading infection and disease through the inappropriate use of irrigation canals for water supply, bathing or human waste disposal
- Health effects from improper storage, handling, use or disposal of agro-chemicals (pesticides, herbicides)

### Mitigation Measures

- Site and orient water works, fields and furrows to ensure adequate natural drainage of surface water
- Use lined canals and pipes to discourage vectors
- Avoid unsuitable gradients, and creating stagnant or slowly moving water
- Construct straight or only slightly curved canals
- Install gates at canal ends to allow complete flushing
- Ensure adequate sub-surface drainage of fields
- Avoid over-irrigation
- Maintain water works, and clear sediment and weeds, regularly

### Soils

- Waterlogging
  - Thoroughly assess project soils and their management needs under irrigated agriculture
  - Apply water efficiently. Consider drip or dawn/evening sprinkler irrigation.
  - Install and maintain adequate surface and sub-surface drainage
  - Use lined canals or pipes to prevent seepage

- Salinization
  - Avoid water logging (above)
  - Mulch exposed soil surfaces to reduce evaporation
  - Flush irrigated land regularly
  - Cultivate crops having high tolerance to salinity
  - Design and layout of furrows appropriately
  - Avoid unsuitable gradients
  - Avoid over-irrigation

- Erosion
  - Avoid water logging (above)
  - Mulch exposed soil surfaces to reduce evaporation
  - Flush irrigated land regularly
  - Cultivate crops having high tolerance to salinity
  - Design and layout of furrows appropriately
  - Avoid unsuitable gradients
  - Avoid over-irrigation
<table>
<thead>
<tr>
<th><strong>POTENTIAL ENVIRONMENTAL EFFECTS</strong></th>
<th><strong>MITIGATION MEASURES</strong></th>
</tr>
</thead>
</table>
| **Water Bodies and Aquatic Ecosystems** | | • Install sediment traps in fields and canals to capture sediment for return to fields  
  • Minimum tillage, contour cropping, terracing and other methods of conserving soil moisture  |
| • Loss or damage to wetlands and their environmental services, biodiversity, and ecological productivity | • Avoid  
  - Locating irrigation schemes on or near important wetlands  
  - Developing irrigation water sources that may reduce wetland water supply  
  - Draining irrigated fields into wetlands  
  • Follow Soils mitigation measures (above) to minimize risks of water logging and salinisation  
  • Use agro-chemicals appropriately (see Human Health above)  
  • Prevent surface drainage of fields into nearby water bodies (streams, ponds, etc.) |
| • Reduced quality of surface and groundwaters receiving excess irrigation water or drainage (nutrients, agro-chemicals, salts and minerals) | |

**Schools Water Supply and Sanitation**

<table>
<thead>
<tr>
<th><strong>POTENTIAL ENVIRONMENTAL EFFECTS</strong></th>
<th><strong>MITIGATION MEASURES</strong></th>
</tr>
</thead>
</table>
| **Human Environment** | | • Consider water conservation measures instead of or in addition to a new water supply project, for example:  
  - Upgrade or renovate existing systems (e.g. deepen and clean existing wells, reduce leakage, evaporation and seepage losses)  
  - Water recycling and reuse  |
| • Negative social and economic effects on existing community water management practices and relationships | • Avoid locating project works to require:  
  - Resettlement  
  - Displacement of other important land users, or  
  - Encroachment on historical, cultural, or traditional use areas  |
| • Land use conflicts | • Ensure sufficient community participation and organization for effective planning and management of the water supply system, and for equitable water distribution  
  • Develop supply sources:  
  - Where water quantities are adequate and the project will not conflict with existing human, livestock, wildlife or aquatic water uses, especially during dry seasons  
  - So that withdrawals do not exceed “safe yield” from groundwater resources |
<table>
<thead>
<tr>
<th>Potential Environmental Effects</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human Health</strong></td>
<td><strong>Mitigation Measures</strong></td>
</tr>
<tr>
<td>• Illness or disease due to:</td>
<td>• Ensure water source is fit for drinking, and make regular testing a part of the project</td>
</tr>
<tr>
<td>– poor source of water quality</td>
<td>• Assess present and future source / supply contamination risks and minimize them through:</td>
</tr>
<tr>
<td>– contaminants entering water supply system</td>
<td>– Adequate planning, design and installation of water supply and sanitation works</td>
</tr>
<tr>
<td>– contaminated soils from disposal of inadequately treated waste waters</td>
<td>– Student and community education, training and capacity building to properly operate and maintain project works, and to improve hygiene attitudes and behaviour</td>
</tr>
<tr>
<td>– poor maintenance, wrong use, or abandonment of supply or sanitation works</td>
<td>– Ensure planning, design and maintenance of supply, sanitation and wastewater works is appropriate to local:</td>
</tr>
<tr>
<td>• Creating habitats for disease carriers such as mosquitoes and snails, and increasing the occurrence of water-related diseases such as malaria and schistosomiasis (bilharzia)</td>
<td>– Needs, traditions, culture and desires</td>
</tr>
<tr>
<td></td>
<td>– Soil and water table conditions</td>
</tr>
<tr>
<td></td>
<td>• Assess ecology of disease carriers in the project area</td>
</tr>
<tr>
<td></td>
<td>• Employ suitable prevention and mitigation measures, including education of Students and local people, e.g.:</td>
</tr>
<tr>
<td></td>
<td>– Good drainage around water supply points</td>
</tr>
<tr>
<td></td>
<td>– Properly designed and maintained pit latrines</td>
</tr>
<tr>
<td></td>
<td>• Monitor disease occurrence and other public health indicators, and take corrective measures as needed (e.g. physical changes to water supply and sanitation works, education, hygiene)</td>
</tr>
<tr>
<td><strong>Water Quality</strong></td>
<td>• Protect groundwater sources from polluted surface water runoff (i.e. rainwater, spillage around wells, wastewater from latrines or homes) that may enter as drainage from above or as seepage from below</td>
</tr>
<tr>
<td>• Contamination of water source / supply</td>
<td>• Locate source well away from latrines, septic systems, traditional defecating areas, and animal pens</td>
</tr>
<tr>
<td></td>
<td>• Protect surface water sources from contamination from:</td>
</tr>
<tr>
<td></td>
<td>– Runoff from nearby agricultural areas (e.g. silt, agro-chemicals, animal waste)</td>
</tr>
<tr>
<td></td>
<td>– Other uses such as bathing, laundering,</td>
</tr>
<tr>
<td><strong>Potential Environmental Effects</strong></td>
<td><strong>Mitigation Measures</strong></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Groundwater contamination</td>
<td>and animal watering</td>
</tr>
<tr>
<td></td>
<td>– Garbage and vegetative debris</td>
</tr>
<tr>
<td></td>
<td>• Maintain source works and pipes to prevent deterioration/damage that could allow entry of contaminants from people, animals, debris, runoff water and soil (especially common around springs, unlined wells and river banks)</td>
</tr>
<tr>
<td>Surface water contamination</td>
<td>• Ensure adequate design, installation and maintenance of latrines, holding tanks, septic systems and wastewater soak-aways. This is especially important where the water table is high or soils have a high porosity or permeability.</td>
</tr>
<tr>
<td></td>
<td>• Ensure adequate spacing between latrines and soak-aways</td>
</tr>
<tr>
<td></td>
<td>• Locate latrines, septic systems and soak-aways at least 30m from any water body (e.g. streams, rivers, lakes, ponds)</td>
</tr>
<tr>
<td>Animals and Wildlife</td>
<td></td>
</tr>
<tr>
<td>Blocked animal and wildlife movements</td>
<td>• Avoid fencing across known animal and wildlife movement routes</td>
</tr>
<tr>
<td>Animal/wildlife road kills</td>
<td>• Animal/wildlife crossing warnings, nighttimes speed limitations or perhaps closures</td>
</tr>
</tbody>
</table>
### Potential Environmental Effects

<table>
<thead>
<tr>
<th>General Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Overall planning and design approaches and measures can address a number of different potential environmental effects</td>
</tr>
<tr>
<td>• Determine the volumes of waste materials by category (e.g., organics, hazardous materials, burnables, recyclables, etc.), and design the management system to deal with each waste category separately as required</td>
</tr>
<tr>
<td>• Consider a community awareness program on the importance of a healthy environment and on the principles and values of waste reduction, recovery and recycling to reduce waste disposal requirements and extend the life of disposal site(s)</td>
</tr>
<tr>
<td>• Assess nature and quantity of hazardous wastes, and provide for separate collection and disposal</td>
</tr>
<tr>
<td>• Encourage home composting of organic wastes</td>
</tr>
<tr>
<td>• Where recycling is practicable, have households separate recyclables from other waste before collection</td>
</tr>
<tr>
<td>• Site selection is critical. Locate project site(s) (e.g. landfill, incinerator) with buffer zones from other land uses and water bodies to minimize land and water resource impacts, aesthetic impacts, and health risks</td>
</tr>
<tr>
<td>• Minimize handling of waste, and maximize containment</td>
</tr>
<tr>
<td>• Provide enclosed refuse collection vehicles, or tarpaulin covers for open vehicles</td>
</tr>
<tr>
<td>• Enclose vehicle unloading and refuse sorting (for recovery and recycling) areas, as well as good ventilation and dust suppression</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Human Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Displaced land uses</td>
</tr>
<tr>
<td>• Disruption or destruction of sites of cultural, religious or historical importance</td>
</tr>
<tr>
<td>• Human settlements and land uses near landfill, incineration and composting sites</td>
</tr>
<tr>
<td>• Wind-blown garbage, dust and smoke</td>
</tr>
<tr>
<td>• Increased traffic to/from the site</td>
</tr>
<tr>
<td>• Odours</td>
</tr>
<tr>
<td>• Involve community in:</td>
</tr>
<tr>
<td>• Locating project site(s) and access route(s)</td>
</tr>
<tr>
<td>• Developing practices and responsibilities for managing project activities and site(s)</td>
</tr>
<tr>
<td>• Ensure that site layout(s) and management practices, including worker training, are adequate</td>
</tr>
<tr>
<td>• Landfills</td>
</tr>
<tr>
<td>• Spread and compact incoming refuse, and cover with soil, daily</td>
</tr>
<tr>
<td>• Provide for safe ventilation of decomposition gases</td>
</tr>
<tr>
<td>• Prevent access to site by domestic animals and wildlife to avoid spread of disease and contaminants</td>
</tr>
<tr>
<td>• Pave access roads, or use water spraying, to reduce dust</td>
</tr>
<tr>
<td>POTENTIAL ENVIRONMENTAL EFFECTS</td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
</tbody>
</table>
| • Disruption of local incomes derived from sorting, selling and reusing waste | • Incinerators  
  – Install appropriate, effective incineration equipment for complete combustion and control of air pollution  
  – Locate away from and downwind of human settlements and sensitive land uses  
• Design project to provide alternatives for affected individuals and families (e.g. employment in project operation, training for alternate livelihoods) |
| **Human Health** | |
| • Contamination of water sources | • See Water Quality below |
| • Creation of stagnant water in project site(s) that breed disease carriers | • Assess ecology of disease carriers in project area, and employ suitable mitigation measures (e.g. proper drainage of site(s)) |
| **Terrestrial Environment** | |
| • Loss of natural areas, important habitats, biodiversity | • Avoid infringing on:  
  – Protected natural sites and wilderness areas  
  – Critical habitats or areas with significant biodiversity (e.g. wetlands) |
| • Soil erosion | • During preparation of landfill site  
  – Minimize time of exposure of areas cleared, graded or excavated  
  – Stabilize and revegetate disturbed areas  
  – Install adequate surface drainage control measures  
• Maintain erosion and surface drainage control measures during operations |
| **Water Quality** | All effluent discharges into water bodies, open land the physical environment should be subjected to treatment (using settling tanks) to ensure BOD and COD levels, dissolved and suspended solids are at acceptable levels. |
### POTENTIAL ENVIRONMENTAL EFFECTS

- Contamination of surface and groundwaters with landfill runoff and leachate

### MITIGATION MEASURES

- Protect water resources by locating landfills:
  - Where the underlying soils are relatively impermeable, and have a high capability for containing chemical contaminants (e.g. clays)
  - So that the bottom of the landfill is above the water table
  - Away and down gradient from surface waters, and groundwater recharge areas or sources, whose use could be affected by contamination -- unless the distance to the receiving water is adequate to dilute and disperse potential contamination
- Use a landfill liner (e.g. clay, synthetic) if there is a risk of leachate entering groundwater
- Collect surface runoff and discharge to safe area
- Install test well(s) at landfill perimeter, and monitor water quality during operations, for early identification and mitigation of emerging adverse effects

### School Forestry

#### POTENTIAL ENVIRONMENTAL EFFECTS

- Human Environment
  - Displaced human settlements
  - Conflicts over:
    - Land tenure and use (legal or illegal)
    - Security of local and traditional livelihoods, and cash income generation
  - Disruption of sites of cultural, religious or historical importance

#### MITIGATION MEASURES

- Avoid areas that require significant or involuntary resettlement
- Provide compensation for resettled families and lost livelihood opportunities (e.g. cash, in-kind, employment, training)
- Avoid existing land use areas that are economically productive or important for subsistence or traditional livelihoods
- Consider use of already cleared or barren lands for tree planting
- Consider sites currently used unsustainably (e.g. agriculture, grazing)
- Account for differing tree product needs between women and men
- Provide for intercropping, agro-forestry and other measures that will accelerate the flow of benefits to, and support of the school or education facility.
- Avoid all such sites.
<table>
<thead>
<tr>
<th><strong>Potential Environmental Effects</strong></th>
<th><strong>Mitigation Measures</strong></th>
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<tbody>
<tr>
<td>Terrestrial Environment</td>
<td></td>
</tr>
<tr>
<td>• Loss of natural areas, important habitats, biodiversity</td>
<td>• Avoid infringing on:</td>
</tr>
<tr>
<td>• Unsustainable forest production</td>
<td>- Protected natural sites, watersheds and wilderness areas</td>
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<td></td>
<td>- Critical wildlife habitats or areas with significant biodiversity (e.g. wetlands)</td>
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<tr>
<td></td>
<td>• As much as possible, use a variety of multipurpose and fast-growing indigenous tree species to enhance:</td>
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<td></td>
<td>- Effective use of site micro-climates and soil conditions</td>
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<td></td>
<td>- The diversity and flow of benefits to the education facility.</td>
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<tr>
<td></td>
<td>- Soil and water conservation</td>
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<td></td>
<td>- Resistance to significant outbreaks of disease and pests</td>
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<tr>
<td></td>
<td>- Wildlife habitat and species diversity</td>
</tr>
<tr>
<td></td>
<td>• Draw upon local cultural knowledge and values in planning and operating the forest</td>
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<tr>
<td></td>
<td>• Adapt imported technology (e.g. erosion control, forest management and harvesting) to local conditions, rather than just adopting it.</td>
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<td></td>
<td>• Use low impact equipment and methods for forest management and harvesting, and minimize skid trail distances</td>
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<td>• Select sites where the benefits from the new forest</td>
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<tr>
<td><strong>Potential Environmental Effects</strong></td>
<td><strong>Mitigation Measures</strong></td>
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</table>
| Soil erosion                      | can help reduce illegal or unsustainable uses of nearby forests  
  • If a heavy reliance on cash crops is anticipated, ensure that a thorough market analysis is carried out during project planning  
  • Avoid areas of fragile or unstable soils/slopes  
  • Avoid any project activities within 20-40 metres of streams, ponds, etc. unless they are for rehabilitation and conservation of the riparian zones  
  • Leave existing grass/shrub cover on lands that are very steep or have shallow soils  
  • Use techniques such as bunding to strengthen control of surface water flows and erosion, and enhance infiltration  
  • Harvest trees in small, unconnected blocks to minimize exposed soils and enhance opportunities for natural regeneration from adjacent forest  
  • Road and track development (also see *Rural Roads* resources sheet):  
    − Construct during the dry season  
    − Keep gradients low but sufficient for natural drainage  
    − Locate as far away from water bodies as possible  
    − Leave vegetated strips along roadsides, and reseed disturbed areas  
    − Coordinate development schedule with overall plan for forest development and operation |

<table>
<thead>
<tr>
<th><strong>Water Quantity and Quality</strong></th>
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</table>
| Reductions in down-slope water supplies | Avoid watercourses  
  • Retain existing tree and grass/shrub cover, and harvest selectively, sustainably and carefully, where down-slope water supply is a critical concern  
  • Avoid overusing fertilizers, herbicides and pesticides  
  • Avoid any use near water bodies |
<p>| Pollution of groundwater, and of surface waters and habitats |                          |</p>
<table>
<thead>
<tr>
<th><strong>Small-Scale School Agriculture</strong></th>
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<tbody>
<tr>
<td><strong>Potential Environmental Effects</strong></td>
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<tr>
<td><strong>Human Environment</strong></td>
</tr>
<tr>
<td>• Land use conflicts</td>
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<td></td>
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<tr>
<td>• Water supply conflicts:</td>
</tr>
<tr>
<td>– Social and economic disruptions to existing community water management practices and relationships</td>
</tr>
<tr>
<td>– Conflicting demands on surface or groundwater supplies</td>
</tr>
<tr>
<td><strong>Human Health</strong></td>
</tr>
<tr>
<td>• Illness or disease due to pollution of water sources from aquaculture wastes</td>
</tr>
<tr>
<td>• Creating habitats for disease carriers such as mosquitoes and snails, and increasing the prevalence of water-related diseases such as malaria and schistosomiasis (bilharzia)</td>
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<tr>
<td><strong>Potential Environmental Effects</strong></td>
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</tr>
<tr>
<td><strong>Terrestrial Environment</strong></td>
</tr>
</tbody>
</table>
| · Loss of ground cover and erosion at project site | · Restrict area cleared for ponds  
                                  · Construct ponds during dry season  
                                  · Stabilize exposed soil with grasses and other ground cover  
                                  · Ensure good drainage and erosion control around ponds  
| · Depletion of local fuel wood to dry fish | · Careful project planning and management to ensure sustainable source of fuel wood  
                                  · Consider the need for a small, complementary forestry project  |
| **Water Quality**                 |                         |
| · Pollution of surface waters with aquaculture wastes | · Keep fish densities at moderate levels to reduce disease risk and need for antibiotics  
                                  · Pump air through the water to speed up decomposition  
                                  · Release pond water into water body with adequate dilution and dispersal capability  
                                  · Dilute pond water prior to release  
                                  · Time releases with period of high water levels or flows  
                                  · Use shorter retention time of water in ponds – i.e. more frequent exchange and flushing of pond water  
                                  · Consider using pond bottom sludge as agricultural fertilizer if properly decomposed and non-toxic  |
| **Aquatic Environments**          |                         |
| · Deterioration of water quality from aquaculture discharges causes contamination or decline of aquatic habitats and resident species | · Ensure adequate pollution control  
                                  · Site project well away from wetlands  
                                  · Design project features to prevent disturbing water flows to and from wetlands (e.g. flow regulating works, access road crossings on trestles or pilings)  
                                  · Enhance or protect other nearby wetlands to offset losses at project site  
| · Loss of wetlands, especially mangrove forests | · Use local, wild species rather than introduced species as seed stock  
                                  · Ensure aquaculture stock is kept healthy  |
| · Accidental or deliberate release of aquaculture stock leads to decline in wild species important for local food supply or restocking and improvement of domestic stock | |
### Potential Environmental Effects

<table>
<thead>
<tr>
<th>and deterioration of culture environment, from poor source water quality due to:</th>
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</thead>
<tbody>
<tr>
<td>– Pollution (e.g. pesticides, heavy metals)</td>
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<tr>
<td>– Suspended sediments from upstream erosion</td>
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<tr>
<td>– Nutrients from agricultural run-off and livestock, detergents, sewage</td>
</tr>
<tr>
<td>Mitigation Measures</td>
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<tr>
<td>– Careful location of the project within the community and watershed</td>
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</table>

### Human Environment

<table>
<thead>
<tr>
<th>• Land use conflicts due to odours</th>
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<tbody>
<tr>
<td>• Water supply conflicts:</td>
</tr>
<tr>
<td>– Negative social and economic effects on existing community water management practices and relationships</td>
</tr>
<tr>
<td>– Conflicting demands on surface or groundwater supplies</td>
</tr>
<tr>
<td>• Follow General Measures above to minimize potential for odours</td>
</tr>
<tr>
<td>• Minimize water use</td>
</tr>
<tr>
<td>• Develop supply sources:</td>
</tr>
<tr>
<td>– Where water quantities are adequate and the project will not conflict with existing human, livestock, wildlife or aquatic water uses, especially during dry seasons</td>
</tr>
<tr>
<td>– So that withdrawals do not exceed “safe yield” from groundwater resources</td>
</tr>
</tbody>
</table>

### Water Quality

| • Degradation of groundwater, streams and rivers from solid and liquid wastes, and consequent |
| • Deterioration and contamination of aquatic habitats and resident species from waste discharges |
| • Follow General Measures above to minimize water use and solid and liquid wastes |
| • Screen waste liquids to remove solids |
| • Install grease traps and skim tanks |
| • Locate waste disposal sites away from surface and groundwater sources, watercourses, housing and town centres |
| • Ensure receiving waters for liquid wastes are able to absorb and naturally decompose the effluent |
| • Ensure waste that is stored before transport to treatment facility or landfill cannot leak into the ground |
## Annex 4: Environmental Guidelines for Contractors

The following guidelines should be included in the contractor’s agreements:

- Installation of the work site on areas far enough from water points, houses and sensitive areas.
- Sanitary equipments and installations
- Site regulation (what is allowed and not allowed on work sites)
- Compliance with laws, rules and other permits in vigor.
- Hygiene and security on work sites
- Protect neighboring properties
- Ensure the permanence of the traffic and access of neighboring populations during the works to avoid hindrance to traffic
- Protect staff working on work sites
- Soil, surface and groundwater protection: avoid any wastewater discharge, oil spill and discharge of any type of pollutants on soils, in surface or groundwaters, in sewers, drainage ditches or into the sea.
- Protection of the environment against noise: reduce work site noise likely to seriously disturb neighboring people.
- Protect the environment against exhaust fuels and oils
- Protect the environment against dust and other solid residues
- Waste management: install containers to collect the wastes generated next to the areas of activity.
- Degradation/demolition of private properties: inform and raise the awareness of the populations before any activity of degradation of gods. Compensate beneficiaries before any demolition.
- Use a quarry of materials according to the mining code requirements
- Compensation planting in case of deforestation or tree felling
- No waste slash and burn on site
- Speed limitation of work site engines and cars
- Allow the access of Public and emergency services
- Organize the storage of materials on the public highway
- Parking and displacements of machines
- Footbridges and access of neighbors
- Signaling of works
- Respect of cultural sites
- Reclamation of the sites at the end of the works
- Dispose safely of asbestos
- Consider impacts such as noise, dust, and safety concerns on the surrounding population and schedule construction activities accordingly;
- Protect soil surfaces during construction;
- Ensure proper drainage;
- Prevent standing water in open construction pits, quarries or fill areas to avoid potential contamination of the water table and the development of a habitat for disease-carrying insects;
- Select construction materials in a sustainable way, particularly wood;
- Control and clean the construction site daily;
- During construction, control dust by using water or through other means;
- Provide adequate waste disposal and sanitation services at the construction site;
- Dispose of oil and solid waste materials appropriately.
- Preserve natural habitats along streams, steep slopes, and ecologically sensitive areas;
- Develop maintenance and reclamation plans and restore vegetation and habitat.

Annex 5: Summary of the World Bank Protection Policies

<p>| OP 4.01 Environmental assessment | The objective of the policy is to ensure the projects financed by the Bank are sound and sustainable, and decision making be improved through an appropriate analysis of actions and of their potential environmental impacts. This policy is triggered if a project is likely to have environmental risks and impacts (adverse) on its area of influence. OP 4.01 covers the environmental impacts (nature air, water and land); human health and security; physical cultural resources; as well as transboundary and global environmental problems. | Depending on the project, and nature of impacts a range of instruments can be used: EIA, environmental audit, hazard or risk assessment and environmental management plan (EMP). When a project is likely to have sectoral or regional impacts, sectoral or regional EA is required. The EIA is the responsibility of the borrower. In the framework of the CDP, an Environmental and Social Management Plan was prepared (ESMF), including an Impact Mitigation Plan; the ESMF will help assess the impacts of future activities if necessary and orient implementation. |
| OP 4.04 Natural Habitats | This policy recognizes that the conservation of natural habitats is essential for long-term sustainable development. The Bank, therefore, supports the protection, maintenance, and rehabilitation of natural habitats in its project financing, as well as policy dialogue and analytical work. The Bank supports, and expects the Borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. | This policy is triggered by any type of project (including any sub project under sectoral investment regime or intermediary funding) that have the potential to cause some important conversion (loss) or degradation of natural habitats, whether directly (by the construction) or indirectly (by human activities triggered by the les project). In the CDP, certain activities that could have adverse impacts on natural habitats will not be funded. |
| OP 4.36 Forests | The objective of this policy is to help borrowers exploit the potential of forests in order to curb poverty in a sustainable manner, efficiently integrate forests in sustainable economic development and protect vital local and global environmental services and forests values. Where forest restoration and plantation are needed in order to achieve these objectives, the Bank helps borrowers in forest restoration activities in order to maintain or develop biodiversity and the operation of ecosystems. The Bank help borrowers in the creation of forest plantations appropriate from the environmental perspective. | This policy is triggered each time an investment project financed by the Bank: (i) has the potential to cause health impacts and the quality of forests or the rights and the well being of the people and their dependency level with the interaction with forests; or (ii) aims at bringing some change in the uses of natural forests or plantations. In the CDP, the activities that will adversely affect the quality of the forests or bring in some change in the management will not be financed. |
| <strong>OP 4.09 Pest Management</strong> | The objective of this policy is to promote the use of biological or environmental control methods and reduce reliance on synthetic chemical pesticides. In Bank-financed agricultural operations, pest populations are normally controlled through Integrated Pest Management (IPM) approaches. In Bank-financed public health projects, the Bank supports controlling pests primarily through environmental methods. The policy further ensures that health and environmental hazards associated with pesticides are minimized. The procurement of pesticides in a Bank-financed project is contingent on an assessment of the nature and degree of associated risk, taking into account the proposed use and the intended user. | The policy is triggered if procurement of pesticides is envisaged (either directly through the project or indirectly through on-lending); if the project may affect pest management in a way that harm could be done, even though the project is not envisaged to procure pesticides. This includes projects that may lead to substantially increased pesticide use and subsequent increase in health and environmental risks; and projects that may maintain or expand present pest management practices that are unsustainable. In the framework of the CDP, the activities requiring the use of pesticides (agricultural activities) could be financed. That is why a Pest and Pesticides Management Plan is prepared separately, as an annex to the present document. |
| OP 4.11 Cultural property | The objective of this policy is the help countries avoid or reduce the adverse impacts of development projects on physical cultural resources. In order to implement such policy, the word “physical cultural resources” means movable and unmovable objects, sites, structures, natural’s aspects of landscapes that have an importance form the archeological, paleontologic, historic, architectural, religious, aesthetic or other. Physical cultural resources could be found in urban or rural areas, as well as both in the open air, under the ground and in the sea also. | This policy applies to all projects included in category A or B of the Environmental assessment scheduled in OP4.01. With the CDP, activities that are likely to have adverse impacts on cultural property will not be financed. |
| <strong>OP 4.10 Indigenous populations</strong> | The objective of the policy is (i): ensure that the development process encourages full respect of dignity, human rights and cultural features of indigenous people; (ii) ensure they do not suffer from the detrimental effects during the development process; and ensure indigenous people reap economic and social advantages compatible with their culture. | The policy is triggered when the project affects indigenous people (with the characteristics described in OP 4.10) in the area covered by the project. There are no indigenous people in Gambia. Thus, the CDP is not triggered by this policy. |
| <strong>OP 4.12 Involuntary Resettlement</strong> | The objective of this policy is to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs. Furthermore, it intends to assist displaced persons in improving their former living standards; it encourages | This policy is triggered not only if physical relocation occurs, but also by any loss of land resulting in: relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood, whether or not the affected people must move to another |</p>
<table>
<thead>
<tr>
<th>OP 4.37 Dams security</th>
<th>Community participation in planning and implementing resettlement; and to provide assistance to affected people, regardless of the legality of title of land.</th>
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</thead>
<tbody>
<tr>
<td><strong>OP 4.37 Dams security</strong></td>
<td>The objectives of this policy are established as follows: For new dams, ensure the design and supervision are done by experienced and competent professionals; for existing ones, ensure that any dam that can influence the project performance is identified, an assessment of the dam security conducted, and the other required safety measures and corrective measures implemented. The policy is triggered when the Bank finances (i) a project involving the building of a big dam (15 m of height or more) or a dam presenting great hazard; and (ii) a project depending on another existing dam. For small dams, general safety measures designed by qualified engineers are appropriate. In the framework of the CDP, no funds will be available for the building or renovation of dams.</td>
</tr>
<tr>
<td><strong>OP 7.50 Projects implemented on international waterways</strong></td>
<td>The objective of this policy is to operate in such a way as the projects financed by the Bank affecting the international watercourses do not affect: (i) the relationships between the Bank and her borrowers and between States (members or non members of the Bank); and (ii) the international watercourses are used and efficiently protected? The policy applies to the following project types: (a) hydro electric, irrigation, flood control, drainage, water collection, industrial and other projects involving the use or potential pollution of international watercourses, and (b) detailed studies for project design under item (a) above quoted including those carried out by the Bank in her position of implementation agency or else. This policy is triggered if (a) A river, a channel, lake or any other watercourse located between two states, or a river or a surface river discharging into a river located in one or two states, be they members of the World Bank or not (b) a river branch which is a component of a watercourse described under item (a); recognized to be a necessary communication channel between the ocean and the other states, and any river discharging into these waters and (c) a bay, strait, or channel bound by two states or more or flowing in an unknown state. In the CDP, activities that are likely to have an impact on international waterways will not be financed.</td>
</tr>
<tr>
<td><strong>OP 7.60 Projects located in contentious zones</strong></td>
<td>The objective of this policy is to operate in such a way as the problems experienced by projects in contentious areas are tackled as early as possible so that: (a) the relationships between the Bank and member countries are not affected; (b) the relationships between the borrower and neighbors are not affected; and either the Bank or concerned countries do not suffer any damage because of this situation. This policy is triggered if the project proposed is located in a «contentious area». In Gambia, there are no contentious zones. So, the CDP is triggered by this policy.</td>
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Annex 6: Draft EA Terms of Reference

Introduction and Context
This part will be completed at time and will include necessary information related to the context and methodology to carry out the study.

Objectives of study
This section will indicate (i) the objectives and the project activities; (ii) the activities that may cause environmental and social negative impacts and needing adequate mitigation measures.

Mission/Tasks
The consultant should realize the following:

- Describe the des biophysical characteristics of the environment where the project activities will be realized; and underline the main constraints that need to be taken into account at the field preparation, during the implementation and exploitation/maintenance of equipments.
- Assess the potential environmental and social impacts related to project activities and recommend adequate mitigation measures, including costs estimation.
- Assess the need of solid and liquid waste management and suggest recommendation for their safe disposal, including safe disposal of asbestos.
- Review political, legal and institutional framework, at national and international level, related to environmental, identify the constraints and suggest recommendations for reinforcement.
- Identify responsibilities and actors for the implementation of proposed mitigation measures.
- Assess the capacity available to implement the proposed mitigation measures, and suggest recommendation in terms of training and capacity building, and estimate their costs.
- Develop an Environmental Management Plan (EMP) for the project. The EMP should underline (i) the potential environmental and social impacts resulting from project activities (ii) the proposed mitigation measures; (iii) the institutional responsibilities for implementation; (iv) the monitoring indicators; (v) the institutional responsibilities for monitoring and implementation of mitigation; (vi) the costs of activities; and (vii) the calendar of implementation.
- Public consultations. The EIA results and the proposed mitigation measures will be discussed with population, NGOs, local administration and other organisations mainly involved by the project activities. Recommendations from this public consultation will be include in the final EIA report.

Plan of the EIA Report
- Cover page
- Table of contents
- List of acronyms
- Executive summary
- Introduction
- Description of project activities
- Description of environment in the project area
- Description of political, legal and institutional framework
- Description of methodology and techniques used in assessment and analyse of project impacts.
- Description of environmental and social impacts for project activities
- Environmental Management Plan (EMP) for the project including the proposed mitigation measures; the institutional responsibilities for implementation; the monitoring indicators; the institutional responsibilities for monitoring and implementation of mitigation; Summarized table for EMP
- Recommendations
- References
- List of persons / institutions meet
Qualification of the Consultant
The Consultant will be agreed by the PCU in carrying out EIA studies.

Duration of Study
The duration of study will be determined according to the type of activity

Production of Final Report
The consultant will produce the final report one (1) week after receiving comments from the PCU.

Supervision of Study
The consultancy will be supervised by the Environmental Focal Points and the PCU.

Annex 7: Projects to be considered for Environmental impact Assessment

Part A of the Schedule of the National Environment Management Act, 1994

1. General:
   a. Any activity out of character with its surrounding.
   b. Any structure of a scale not in keeping with its surroundings.
   c. Major changes in land use.

2. Urban Development, including
   a. Designation of new township, villages and residential areas
   b. Establishment of industrial estates
   c. Establishment or expansion of recreational areas
   d. Establishment or expansion of recreational townships in hilly areas, national parks and game reserves
   e. Shopping centres and complexes
   f. Hotels and other tourist facilities.

3. Transportation, including
   a. All major roads
   b. All roads in scenic, wooded or hilly areas
   c. Bridges
   d. Railway lines
   e. Airports and airfields
   f. Pipeline
   g. Water transport
   h. Ports and landing sites.

4. Dams, Rivers and Water Resources, including
   a. Storage dams, barrages and weirs
   b. River diversions and water transfers between catchments
   c. Flood-control schemes
   d. Drilling for the purpose of utilising ground water resources including geothermal energy

5. Arial Spraying
6. Fisheries especially large scale commercial projects.

7. Mining, including quarrying and open-cast extraction of
   a. Precious metals
   b. Diamonds
   c. Metalliferous ores
   d. Coal
   e. Phosphates
   f. Limestone and dolomite
   g. Stone and slate
   h. Aggregates, sand, gravel and laterite
   i. Clay
   j. Exploration for the production of petroleum in any form
   k. Off-shore activities.

8. Forestry related activities, including
   a. Timber harvesting
   b. Clearance of forest areas
   c. Reforestations and aforestation
   d. Establishment of wood plantations

9. Agriculture, including
   a. Large scale agriculture
   b. Use of new pesticide
   c. Introduction of new crops and animals
   d. Use of fertilizers

10. Processing and manufacturing industries, including
    a. Mineral processing, reduction of ores and minerals
    b. Smelting and refining of ores and minerals
    c. Foundries
    d. Brick and earthenware manufacture
    e. Cement works and lime processing
    f. Glass works
    g. Fertilizer manufacture or processing
    h. Explosives plants
    i. Oil refineries and petro-chemical works
    j. Tanning and dressing of hides and skins
    k. Abattoirs and meat-processing plants
    l. A chemical works and process plants
    m. Brewing and malting
    n. Bulk grain processing plants
    o. Fish processing plants
    p. Pulp and paper mills
    q. Food processing plants
    r. Plants for the manufacture or assembly of motor vehicles
    s. Plants for the construction or repair of aircraft or railway equipment
t. Plants for the manufacturing or processing of rubber
u. Plants for the manufacture of tanks, reservoirs and sheet-metal containers
v. Plants for the manufacture of groundnut briquettes or other briquettes
w. Mechanical workshop
x. Cottage industries.

11. Electrical infrastructure, including
   a. Electricity generation stations
   b. Electrical transmission lines (high voltage)
   c. Electrical sub-station
   d. Pumped-storage schemes.

12. Management of hydrocarbons, including
    The storage of natural gas and combustible or explosive fuels.

13. Waste Disposal, including,
    a. Sites for solid waste disposal
    b. Sites for hazardous waste disposal
    c. Sewage disposal works
    d. Major atmospherics emissions
    e. Offensive odours.

14. Natural Conservations Areas, including,
    a. Creation of national parks, game reserves, and buffer zones
    b. Establishment of wilderness areas
    c. Formulation or modification of forestry management policies
    d. Formulation or modification of water catchment management policies
    e. Policies for management of ecosystem, especially by use of fire
    f. Commercial exploitation of natural fauna and flora
    g. Introduction of alien species of fauna and flora into ecosystem
    h. Establishment of natural heritage areas.
Annex 8: Bibliography

- The World Bank Operational Manuel Bank Procedures Environmental Assessment BP 4.01 January 1999
- The World Bank Operational Manuel Operational Policies OP 4.01 Environmental Assessment January 1999
- Health care waste management plan 2005-2010, The Gambia
- EIA procedures, Banjul, July 1999 The Gambia
- EIA Guide lines, march 1990, The Gambia
- Physical Planning and Development Control Act, 1990, The Gambia
- Hazardous chemical and pesticide control and management act 1994, The Gambia
- Hazardous chemical and pesticide (persistent organic pollutants protection) regulations , 2004 The Gambia
- Dra t of the Community Development Project, The Gambia
Annex 9: List of Individuals and Institutions Contacted

Mr. Baboucarr Boye – Permanent Secretary, Department of State for Education
Mr. Jawara Gaye – Co-ordinator, PCV
Mr. Muhammed Jallow – Director of Planning, PCV
Mr. Yunus Hydara – Deputy Director of Planning, PCV
Mr. Momodou Sarr – Executive Director, NEA
Mr. Doudou Jatta – Director of Lands
Mr. Omar Gaye – Technical Director, Gamworks
Mr. Addison Gomez – Project Construction Unit, PCV
Mr. B.M.K. Touray – Principal, Essau SSS
Mr. Momodou Jallow – Vice Principal, Essau SSS
Mr. Sambou – Vice Principal, Kuntaur SSS
Mr. Modou Lamin Sonko – Vice Principal, Kerewan UBS
Mr. Sheriff B. Kanyi – Principal, Nyabakunda UBS
Mr. Lamin B. Manneh – Vice Principal – Farrafenne SSS
Mr. Samba Manga – Teacher, Ngayen Sanjal UBS
Mr. Sheriff K. Njie – Headmaster, Ngayen Sanjal LBS
Mr. Musa Jassem – Teacher, Jarumeh Koto BCS
Mr. Hafner –Principal, Armitage SSS
Mr. Momodou Nyang – Vice Principal, Armitage SSS
Mr. Ismaila Njie, Teacher, Nyakou UBS, SSS
Mr. Kemo Koute – Headmaster, Nyakoi LBS
No one present – Sabi UBS
Mr. Lamin Janneh – Headmaster, Bakadaji LBS
Mr. Pathe Jallow – Principal, Bakadaji UBS
Mr. Jalimeri Jobarteh – Principal, Brikamaba UBS, SSS
Mr. Bangally Kanuteh – Vice Principal, Brikamaba UBS, SSS
Mr. Bori Jatta – Principal, Soma LBS
Mr. Ebriam Nyassi – Deputy Principal, Soma LBS
Mr. Njaga Jeng – Deputy Headmaster, Pakalinding LBS
Mr. Almamy F.B. Coly – Principal, Pakalinding UBS
Mr. T.A. Korter – Principal, Tahir Ahmadiya SSS
Mr. Omar Khan – Commissioner, URD
Mr. Tamba Kinteh, Chief Executive, Basse Area Council
Mr. Kemo Gassama, Assistant Records Officer
Mr. Balla Njie – Director of Education, Region 6
Mr. Baboucarr Suwareh – Director of Education, Region 5
Mr. Musa Suso – Director of Education, Region 3
Mr. Alhajie Senghore, Vice principal, Gambia High School
ACKNOWLEDGEMENTS

The Consultant wishes to express his gratitude to:

Mr. Baboucarr Boye – Permanent Secretary, Department of State for Education
Mr. Jawara Gaye – Coordinator, Project Coordination Unit
Mr. Ira Sagnia
And Mr. Saihou Darboe, my driver who have variously assisted me in the completion of my mission in so short a time.
Annex 10 : Terms of Reference (TOR)

I. Project Overview

The Gambia’s Country Assistance Strategy specifies that “overall economic growth boosted and poverty reduced by (a) achieving a macro-economic balance through fiscal reforms, (b) establishing appropriate public and private sector roles, (c) enhancing productivity of women, (d) reducing fertility and mortality rates, (e) improving the cost-effectiveness of service delivery, and (f) improving project implementation”. The national policy framework (Vision 2020 and the PRSP) recognize the strategic importance of the social sectors; education, health and agriculture, in the attainment of the desired objectives.

The Gambian education system has over the years undergone a series of significant configurations, ranging from partial structural reforms to a radical transposition of many of its aspects. These stemmed from attempts aimed at responding to changing needs and circumstances, guided by perspectives and experiences derived from both national and international contexts. Noting that education is change-driven and change-oriented, amidst the research findings that inform practice, the mutation of the system has neither been fortuitous nor dictated by mere natural tendencies. The implication is that the interventions made have transformed the system according to national priorities and visions.

There is an urgent need, at the dawn of the new millennium, to judiciously redirect education in the country according to the dreams and aspirations of the people and to equitably scale up participation rates and performance across groups and regions in order to meet the educational aims, objectives and targets. In consequence, the new Education Policy 2004-2015 focuses on ensuring that the right to quality education for all is upheld and that Education for All, with its ramifications, and the Millennium Development Goals are achieved. The ultimate object of eliminating poverty, enhancing quality living and nurturing a learning society forms the cornerstone of this policy.

To operationalise the new Education Policy, the sector is finalizing a Strategic Plan that has been developed through a Sector Wide Approach (SWAp) involving both local stakeholders and development partners; notably the IDA, DFID, AFDB, UNICEF, JICA, to name a few. The Strategic Plan sets the sector’s Vision Statement as “…By 2015 universal access to relevant and high quality education has been achieved” with a Mission Statement aiming at:

- Providing access to relevant and high quality basic education for all;
- Providing high quality education services;
- Ensuring gender equity in education;
- Provision of relevant life skills; and
- Promoting the principle of life long learning.

Against the background of its purpose statement that by 2015 the Department of State of Education and its affiliated institutions are providing effective, efficient, relevant and high quality education services to its clients, the Strategic Plan outlines six major programme areas as thus:

1. Basic Education: The purpose of this component is to enhance enrolment and quality at the basic level by increasing access to Early Childhood Education, and the universalization of basic education and improvement of quality and relevance. With an extended basic education system, this component also aims for an increased access to relevant and high quality adult and non-formal education.
2. Secondary Education: This component is geared towards an improved access to relevant and quality secondary education through the provision of a curriculum that is responsive to the socioeconomic needs of the country, ensuring gender parity and attainment of minimum grade level competency.
3. Tertiary and Higher Education: This component’s purpose is to improve access to relevant quality tertiary education through the integration of tertiary institutions under the umbrella of the University of The Gambia to ensure effective and efficient service delivery for an increased number of Gambians.
4. Technical and Vocational Education and Training: The component aims for an improved access to and quality of technical and vocational education and training by increasing access to relevant programmes that are locally accredited.

5. Quality Assurance: As a cornerstone to the policy, this component is aimed at improving learning outcomes through the provision of adequate and appropriate teaching learning materials and ensuring its effective usage to enhance grade level competency and mastery.

6. Sector Management: The component is tasked to ensure that effective and efficient delivery of education services is achieved.

The IDA in collaboration with Gambia Government recently concluded the Implementation Completion Report of the First Phase of the IDA intervention in the Third Education Sector Programme, which saw the end of the Education Policy 1988 – 2003 and indeed ushered in the new Education Policy 2004 – 2015. IDA role in the education, as the lead donor is critical both in terms of the planning processes and resource mobilization for programme implementation.

This project, the second phase of IDA intervention, serves as successor to the first phase and would consolidate on the achievements made thus far and placing particularly emphasis on the policy priority of improving quality of learning outcomes. The PHRD grant and the PPF resources are being utilized to inform the Strategic Plan and to guide resource allocations for IDA interventions and indeed other donor inputs.

II. Objective of the Environmental and Social Management Framework (ESMF)

The objective of this Environmental and Social Management Framework (ESMF) is to provide an environmental and social screening process for future infrastructure investments for which the exact locations are not known prior to appraisal, and for which appropriate mitigation measures might be required. The ESMF is intended to be used as a practical tool during project implementation.

The proposed screening process would be consistent with the Bank’s safeguard policy OP 4.01 Environmental Assessment. This policy requires that all Bank-financed operations are screened for potential environmental and social impacts, and that the required environmental work be carried out on the basis of the screening results. Thus, the screening results may indicate that (i) no additional environmental work would be required; (ii) the application of simple mitigation measures by qualified staff would suffice; or (iii) a separate environmental impact assessment (EIA) would be required.

Although the potential environmental and social impacts of the infrastructure investments are expected to be generally minimal, potentially significant localized impacts may occur, thus requiring appropriate mitigation. Potential environmental impacts would be addressed in the context of the Resettlement Policy Framework (RPF). The RPF has been prepared as a separate document and outlines the policies and procedures to be applied in the event of land acquisition under the project.

III. Scope of Work

To develop an Environmental and Social Management Framework (ESMF) the consultants will carry out the following tasks:

a) Review The Gambia’s environmental policies, laws, procedures, regulatory and administrative frameworks to determine which legal requirements are relevant to the infrastructure investments under the project and therefore will have to be incorporated into the ESMF, and make recommendations as appropriate;

b) Review the Bank’s ten Safeguard Policies and (i) determine which of these policies are likely to be integrated as a result of future infrastructure investments under the project; (ii)
identify gaps between the Safeguard Policies and the national legislation and make recommendations as to how to implement the relevant safeguard Policies in the context of the ESMF;

c) Review the bio-physical and socio-economic characteristics of the project area and (i) identify potential environmental and social impacts that might result from future infrastructure investments; (ii) propose appropriate mitigation measures; (iii) outline environmental impact assessment procedures; (iv) establish linkages to the RPF as necessary, and (v) make recommendations regarding the implementation and monitoring of environmental and social mitigation measures in the context of the ESMF as appropriate;

d) In the light of the available information, develop an environmental and social screening process, including monitoring indicators, for future infrastructure investments under the project, capturing the steps below (and others as appropriate):

1. Screening of physical infrastructure investments  
2. Assigning the appropriate environmental categories  
3. Carrying out environmental work  
4. Review and approval  
5. Public consultation and disclosure  
6. Monitoring  
7. Monitoring indicators

e) In light of the available information, identify areas that would require institutional strengthening for environmental management, including cost estimates and time horizons, to ensure that the requisite capacity exists under the project to implement the ESMF efficiently;

f) In light of the above recommendations, prepare an Environmental Management Plan (EMP) for the entire project; the EMP is to outline the institutional responsibilities, including cost estimates and time horizons for the (i) identification of environmental and social impacts; (ii) preparation and implementation of mitigation measures; (iii) monitoring of the implementation of mitigation measures; (iv) monitoring indicators; and (v) capacity building needs, including related training needs and costs. A summary table should be prepared for ease of reference.

IV. Output

The consultant(s) will prepare an Environmental and Social Management Framework (ESMF) that will be used by project implementers at the planning stage of physical infrastructure investments. Hence, the ESMF is to be used as a practical tool during project implementation.

V. Reporting

The ESMF will be written in English and will include the following sections:
Overview of the World Bank’s ten Safeguard Policies

Environmental impacts due to infrastructure investments

Social impacts due to infrastructure investments

The environmental and social screening process:
  o Steps required
  o Annexes
    ▪ Environmental and Social Screening Form (Sample)
    ▪ Environmental and Social Checklist (Sample)
    ▪ Procedures for the construction/rehabilitation of infrastructure investments requiring environmental work
    ▪ Summary of the World Bank’s Safeguard Policies
    ▪ Others, as necessary

Environmental Management Plan (EMP) for the entire project
  o Proposed infrastructure investments
  o Environmental and social impacts
  o Mitigation measures
  o Institutions responsible for implementing the mitigation measures
  o Institutions responsible for monitoring the implementation of the mitigation measures
  o Timing
  o Costs
  o Monitoring indicators
  o Summary table

Recommendations

List of individuals/institutions contacted

References

VI. Staffing of the Consultancy and Duration of Assignment

The consultancy would require expertise in environmental assessment, environmental management and strengthening of institutional capacity in these areas.

The duration of the assignment would be about five weeks, involving three weeks of field and two weeks writing the Environmental and Social Management Framework (ESMF).

A first electronic draft ESMF should be made available to the Government of The Gambia and the World Bank by 22nd March 2006, and the final draft electronic document should be available by 29th March 2006 to ensure disclosure of the ESMF in the The Gambia and at the World Bank’s Infoshop before appraisal, currently scheduled for 3rd April 2006.