THE GAMBIA EMERGENCY AGRICULTURAL PRODUCTION PROJECT (GEAPP)

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

Submitted by:
Nancy Njie
CONSULTANT
C/o Sahel Invest Management Intl
Bakau Newtown
The Gambia

MAY 2010
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LIST OF ACRONYMS
Africa Emergency Locust Project AELP
Community Development Assistant CDA
Community Development Project CDP
District Agricultural Development Officer DADO
EXECUTIVE SUMMARY

Introduction and Background
Despite several measures taken by Government since 2007 to mitigate the impact of rising food and fuel prices, the country and particularly the rural areas are still confronting food crisis due mainly to depleted food stocks, low purchasing power and low level of production.

The Gambia Government sought assistance to enhance agricultural productivity and domestic food crop production by providing direct support to farmers through the provision of agricultural inputs and equipment. Following an inter-agency assessment mission in August 2008 comprising the Food and Agricultural Organization (FAO), World Bank (WB), World Food Programme (WFP) and the
International Fund for Agricultural Development (IFAD), the Gambia Emergency Agricultural Production Project (GEAPP) was developed in 2009.

The GEAPP is funded by the World Bank as a grant from the European Union Food Crisis Response Facility Trust Fund in an amount of 5.3 million Euros. The GEAPP focuses on:

- Increasing access to agricultural inputs and equipment for 20,000 farmers and 667 farmer groups.
- Increasing post-harvest storage capacity through the rehabilitation of 35 village based facilities.
- Laying the foundation of a sustainable farmer based seed multiplication.
- Networking through the rehabilitation of four existing seed multiplication centres.

As an emergency grant, it shall be implemented over an 18-month period and is intended to increase cereal (millet and rice) production in 10 districts identified as the most vulnerable with regards food security based on various criteria and factors.

These districts are in the following Local Government Areas (LGAs):

<table>
<thead>
<tr>
<th>Brikama LGA</th>
<th>Mansakonko LGA</th>
<th>Kerewan LGA</th>
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<tr>
<td>Foni Bintang</td>
<td>Jarra West</td>
<td>Lower Nuimi</td>
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<td>Foni Kansala</td>
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<td>Upper Nuimi</td>
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<td>Foni Bondali</td>
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<th>Jangjanbureh LGA</th>
<th>Basse LGA</th>
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<tr>
<td>Niamina East</td>
<td>Wuli</td>
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<td>Niani</td>
<td>Sandu</td>
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In as much as the GEAPP is developed to benefit farmers, the same project could cause environmental and social problems that can affect the same farmers today or in future. Therefore, this Environmental and Social Management Framework (ESMF) was prepared to ensure that potential negative adverse environmental impacts and social risks related to the project activities are identified and assessed. The relevant and appropriate mitigation measures have also been provided to prevent or reduce these adverse impacts.

**Objectives of the ESMF**

The objectives of the GEAPP Environmental and Social Management Framework (ESMF) are:

- To identify, assess and manage potential negative environmental impacts associated with the project and ensure that appropriate mitigating measures are taken.
- To establish clear procedures and methods for environmental and social planning review and implementation.
To specify appropriate roles and responsibilities and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to the Project activities.

To determine the training, capacity building, and technical assistance needed to successfully implement the provisions of the ESMF.

To establish the Project funding required to implement the ESMF.

To provide practical information resources for implementing the ESMF.

Methodology used to prepare the ESMF

In preparing this ESMF, literature review and consultation with various stakeholders were done and the collected information analysed.

Consultations were held with personnel in the following relevant institutions:
- the Ministry of Agriculture - GEAPP Project Coordination Unit; Regional Agricultural Directors (RADs) and extension workers; the Soil and Water Management Unit (SWMU); Plant Protection Services (PPS); National Agricultural Research Institute; Participatory Integrated Watershed Management Project (PIWAMP) and the Gambia Lowland Agricultural Development Project
- the National Environment Agency (NEA)

We also conducted field visits to the sample district, Foni Kansala, and held discussions with the Village Development Committees and the farmer groups (“kafoos”) in the three villages – Dobong, Burock and Kampant. The sample represents high, medium and low populated villages respectively.

The information collected from the consultations were used in developing the ESMF in addition to other information from the desktop review and consultant’s experience.

Summary of the outcome of the consultations

All the partners consulted discussed the potential benefits of this project, however, some of the environmental and social issues repeatedly raised include:

1. The need for soil conservation
2. The need for sensitization of the relevant extension workers
3. The GEAPP to consider women with regards ownership as their powers and rights are limited
4. The need for support from the GEAPP for a successful Project execution and specifically related to monitoring.
5. Village Development Committees (VDCs) have vast experience in managing and advising on similar issues.
6. Proper seed storage is important in increasing agricultural production
7. A number of agricultural projects are concurrently being implemented.
8. The GEAPP’s provision of free inputs was received with joy by the farmers, however, the importance of considering equipment running and maintenance costs was mentioned.
9. Appropriate timing of farming activities is important for various reasons.

**Impact screening**
The principles and method used to evaluate the potential significant impacts
The significance of impacts were characterised as (i) moderate positive, (ii) high positive (iii) moderate negative (iv) high negative and (v) no discernible impact, considering the combination of various factors such as the type of activities, sensitivity of receptors, impact duration and geographical coverage amongst others.

This screening to evaluation the significance of potential impacts of this Project was based largely on expert opinion, information from the consultations and experience of similar agricultural projects.

**Project Description and Objectives**
The project has three components:

1. Provision of agricultural inputs and equipment
2. Rehabilitation of post harvest and seed multiplication infrastructure
3. Support to project coordination and monitoring.

**Provision of Agricultural Inputs and Equipment**
This component will support the provision of agricultural production inputs (seeds and fertilizer) to beneficiaries. About 3000 tons of fertilizer (1500 tons of Nitrogen, Phosphorus and Potassium - NPK; 1500 tons of urea and 525 tons of certified seeds (25 tons early millet seeds and 500 tons of rice seeds) will be purchased and distributed to 20,000 millet and rice farmers.

The project will also provide pieces of machinery including (power tillers 300, seeders and sine-hoes 367).

**Rehabilitation of Seed Multiplication and Post Harvest Infrastructure**
Three seed centres located in different parts of the country are identified by the project for rehabilitation and the project will support the rehabilitation of 35 village level storage facilities to minimize post harvest losses.

**Institutional arrangements for GEAPP implementation and monitoring**
The GEAPP will be implemented by the Project Coordination Unit (PCU) of The Gambia’s Africa Emergency Locust Project (GM-AELP) under the Ministry of Agriculture.

The Project Coordination Unit will be responsible for procuring and delivering the inputs to the regional headquarters. Based on the **GEAPP District and Village Level**
*Agricultural Inputs Distribution Plan*, the Regional Agricultural Directors will facilitate the transportation of the inputs to the villages; the Non-Governmental Organisations (NGOs) contracted by the project will be responsible for distribution of inputs at the village levels.

The Village Development Committees (VDCs) and the women farmer groups (Kafoos) will participate fully in the distribution of the inputs at the village level.

The GEAPP will provide incremental funds to the PCU for coordination, communication, and monitoring and evaluation (M&E) activities. The agricultural services will provide specialised training and technical services to farmers. NEA will be responsible for monitoring the environmental impacts to ensure that the project is implemented according to the ESMF and environmental laws of the Gambia.

**Biophysical and Socio-economic Environment of the Country**

The following were discussed:

**BIOPHYSICAL**  
Climate and Vegetation  
Drainage  
Geology and landscape  
Soil  
Surface and Ground Water Resources  
Wildlife

**SOCIO-ECONOMIC**  
Population growth and Distribution  
Agriculture, Livestock Production and Marketing  
Forestry – human linkages  
Land Tenure and Property Rights  
Women in development  
Education  
Health
Policy, Legislative and Institutional Framework for the GEAPP ESMF

The main law with regards the ESMF is the National Environment Management Act (NEMA), 1994, which was reviewed in addition to the Public Health Act, 1990 and the Local Government Act 2002.

Institutional structures for the National Environment Agency, The Ministry of Agriculture and local government were also explored.


Environmental and Social Assessment of GEAPP

The environmental evaluation aims to bring into focus, for the purposes of ensuring that the project is executed in an environmentally sound manner, all important environmental and social issues taken into consideration. Its findings are intended to assist in decision-making processes involved in project implementation.

The aim of such study is that environmental and social considerations can be integrated into the design as much as possible at the conceptual stage. This is a preventive measure, which aims to prevent or minimise the negative impacts of the project.

The objectives of environmental assessments are to identify and exploit environmental opportunities and benefits of a proposed project; manage negative impacts and ensure that project activities comply with relevant standards and legislation at the national and international levels. Like this ESMF, it is important to formulate practical, time-bound and cost-effective recommendations to mitigate any potential significant adverse environmental and social impacts that could arise during construction and operations.

Screening of project sites

The VADPs and farmers complete the screening checklist by identifying applicable impacts and the recommended classification to be finalised with the EIA Programme Officer. The Executive Director of NEA approves the classification which decides what is to proceed.

According to the World Bank’s OP4.01, category B projects vary in impacts from site to site, thus, GEAPP activities may require more studies based on specific sites. Category B may require limited scope EIA whose terms of reference will be developed by the EIA Programme Officer at NEA and a consultant sought by the PCU to carry out the study. This will be validated by the multi-sectoral EIA Working Group then a decision made to reject, approve with or without conditions of implementation. As in this ESMF, identified mitigation measures shall be accompanied by corresponding parties for implementation and those responsible for monitoring.
To ensure this process is effective, it is important to train the VADPs and NEA Regional Officers in environmental assessment procedures.

**Evaluation of impacts**

Using the method earlier discussed, the various issues on the physical, biological and socioeconomic parameters were rated and the summarised under potential positive and negative impacts.

**Potential Positive Impacts**

The main aim of the Project is to enhance crop yield. Therefore, it is expected that the various activities will contribute towards increased harvest for beneficiaries and subsequently more income.

Sensitization programmes under the GEAPP ESMF will assist in more understanding of farming activity timing, soil conservation and integrated pest management, thus, preventing environmental degradation and also avoiding sensitive areas. During the consultations, the project impacts discussed included more income and less need for physical labour, hence children will be released to attend school.

**Potential Negative Impacts**

**Impacts on the Physical Environment**

The provision of farming implements such as power tillers, sine hoes and seeders to the farmers could have negative impacts on the physical environment. If these implements are not used properly they could encourage erosion especially when the topography consists of steep slopes and sandy soils. Deep tillage makes the soil more erodible and, thus, more soil will be carried downstream. This may result to gully formation which can change the landscape of the area in extreme circumstances. It may also carry sediments downstream to the lowlands, thus, covering the fertile lowland and rendering it unproductive or reduce its productivity.

In almost all the villages visited, runoff water was a problem; gullies are observed and the farmers expressed their concerns on the issue of controlling erosion. The consultant concluded that the supply of farming implements should be preceded by training on soil and water conservation techniques such as contour farming and the creation of diversions. The extension workers at the village level should be trained and they in turn train farmers.

The availability of free inputs and equipment could encourage farmers to expand the land to be cultivated. This expansion could encroach into forest or sites of cultural significance unless controlled by full implementation of the ESMF.

**Negative Impacts on the Biological Environment**

Over application of fertiliser could lead to the pollution of surface water bodies. Such pollution could affect aquatic organisms such as fish. Many of the villages to benefit from the project are situated close to the River Gambia or one of its tributaries. Due to the runoff volumes, most of the fertiliser could be washed away
into water bodies unless soil and water conservation techniques are implemented. Farmers also need to be trained on the right application rates to avoid over application. Movement of wildlife and livestock for food and water could be affected indirectly, if their paths are badly affected by erosion.

**Negative Impacts on the Socio-economic Environment**

The issue of giving the implements and inputs for free is expected to cause instability in the community. In all our consultations with the farmers the issue of the quantities to be given came up and whether or not it will be ‘enough’ for everyone. The fact that it is free makes distribution very difficult because community members that do not have allocations will be dissatisfied with the project and this could be a source of conflict among community members.

Women also fear that unless a specified amount is allocated to them, men may take everything or most of it. The implements that are to be issued without the draft animals to operate them is another constraint. This means only those with draft animals can have them. Most of these people already have some implements and giving them another one could lead to them selling one. Giving these implements to people without animals will also mean they borrow or hire animals from the owners. They will only get animals when the owners are ready with their work. This will have a significant negative impact on timely cultivation which will invariably affect productivity. Timely cultivation is also a method of integrated pest management in view of the fact that pesticides are not issued as part of the project.

The availability of free inputs and equipment could free up some cash with the farmers and they may spend that on pesticides in view of the fact that pesticides are not part of the project.

**The Following are Mitigation Measures for the Potential Negative Impacts earlier explained:**

**Fertilizer distribution and use**

1. Use enclosed trucks or cover fertilizer stocks during transportation
2. Train farmers and extension worker on the right application rates and contour farming
3. Equitable and fair distribution of inputs. Community ownership of inputs and targeting of groups rather than individuals. Practice traditional conflict resolution systems.
4. Good farming techniques to be utilised by farmers

**Seed Distribution and use**

1. Proper ventilation of seed stores
2. Store seeds away from dwellings and stored food
3. Training of farmers and extension workers on the community forest concepts

4. Equitable and fair distribution of inputs. Community ownership of inputs and targeting group rather than individuals. Practice traditional conflict resolution systems.

5. Training on integrated pest management and the safe use of pesticides. Abide by the Pest Management Plan of The Gambia

Equipment distribution and use

1. Training on soil and water conservation techniques for farmers to be able to avoid soil degradation

2. Training on safe use and maintenance of equipment for safe and efficient operation of equipment

3. Avoid disposal into or near water bodies

4. Collect waste metal / plastic for recycling

5. Regular preventive maintenance; accidental spillage near water bodies must be immediately cleaned

6. Sensitization on the need for continuous maintenance

Seed Store Rehabilitation

1. Wetting if dusty

2. Appropriate disposal of waste as advised by NEA

3. Use of pressed bricks

4. Collection of sand, gravel and wood only from approved designated sites / sources

5. Use local workers, particularly unskilled

6. Construction of impervious pest prove (floor, walls and ceiling)

7. Train the VDCs or store keeper on the proper operation of stores

Seed Multiplication

1. Collection of sand, gravel and wood from approved designated sites / sources

2. Appropriate disposal as advised by NEA

3. Use of pressed bricks

4. Provide water for the users of wells close to the boreholes if their water supply is affected

5. Training on soil and water conservation techniques for participating members of the Seed Growers Association to be able to avoid soil degradation

6. The need for continuous maintenance
7. Training on integrated pest management and the safe use of agrochemicals for seed growers
Monitoring and evaluation of the ESMF
Monitoring of the ESMF implementation is essential in ensuring the project is environmentally sound, by checking that the recommended mitigation measures have been carried out effectively in a timely manner.

Monitoring and evaluation of the ESMF will be mainstreamed in the general monitoring system of the GEAPP at various levels.

The VADPs shall monitor the ESMF implementation at local level whilst they will in turn be monitored by the National Environment Agency Regional Programme Officer. To ensure proper coordination at field level, we propose Regional Environment Coordination Teams headed by the NEA to coordinate the general implementation of the ESMF. The team shall comprise the NEA Regional Programme Officer and Regional Agricultural Directorate (DADO and Plant Protection specialist).

It is the responsibility of the GEAPP Monitoring and Evaluation Officer to ensure that both the VADPs and NEA Officers are facilitated as requested to monitor the ESMF implementation. Memorandums of Understanding should be developed in this respect. Notwithstanding, random joint monitoring is recommended at an early stage to ensure consistency.

It is recommended that an independent environmental auditor be contracted to undertake a midterm performance review to prevent bias in reporting and recommend any necessary corrective measures on time.

Reporting
Effective communication between the local monitors and the NEA and PCU is essential.

Monthly reporting of monitoring and evaluation results is recommended from the VADPs to the PCU through the Regional Environment Coordination Team.

The PCU shall in turn evaluate the reports and facilitate immediate improvement considering the short length of the project duration.

The independent environmental auditor shall review the ESMF implementation from the beneficiary level to the local monitors and PCU levels.
Capacity enhancement and training requirements

Environmental Training and Sensitisation
Training and sensitisation will be required at all levels: Monitoring and Evaluation Officers of the GEAPP, RADs, VADPs, NEA Regional Programme Officers, NEA Regional Environmental Inspectors, Community Development Assistants and beneficiary farmers.

The PCU shall collaborate with the relevant institutions for the required specialists to deliver a range of technical training on environmental and social management issues to the target groups. The VADPs shall carry out step down sensitisation sessions for the farmers.

Capacity Enhancement
In addition to human resources, there is some capacity at all levels to implement the mitigation measures of this ESMF, however, as understood during the consultations, there is limited resources in the implementing institutions, which needs enhancement for success.

For both the Department of Agriculture Regional Agricultural Centres and National Environment Agency Regional Offices, support is required to supplement resources for monitoring and reporting. The agricultural technical units such as NARI and PPS may also be supported for effective implementation. A sample baseline survey of water quality in target areas has also been proposed by the SWMU and Department of Water Resources.

ESMF Implementing Budget
The total ESMF implementation budget for capacity building in monitoring and training, / sensitization programmes is $62,300.00.
Recommendations for implementation of the ESMF
The ESMF highlights the following recommendations for effective implementation:

- Policy and decision makers from all relevant institutions must be sensitised on the Project ESMF before project activities commence at district level.

- All training and sensitisation programmes must take place before project activities commence at district level.

- Harmonise the World Bank and Gambia EIA procedures to avoid confusion and make the process more user friendly.

- Enhance monitoring of the importation, sale and use of illegal pesticides most of which comes through the porous borders with Senegal and sold at the “lumos”.

- We recommend the inputs be provided as a grant to farming groups only, however, where individual farmers are benefiting, in order to ensure sustainability and equitable distribution, we recommend token cost recovery from farmers to be managed by the VDCs.

- Establishment of a Regional Environment Coordination Team comprising of the NEA Regional Programme Officer and Regional Agricultural Directorate (DADO and Plant Protection specialist)

- An independent environmental audit carried out mid-term of project ESMF implementation.

- Based on the outcome of the inventory, it is recommended to calculate the cost of collection and disposal of any hazardous waste or obsolete pesticides found.
1.0 Introduction
1.1 Background

As in other Sahelian countries, the food security situation in The Gambia is severely and regularly affected by erratic rainfall patterns. The 2004 locust invasion combined with several years of drought conditions are the main factors behind the recent drop in domestic cereal production. Since 2005 the total food grain production has declined by 35 percent and the gap between consumption needs and domestic production levels increased from 65,000 metric tons in 2004 to 150,000 metric tons in 2007.

Beginning in 2007, rising food and fuel cost pushed the annual inflation rate in The Gambia by 6 percent in 2008. Despite several measures taken by Government since 2007 to mitigate the impact of rising food and fuel prices, the country and particularly the rural areas are still confronting food crisis due mainly to depleted food stocks, low purchasing power and low level of production.

In response to the food crisis and soaring prices affecting the country, The Gambia Government in addition to taking mitigating measures, sought the assistance of the international donor community to enhance agricultural productivity and domestic food crop production by providing direct support to farmers through the provision of agricultural inputs and equipment. Following an inter-agency assessment mission in August 2008 comprising the Food and Agricultural Organization (FAO), World Bank (WB), World Food Programme (WFP) and the International Fund for Agricultural Development (IFAD), the Gambia Emergency Agricultural Production Project (GEAPP) was developed in 2009.

The GEAPP is funded by the World Bank as a grant from the European Union Food Crisis Response Facility Trust Fund in an amount of 5.3 million Euros. The Emergency Agricultural Production Project will focus on:

i. Increasing access to agricultural inputs and equipment for 20,000 farmers and 667 farmer groups.
ii. Increasing post-harvest storage capacity through the rehabilitation of 35 village based facilities.
iii. Laying the foundation of a sustainable farmer based seed multiplication.
iv. Networking through the rehabilitation of four existing seed multiplication centres.

The operation will be implemented over an **18-month period** and is intended to increase cereal (millet and rice) production in **ten (10)** districts identified as the most vulnerable. The ten districts were selected by The Gambia Government and the World Bank on the basis of a World Food Programme Report of 2008 as the most vulnerable, in terms of food security based on various criteria and factors.
These districts are in the following Local Government Areas (LGAs):

**Brikama LGA**  
Foni Bintang  
Foni Kansala  
Foni Bondali

**Mansakonko LGA**  
Jarra West

**Kerewan LGA**  
Lower Nuimi  
Upper Nuimi

**Foni Bintang Jarra West Lower Nuimi**  
Foni Kansala  
Upper Nuimi

**Foni Bondali**  
Foni Kansala  
Upper Nuimi

**Jangjanbureh LGA**  
Niamina East  
Niani

**Basse LGA**  
Wuli  
Sandu

The estimated population in the 10 districts is 260,000; about 20,000 farmers and 667 farmers groups will benefit from the project assistance.

Despite the benefits, implementation of the above noted project activities are likely to have negative environmental impacts, for example, loss of vegetation, soil erosion, land degradation, deforestation and surface water pollution. At the social level, the project activities could generate adverse effects such as social conflicts and exclusion of vulnerable groups such as women from actively participating in the project and having direct access to the agricultural inputs and implements.

It is within this context that this Environmental and Social Management Framework (ESMF) was prepared to ensure that potential negative adverse environmental impacts and social risks related to project activities are identified and assessed. The relevant and appropriate mitigation measures have also been provided to cope with these adverse impacts.

**1.2 Objectives of the ESMF**

The objectives of the GEAPP Environmental and Social Management Framework (ESMF) are:

- To identify, assess and manage potential negative environmental impacts associated with the project and ensure that appropriate mitigating measures are taken.
- To establish clear procedures and methods for environmental and social planning review and implementation.
- To specify appropriate roles and responsibilities and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to the Project activities.
- To determine the training, capacity building, and technical assistance needed to successfully implement the provisions of the ESMF.
- To establish the Project funding required to implement the ESMF.
- To provide practical information resources for implementing the ESMF.
Although the potential environmental and social impacts of the infrastructure investments under the project are expected to be generally minimal, potentially significant, localised impacts may occur, thus requiring appropriate mitigation measures. The potential environmental impacts would be addressed in the context of this ESMF.

1.3 Methodology used to prepare the ESMF

The approaches adopted by the consultant in preparing the ESMF include, review of existing literature, consultation with various relevant stakeholders including the communities to benefit from the project; field visits and collection of secondary data and analysis.

The literature reviewed included the GEAPP and the Gambia Africa Emergency Locust Project (AELP) appraisal documents, the Gambia Community Development Project ESMF, World Bank Safeguard Policies, GEAPP District and Village Level Agricultural Inputs Distribution Plan, GEAPP Seed Production and Supply Plan, AELP Environmental Management Plan for Construction / Rehabilitation of Pesticide Stores, and AELP Environmental Impact Assessment of Locust Control in The Gambia. The Participatory Integrated Watershed Management Project (PIWAMP) and Gambia Lowland Development Project (GALDEP) projects were also reviewed.

The approach used in preparing the framework was very participatory. All the institutions that will be involved in the implementation of the project including the technical departments of the Ministry of Agriculture, its extension workers, and the National Environment Agency (NEA) were consulted.

We had meetings with institutional stakeholders mainly those concerned directly with the project; these include the Project Coordination Unit of the GEAPP, the Regional Agricultural Directors (RADS) and their extension workers, the Soil and Water Management Unit (SWMU), Plant Protection Services (PPS), and National Agricultural Research Institute. A detailed summary of the consultations is shown in ANNEX 1.

We also conducted field visits to the sample district in the Western Region viz Foni Kansala and had discussions with the Village Development Committees and the farmer groups (“kafoos”) in the three villages visited – Dobong, Burock and Kampant. The sample represents high, medium and low populated villages respectively, in order to assess any variance in issues for consideration.

The data collected were used to support the environmental study that will involve many components of the ESMF; including initial screening, impact identification and assessment, mitigation measures, legal and institutional framework, management and monitoring mechanisms and capacity building.
1.3.1 Summary of the outcome of the consultations

All the partners consulted discussed the potential benefits of this project, however, some of the environmental and social issues repeatedly raised include:

i. The need for soil conservation that shall prevent future reduction in agricultural productivity resulting from increased runoff, erosion, sedimentation.

ii. The need for sensitization of the relevant extension workers and farmers on the required measures for successful implementation of the ESMF treating the identified areas of concern.

iii. The GEAPP to consider women with regards ownership as their powers and rights are limited due to some cultural and traditional customs.

iv. The need for support from the GEAPP for a successful Project execution and specifically related to monitoring of the ESMF implementation.

v. Village Development Committees (VDCs) have vast experience in managing and advising villagers on the use and maintenance of communal property. However, allocation of farming inputs to farming groups, rather than individuals will be the best option in preventing conflict whilst contributing towards sustainability.

vi. Proper seed storage is important in increasing agricultural production, thus, the rehabilitation of seed stores was highly welcomed. Sensitization on store management was also highlighted.

vii. A number of agricultural projects are concurrently being implemented, and in some cases, in the same farming villages. Therefore, to avoid confusing the farmers, constant collaboration was discussed for cumulative positive impacts.

viii. The GEAPP’s provision of free inputs was received with joy by the farmers, however, the importance of considering equipment running and maintenance costs was mentioned. For sustainability, stakeholders must also plan to benefit beyond the Project.

ix. Appropriate timing of farming activities to prevent pest infestations, seed spoilage and potential negative impacts linked to borrowing or renting animals for farming where farming groups do not own animals and must await for owners to finish work in their farms first.

1.3.2 Impact screening

The principles and method used to evaluate the potential significant impacts

The project activities can present potential risks based on the surrounding environment (physical, natural and social) they take place.

The interaction of the hazard of an activity with the sensitivity of the surrounding environment leads to an impact. The occurrence and significance of the impact depends on level of compatibility of both the type of activity and the type of the environment.

The significance of an impact will be characterised as (i) moderate positive, (ii) high positive (iii) moderate negative (iv) high negative and (v) no discernible impact, considering the combination of various factors including the following:
• The project activities leading to hazards and risks: their nature, magnitude, indirect or indirect
• The sensitivity of the receptor: for the beneficiaries, for instance, is the receptor a woman, child or elderly (considered as more sensitive) or a man? Sensitive physical or biological environments?
• Temporary scale: Will the impact have effect in the short, medium (temporary) or long term (nearly permanently)?
• Geographical scale: Does the impact affect one family, one village, one region, country, etc?
• Are there cumulative minor or localised negative impacts leading to major problems? Amongst others.

This screening to evaluate the significance of potential impacts of this Project was based largely on expert opinion, information from the consultations and experience of similar agricultural projects.

2.0 Project Description and Objectives

The project has three components:

(i) Provision of agricultural inputs and equipment
(ii) Rehabilitation of post harvest and seed multiplication infrastructure
(iii) Support to project coordination monitoring and evaluation.

The primary objective of the GEAPP is to enhance productivity and domestic food production in the short and medium term in order to increase rural income and ensure food security.

About 20,000 farmers and 667 farmers groups in ten districts have been targeted to benefit from the project assistance based on the vulnerability of their area to food insecurity.

2.1 Provision of Agricultural Inputs and Equipment

This component will support the provision of agricultural production inputs (seeds and fertilizer) to beneficiaries. About 3000 tons of fertilizer (1500 tons of Nitrogen, Phosphorus and Potassium - NPK; 1500 tons of urea and 525 tons of certified seeds (25 tons early millet seeds and 500 tons of rice seeds) will be purchased and distributed to 20,000 millet and rice farmers. This support will cover about 5000 hectares of rice and is expected to generate, under favourable climate conditions, additional 6000 tons of cereal.

The project will also provide pieces of machinery including (power tillers 300, seeders and sine-hoes 367). Beneficiaries will be trained by technical departments on the use, operation and maintenance of the equipment. The equipment will be given to organised village groups (“kafoos”) which already have procedures in place for shared use and maintenance of such equipment. This activity will increase labour productivity by decreasing the time required for field preparation and weeding.
2.2 Rehabilitation of Seed Multiplication and Post Harvest Infrastructure

2.2.1 Rehabilitation of Seed Multiplication centres

Three seed centres located in different parts of the country identified by the project will be rehabilitated and upgraded by the installation of irrigation facilities, fencing, provision of machinery/tools, provision of an operational budget and production inputs to engage in all year round seed production. Each centre will be responsible for producing the foundation seeds and registered classes of rice and maize seeds for the specialised seed grower associations, groups or individuals operating within their agricultural area.

The centres will also serve as entry point for new rice and maize varieties released by the agricultural research system.

The centre will also serve as model farms where farmers can see the effect of recommended crop production practices. The centres will function as training sites and field visits by interested training teams within and outside the country. It is anticipated that by the end of the second season of production, 12,795 metric tons of certified seeds, comprising 781 metric tons of upland rice, 3125 metric tons of maize and 8888 metric tons of lowland rice will be available to the farming committees.

2.2.2 Rehabilitation of Village Level Post Harvest / Seed Storage Facilities

The project will support the rehabilitation of 35 village level storage facilities to minimize post harvest losses in the ten districts identified as the most vulnerable. The facilities are owned by villages and managed by the Village Development Committees. Training on proper storage techniques will be contracted to NARI and PPS through MOUs at the beginning of the Project implementation.

2.3 Institutional arrangements for GEAPP implementation

2.3.1 Project Implementation

The GEAPP will be implemented by the Project Coordination Unit (PCU) of The Gambia’s Africa Emergency Locust Project (GM-AELP) under the Ministry of Agriculture.

The organisations and institutions that took part in the 2006 crop loss compensation distribution of agricultural inputs will be utilised for the GEAPP agricultural inputs distribution as discussed in the **GEAPP District and Village Level Agricultural Inputs Distribution Plan**.

The Project Coordination Unit will be responsible for procuring and delivering the inputs to the regional headquarters. Based on the **GEAPP District and Village Level Agricultural Inputs Distribution Plan**, the Regional Agricultural Directors will facilitate the transportation of the inputs to the villages; the Non-Governmental
Organisations (NGOs) contracted by the project will be responsible for distribution of inputs at the village levels.

The Village Development Committees (VDCs) and the women farmer groups (Kafoons) will participate fully in the distribution of the inputs at the village level. The agricultural inputs to be distributed at the village will be based on the distribution methods agreed by the VDCs.

2.3.2 Project Coordination and Monitoring

The GEAPP will provide incremental funds to the PCU for coordination, communication, and monitoring and evaluation (M&E) activities. This component will strengthen the capacity of the PCU to adequately monitor activities and will support field staff and partners implementing the project through the provision of fuel and office supply amongst others. At the close of the AELP the project will absorb the full cost of maintaining the PCU for the life of the GEAPP.

The agricultural services will provide specialised training and technical services to farmers. NEA will be responsible for monitoring the environmental impacts to ensure that the project is implemented according to the ESMF and environmental laws of the Gambia.

3.0 Biophysical and Socio-economic Environment of the Country

3.1 Biophysical environment

3.1.1 Climate and Vegetation

The Gambia lies in the Sahelian belt with a sudano-sahelian type of climate characterised by a long 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.

Drought has affected rainfall and for the past 15 years has been creating erratic and unexpected rains and in most years reduced rain. With the economy heavily dependent on rain fed agriculture, these adverse conditions have resulted in negative agricultural production, eroding farmer’s productivity and their purchasing power.

The natural vegetation type is Guinea Savanah woodland in the west and changes into typical open Sudan Savanah towards the eastern part of the country. This area is characterised by extensive marginal lands with laterite ridges and shallow soils unsuitable for crop production.

Along the River Gambia are mangroves; these are found in the central area, and their ecosystem has remained stable over the years although now threatened by the clearing of swamps for rice cultivation in the rural areas or the cutting down of the
mangroves for oyster harvesting and fuelwood. The ESMF shall prevent or reduce such activities related to rice cultivation.

### 3.1.2 Drainage

Except for a few coastal streams in the Kombo peninsula and Lower Nuimi, natural drainage in the Gambia is centred along the River Gambia and its tributaries. As it enters the Gambia territory 680 kilometres from the source in the Fouta Dallon Highlands in Guinea Conakry, the River Gambia flows generally along an east-west axis with 85% of the runoff generated outside The Gambia where larger part of the drainage basin is located.

### 3.1.3 Geology and landscape

Most of the surface of The Gambia is derived from a sandstone formation known as the ‘Continental Terminal’ (Dunsmore et al., 1976). Structurally, it contains layers of sandstone mixed with beds of quartz gravel, sand and clay and ironpan layers.

The parent material of the dominant soils of The Gambia is composed predominantly of quartz and kaolin which was the result of weathering of the ‘Continental Terminal’ formation.

The upper tertiary consists of mainly poor consolidation sandstones which are white to pink or red in colour. They are composed of quartz grains with minor amount of stable heavy minerals such as ilmenite, zircon, tourmaline, saturelite and rutile. The clay stones are commonly kaolintic which are found within the stratigraphic sequence sometimes forming thick beds in areas.

### 3.1.4 Soil

Four basic elements make up the landscape of the Gambia; flat areas represent the recent past composing the flood plan in which alluvial material was deposited. This landscape lies adjacent to the main river and its upper tributaries. Narrow bands of similar alluvium occur in the depression associated with minor tributaries and are subjected to water logging.

Lying above the alluvial flats occur the alluvial slopes being very gently slopy areas covered by the alluvial deposits of eroded tertiary plateau. The remainder of the terrain comprises a tertiary plateau which two different levels may be distinguished. The upper plateau 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 occur only rarely. The lower plateau level is exposed by dissection and erosion of the high platen and forms the basic landscape of most of the North Bank and Western Regions. Further east, this segment occurs in depression, associated with tributary streams.

A common set of soil characteristics include low cation exchange capacity; low inherent fertility; strong consistencies and poorly developed structures; and medium to high base saturations.
Furthermore, soils of The Gambia are locally classified based on physiographic positions into upland, lowland and colluvio-alluvial soils.

The upland soils occur along the plateau and its footslopes. They are freely drained soils which have loamy sands and sandy clay to clay loam subsoil.

The lowland soils occur along the banks of the River Gambia and its tributaries. They are characterised by hydromorphic properties. They are heavy textured consisting of silt loam surface and silty clay or clay subsoil and are poorly drained. These areas the generally utilised in swamp rice cultivation. Between the uplands and lowlands are the transitional soils with coarse textured surface that overlies finer textured subsoils and are somewhat poorly drained.

### 3.1.5 Water Resources

The water resources of The Gambia comprise seasonal rains, ephemeral ponds, depression storage and the perennial main River Gambia as well as the two aquifer systems underlie the entire Country.

#### 3.1.5.1 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 current drought years. The mean annual rainfall in 1968 of 1, 1000mm now stands at 900 mm.

The River Gambia is tidal throughout its length within the estuarine zone distinct, particularly in the eastern-most part of the country. Despite large areas, The Gambia’s basin section contributes little to the flow of the river. The bulk of the flow is derived from the headwater regions and middle basin in Guinea and Senegal, which together form 86 percent of the basin.

#### 3.1.5.2 Ground Water

Exploitable ground water occurs in the shallow sandstone and the deep sandstone aquifers separated by marls, clay and argillaceous limestone. Both aquifers occur throughout the country. In some places the shallow aquifer consists of two units, the phreatic occurring depths between 10 and 30 meters below ground level, and semi-confined at depth between 40 and 120 meters. The deep sandstone aquifer occurs at depth exceeding 250 meters and is estimated to hold reserves of low quality water in the order of 80 km$^3$. The other is estimated to hold about 0.125 km$^3$ of good quality water.

### 3.1.6 Wildlife

Wildlife in the Gambia is of vast variety, although diversity is reducing and some species only remain in small populations at limited areas. The main treats to wildlife are hunting, impacts from destruction of habitats or movement paths, and sometimes killings for farm and farmer protection.
Reserves and national parks have been designated as legally protected areas in an aim to preserve diversity, encourage wildlife population growth for scientific studies, education and tourism purposes. Under this ESMF, extension workers will be sensitised on the need to prevent encroachment for farming activities within these areas of ecological significance.

3.2 Socio - Economic Environment

3.2.1 Health

The health service delivery system in The Gambia is three tier based on the Primary Health Care Strategy. Currently, there are five hospitals across the country, six major health centres and thirty-two minor health facilities. At the primary (community) level 492 health posts exist. The public service delivery is complimented by NGO and private run facilities (Ministry of Health, 2009).

One of the goals of the Gambian health policy is to empower communities to be active partners in managing their health. Thus, the GEAPP ESMF bears in mind potential risks to health from inappropriate use of pesticides, use of equipment and potential diseases of water associated with swamp rice farming.

3.2.2 Population growth and Distribution

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

Women constitute 51 percent of the population and provide most of the labour in rice and horticultural production. However, they are a vulnerable group and have limited access to land when it comes to ownership.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Gambia Both sexes</th>
<th>Female</th>
<th>Urban Both sexes</th>
<th>Female</th>
<th>Rural Both sexes</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>
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<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>
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<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>74,122</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>674,591</td>
<td>351,289</td>
</tr>
<tr>
<td>Total</td>
<td>1,360,681</td>
<td>689,840</td>
<td>668,090</td>
<td>338,551</td>
<td>674,591</td>
<td>351,289</td>
</tr>
</tbody>
</table>

Source: Central Statistics Department (now Bureau of Statistics), Population Census, 2003


3.2.3 Agriculture, Livestock Production and Marketing

Nearly 75 percent of the rural population of The Gambia are employed in agriculture. This sector contributes between 20 to 33 percent to the country’s GDP. The agricultural sector is characterized by subsistence production of rain fed food crops (coarse grain, rice etc) semi-intensive cash crop production (groundnut and horticultural production) and traditional livestock raising. Farming systems in The Gambia are characterized by a wide range of production and cropping patterns; the two farming systems are upland and low land. The upland system involves crops such as groundnut, millet, sorghum, maize and horticultural crops as well as livestock husbandry. The lowland rainfall farming system is predominantly rice based (swamp rice) and is mainly done by women.

Several environmental factors affect agricultural production. Irrational utilisation of resources including soil, vegetation cover and water resources are only a few. The traditional nature of production puts little or no emphasis on environmental management. Land degradation, deforestation, water use, agrochemical utilisation and salination significantly reduce agricultural production.

According to the Agriculture and Natural Resources Policy, on-farm maize yields have declined due to low fertility of the upland soils, coupled with inadequate application of fertilizers, mainly due to lack of knowledge and inadequate access to the input because of its relatively high costs. The full potential of the crop could be fully exploited if there are quality seeds, fertilizers and farm implements in addition to proper post-harvest processing.

Key constraints in swamp rice production relate to timely operations, access to swamp land, salt intrusion and low input use.

Upland rice production has great prospects owing to the introduction of the New Rice for Africa (NERICA – a drought tolerant rice variety) into the farming system of the country in 2005. Availability of farming equipment and functioning infrastructure are issues in most of the villages. Seed stores are completely out of use due to structural damage or are used to temporarily store non agricultural property which can resist the effects of dampness and pests. From the visits, disused agricultural equipment and harvested plants for local drinks were mainly found in the stores. Even though the plants will be cooked before consumption, potential agrochemical contamination was likely as the store might have been previously used to store seeds dressed in pesticides. Some of the problems of the existing seed stores include pest infestations such as termites and rodents, missing or leaking roofs and cracks in walls.

Although the farmers discussed the importance of proper seed stores, none of the sample villages had plans to rehabilitate them. The issue of sustainability was always raised to ensure that if a store is chosen for rehabilitation by the GEAPP, at least the VDCs must maintain them hence they have ownership.

The stores are strategically located for ease of access and security, however, one of the stores visited was right adjacent to an occupied residence. The topography around stores might have also changed over time allowing soil deposition from the
uplands and this also means that easy access of rain water into stores in lower grounds.

The GEAPP shall positively contribute in dealing with these shortcomings in the villages of intervention.

3.2.4 Forestry – human linkages

The forests of The Gambia are important with multiple functions, particularly those of subsistence needs for the rural communities.

The upland forests provide fuel wood energy, construction and building materials, food and local medicine for both rural and urban settlement. The forests contribute significantly to the socio-economic development of the country by providing resources, job opportunities and income.

The coastal forest, including the mangrove forests, provide the local communities with wood products for construction and energy. The coastal forests also provide protection against coastal and river bank erosion and breeding grounds for many varieties of fish, oysters, and other sea mammals. The mangroves which provide natural habitat for oysters also provide many communities, mostly women, with some source of subsistence through sale of the mangroves plant, fuel wood and oysters.

3.2.5 Land Tenure and Property Rights

Property rights and land tenure provide equal incentives to all 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 caution land acquisition plan. The Act designates State Lands in Banjul, the Kanifing Municipality, Kombo South, Kombo Central and Kombo North to be administrated by the State rather than by districts authority. Women in rural areas have limited access to the ownership of land.

3.2.6 Women in development

In the Gambian society in general and particularly in the rural settings, there is conservation about issues that concern women. There is gradual advancement and national laws and policies are incorporating women issues as stated in the international conventions adopted by The Gambia.

The Women’s Federation has also been established to help bring to the forefront concerns of women across the Country. There are also financial credit systems such as those by the Village Savings and Credit Agency and the Gambia Women’s Financial Association put in place to encourage improvement in the economic power of women, thus subsequently, build capacity to control their lives and natural environments. Special education programmes also encourage girls to attend formal schooling in an aim to prepare them for decision making. Gender considerations are included in the important national development guides Poverty Reduction Strategy
Papers and Vision 2020: The Gambia Incorporated. However, positive difference can only be meaningful if started at the grassroots.

The GEAPP recognises the importance of gender mainstreaming and will be working with women farming groups, especially in rice growing, at village and association levels. Their vulnerability to ownership of land and property has been discussed with various stakeholders and the ESMF, in line with the Project’s input distribution plan, recommends the use of farming groups for combined capacity.

3.2.7 Education

The Government of the Gambia has education as one its priority areas and has put efforts in various means to quality education is accessible to all. Education projects have supported in teacher training, adult and non-formal education and tertiary education amongst many others. Access to schools is not a concern anymore according to the National Planning Commission (2010).

In the local government areas where the Project districts fall, there are currently 21 schools in the three districts of Brikama LGA; 25 in the two districts of Janjanbureh LGA; 33 in the two districts of Basse LGA; 10 in the only district of Mansakonko and 46 in the two districts of Kerewan LGA. The majority of schools are lower basic.

During the consultations, the project impacts discussed included more income and less need for labour, hence children will be released to attend school.
Figure 1: Map illustrating GEAPP intervention districts numbered 1-10 and administrative centres in red

<table>
<thead>
<tr>
<th>LEGEND</th>
<th>DISTRICT</th>
<th>POPULATION</th>
<th>LEGEND</th>
<th>DISTRICT</th>
<th>POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Upper Nuimi</td>
<td>24,959</td>
<td>6</td>
<td>Wuli</td>
<td>35,962</td>
</tr>
<tr>
<td>2</td>
<td>Lower Nuimi</td>
<td>42,172</td>
<td>7</td>
<td>Jarra West</td>
<td>16,099</td>
</tr>
<tr>
<td>3</td>
<td>Niamina East</td>
<td>15,835</td>
<td>8</td>
<td>Foni Bondali</td>
<td>4,807</td>
</tr>
<tr>
<td>4</td>
<td>Niani</td>
<td>6,086</td>
<td>9</td>
<td>Foni Kansala</td>
<td>8,550</td>
</tr>
<tr>
<td>5</td>
<td>Sandu</td>
<td>18,304</td>
<td>10</td>
<td>Foni Bintang</td>
<td>12,145</td>
</tr>
</tbody>
</table>
4.0 Legislative, Policy and Institutional Framework for the GEAPP ESMF

4.1 Gambian legislation

In order to have a thorough appreciation of the institutional mandates, the various pieces of legislation that concern the environmental issues of the Gambia Emergency Agricultural Production Project will be highlighted with a view of indicating the mandates, legal requirements and standards that the framework should consider.

4.1.1 National Environment Management Act (NEMA), 1994

The National Environment Management Act (NEMA) was enacted in 1994 to carry out its duty of environmental protection and management. The NEMA empowers the NEA with powers to:

- establish criteria for environmental quality
- set the standards for environmental quality for effluent discharges and solid waste disposal
- identify materials, processes and wastes that are dangerous to human or animal health and the environment, and recommend to the NEMC to make regulations and establish guidelines for the management of materials, processes and wastes.
- prepare guidelines for managing environmental disasters including those of major oil spills, gas leakages, and spills of other hazardous substances. The NEA has powers to decide who would be responsible for any clean up and generally what should be done when such discharges take place.
- appoint environmental inspectors who are empowered, among other things, to take samples of articles or substances which the Act prescribes and submit them for testing or analysis; and to carry out periodic inspections of establishments whose activities are likely to significantly impact on the environment.

To coordinate management of the environment in a holistic manner, the NEA operates the following interlinked programmes:

- Environmental Impact Assessment
- Agriculture and Natural Resources Management
- Disaster Preparedness and Contingency Planning
- Environmental Quality
- Hazardous Chemicals and Pesticides Control and Management
- Elimination of Ozone Depleting Substances
- Environmental Legislation
- Environmental Education and Communication
4.1.1.2 Environmental Impact Assessment (EIA)

According to Part V of the NEMA 1994, an EIA should be required for such types of project. Once the concept for the project is decided, the developer of the project shall be required to submit a project brief to the National Environmental Agency (NEA). The project brief is accompanied by a duly completed screening form; based on the information on the brief and screening form, NEA will decide if an environmental impact study is required and will provide the terms of reference for it.

If after considering the project brief, the agency in consultation with the lead department (Ministry of Agriculture in this case) is of the view that the proposed project will not have significant adverse impacts on the environment, it may approve the project.

If the NEA determines that the project may have a significant impact on the environment, it shall require that an environmental impact study be made in accordance with the provisions of the NEMA 1994.

Where the NEA has determined that an environmental impact study be conducted, it shall prepare terms of reference for the developer to undertake the study and produce an environmental impact statement on completing the study.

Projects are classified ‘A’ meaning a full EIA study is required; temporarily ‘B’ when more information is required to make a decision; and ‘C’ where a full EIA study is not required although approval may be with conditions. Considering the environmental and social issues of the GEAPP, the World Bank has categorized it B which is equivalent to a Class C according to procedures of the Gambia. Although very major negative impacts are not anticipated, the development of this ESMF shall guide implementers in protecting the environment.

To guide the process, the EIA Procedures and EIA Guidelines were developed summarising expectations by all parties during the different stages of the process. The EIA Guidelines have specific outline for agricultural projects.

4.1.2 Public Health Act, 1990

The Public Health Act was enacted to make provision for public and environmental health and related matters. The Act empowers the Minister of Health to make regulations relating to the collection, removal and sanitary disposal of rubbish, night soil and other offending matter. The Act also mandates the Director of Health Services, who heads the Department of Public Health (DPH), inter alia, to abate nuisances and to remove or correct any condition that may be injurious to public health.
4.1.3 Local Government Act 2002

The act was enacted in 2002 to establish and regulate a decentralised local government system for the Gambia. It makes provision for the functions, powers and duties of local authorities and for matters connected therewith. According to Part II of the act, the Gambia is demarcated into divisions (now regions), areas, cities and municipalities.

Part IV establishes the powers and functions of local Government institutions which includes among other things the provision of agricultural services to the communities within its jurisdiction in accordance with national policy guidelines.

Part V establishes the functions of the councils in planning and implementing social services programmes and projects for general welfare of the community. Part V continued to establish a Village Development Committee for each village or cluster of villages.

4.2 Policies

4.2.1 The Gambia Environmental Action Plan

The Gambia Environmental Action Plan is a framework for continuous policy planning and decision making on national environmental issues and natural resource management. Environmental Impact Assessment is one of the tools used to achieve the objectives of the Action Plan.

Its participatory approach considered inter-sectoral issues in implementing policy objectives to:
- Evaluate state of The Gambia environment
- Promote rational use of natural resources for sustainable development
- Improve health and quality of life through environmental management
- Preserve or restore balance of ecosystems
- Strengthen relevant institutions for better management and coordination
- Encourage use of renewable energy and include environmental strategies in other government development policies and activities

4.2.2 The Second Poverty Reduction Strategy Paper (PRSP II) 2007-2011

Poverty varies greatly across multiple dimensions and there is need for urgent action approached through broad-based policies at sectoral levels. Priorities include rapid economic growth and poverty reduction; higher output of productive sector; more coverage of basic services and security; enhance local community governance; and mainstream cross-cutting issues. The PRSP is also based on the Millennium Development Goals and Vision 2020: The Gambia Incorporated.

Mid-term review of the PRSP II, amongst others, indicates that M&E systems differ and are not necessarily based on existing strategies. Therefore, it is difficult to
measure effectiveness of various sector projects such as the GEAPP. The Ministry of Agriculture has the responsibility to report GEAPP activities to the National Planning Commission.

4.2.2 Agriculture and Natural Resources Sector Policy 2009-2015

Poverty causes and problems in the country have been found to be largely rural and agrarian based. Thus, making it the most dominant sector at the centre of the planning and implementation of poverty reduction strategies in the country.

The agriculture and natural resources sector has high potential to achieve food security, increase incomes, generate employment and foreign exchange earnings. These strengths have positioned the sector to be central to the country’s economic growth and development, and as such, it has been identified as a prime sector for investments to reduce poverty, meet the Vision 2020 objectives and the MDG 1 “....to halve the proportion of the poor and those who suffer from hunger.”

A clear policy framework would be necessary to provide a logical basis for the planning, support to, and management of the sector for the contributions it should make towards poverty reduction and economic growth. Unfortunately, the sector does not possess any such governance instrument presently, hence, need for urgent endorsement of this policy by Parliament.

4.3 Institutional Framework for the GEAPP ESMF Implementation

4.3.1 The National Environment Agency

The National Environment Management Act, 1994, required the establishment of a governing body, National Environment Management Council (NEMC), and the National Environment Agency (NEA). To supplement these bodies, technical working groups and committees were also created under the Act that would be charged with the duty of caring for the environment in its many facets.

The NEMC is chaired by the President of The Gambia and has Ministers from related institutions as members. The NEMC approves environmental policies to be enacted, promotes the integration of environmental considerations into all aspects of social and economic planning, oversees the NEA and adopts relevant guidelines and regulations. In environmental impact assessment, the NEMC makes the final decision in examination of proceedings where the NEA fails to resolve conflicts as a result of claimed unfair or discriminatory procedures.

The NEA is the principle institution responsible for the management of the environment on behalf of the Government. It is semi-autonomous and has powers to enforce specific legislation under its purview. With regards environmental impact assessment, NEA coordinates, administers and supervises the process with participation from government departments, the public, non-governmental organisations and independent technical experts.
The NEA is headed by an Executive Director, and its ten programme areas mentioned in section 4.1.1 are coordinated by Senior Programme and Programme Officers under supervision of Directors of the Technical Services Network and the Inter-sectoral Network. Environmental Inspectors also exist to monitor compliance and advice the public. NEA has recently decentralised and operates offices in all the administrative areas of the Country as in figure 1. The regional officers shall be instrumental in the monitoring of this ESMF.

As environmental management requires holistic approaches, the programmes are supported by Working Groups comprising of relevant institutions, and on ad hoc basis, Technical Advisory Committees reflecting specific expertise for advising the NEA on issues of national environmental importance.

### 4.3.2 Local Government

Part II of the Local Government Act, 2002, establishes the Area Councils, Municipal Councils and City Council to plan and provide social services to the communities. They are bodies corporate with powers to sue and be sued. They represent central government at localised levels and are currently headed by Mayors and Governors with support from Chief Executive Officers.

The Village Development Committees were also established to be responsible of identifying local development needs and prioritising such needs in consultation with the villagers. The VDC is responsible for implementing and managing village development projects including the GEAPP and other programs. The VDC is also responsible for raising co-ordinating and managing financial resources at the village level and are also held accountable for such resources.

### 4.4.3 The Ministry of Agriculture

The Ministry of Agriculture is headed by a Deputy Minister who reports to the Head of State who is the Ministry of Agriculture. The Deputy Minister is supported by two Permanent Secretaries and three Deputy Permanent Secretaries. The Department of Agricultural Services is head by a Director General supported by six Regional Agricultural Directors and nine deputy directors heading nine technical service units. Those directly related to the ESMF include the Plant Protection Services, Department of Planning, Soil and Water Management Unit, National Agricultural Research Institute and the Agricultural Engineering Services.

Each Regional Agricultural Director (RAD) heads a regional agricultural directorate which consists of Principal Agricultural Officers from the various technical units and other support staff ranging from senior agricultural officers to District Agricultural Development officers and village agricultural development promoters. The District Agricultural Development officer is based at the District level and he/she supervises several Village agricultural development promoters and animal traction instructors.
The Ministry of Agriculture is also the executing agency for a number of projects, including the GEAPP. The GEAPP Project Steering Committee is responsible for overall coordination whilst the PCU and its specialist staff shall have implementing and monitoring roles under this ESMF.

4.4.4 Non-Governmental Organisations (NGOs)

NGOs are involved in a wide range of projects at all levels in the Country and are coordinated by the Association of Non-Governmental Organisations and the NGO Affairs Agency. NGOs shall be recruited to implement at field level, particularly, distribution of inputs.

4.4 World Bank Safeguard Policy

Environmental Assessment is one of the environmental, social, and legal Safeguard Policies of the World Bank and has been triggered by the GEAPP. OP 4.01 Environmental Assessment, is used in the World to identify, avoid, and mitigate the potential negative environmental impacts associated with their operations and projects irrespective of location. It helps to determine if other safeguard policies, which are more specific, are likely to be triggered as well.

In World Bank operations, the purpose of Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable, and that potentially affected people have been properly consulted. The interrelated issues considered include natural environment, human health, social aspects, and transboundary aspects.

World Bank Category B projects examine the project’s potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. As all potential impacts are considered, it is similar to category A projects, however, at a narrower scale.

It is a requirement under OP4.01 to disclose environmental assessment reports publicly in-country and sent to World Bank as per BP 17.50.

Based on its safeguard policies, the World Bank has concluded that this Project does not need a full EIA study and categorized it ‘B’ as the impacts are localised and limited. However, the ESMF shall guide in mitigating the low impacts.

The focus of this ESMF is on these potential negative environmental and social impacts to comply with OP 4.01.
5.0 ENVIRONMENTAL and social Assessment of GEAPP

5.1 Environmental and Social Screening Process

The environmental evaluation aims to bring into focus, for the purposes of ensuring that the project is executed in an environmentally sound manner, all important environmental and social issues taken into consideration. Its findings are intended to assist in decision-making processes involved in project implementation.

Environmental screening is a preliminary environmental assessment which is carried out at a conceptual stage of a project in order to identify the main environmental and social issues that can be expected. This involves making a preliminary determination of the expected impacts of a proposed project on the environment and their relative significance. The extent of environmental management intervention shall be based on the outcome of the screening.

The aim of such study is that environmental and social considerations can be integrated into the design as much as possible at the conceptual stage. This is a preventive measure, which aims to prevent or minimise the negative impacts of the project.

Reactive measures (as opposed to preventive measures) are aimed at mitigating (or compensating) negative impacts from a project after the design has been completed or during project implementation. Preventive measures (such as measures which can be integrated into the implementation plan) are preferred to reactive measures. The mitigation measures may be more numerous, the costs of such measures may be higher, and, in worst case scenarios, the project could fail if an important environmental or social element is omitted in the implementation plan.

The advantages of the assessment are therefore to:
- Gain stakeholders’ involvement, participation and ownership;
- Identify potential environmental and social impacts to ensure optimal and timely control of any risks associated with such impacts.

The objectives of environmental assessments are to identify and exploit environmental opportunities and benefits of a proposed project; manage negative impacts and ensure that project activities comply with relevant standards and legislation at the national and international levels. Like this ESMF, it is important to formulate practical, time-bound and cost-effective recommendations to mitigate any potential significant adverse environmental and social impacts that could arise during construction and operations.

5.2 GEAPP Level of Assessment

This study is carried out at an early stage of the project, that is, a time when the exact locations where the inputs will be used are not determined. The districts are identified and the villages to benefit from the project but the beneficiary farms or farmer groups are not yet identified. At this stage of the project the main focus of the project concept is presented. The environmental assessment will be in line with this project stage and will aim at providing measures for the implementation of the project and guidance for continuous evaluation during monitoring.
5.3 The screening process and roles for screening

The screening checklist employed for this ESMF was adopted from the standard Environmental Impact Assessment Screening form of the NEA. As most of the information regarding project description, activities and products are already known for the GEAPP, the potential environmental impacts to be considered shall be based on biological, physical and socio-economic environments with regards exact sites and boundaries. Although farmers may extend their land without informing the Village Agricultural Development Promoters (VADPs), constant monitoring shall encourage timely intervention should there be any new concerns.

The VADPs and farmers shall complete the screening checklist and identify applicable impacts. It is important that farmers participate in the screening, otherwise the necessary information cannot be obtained. In this way, they are also sensitised on issues to bear in mind during work. The screening always takes place before any activity commences so that recommended alternatives may be incorporated before actual implementation.

The checklist shall be reviewed by the Regional Programme Officer and a recommendation for classification, including justification, is made in collaboration with the Programme Officer for Environmental Impact Assessment as required under the National Environment Management Act, 1994. This has to be endorsed by the NEA Executive Director. Due to time constraints, and to ensure efficiency, it is recommended that the VADPs and NEA shall compare completed checklists with the general one in Chapter 6 of this ESMF, and where issues score below those in the general checklist, recommendation for alternative sites should be advised. This is evident hence activities shall not change, but impacts may differ based on specific characteristics of a site. Otherwise, the sites should be approved, noting that other considerations such as activities effects have already been given consideration under the ESMF and do not change. Furthermore, the screening should be performed in numbers at a time to ensure fast tracking as individual submissions are likely to face administrative delays and cropping seasons rely heavily on the rainy season which commences soon.

Once the Executive Director of NEA makes a decision on the classification, implementation may proceed.

According to the World Bank’s OP4.01, category B projects vary in impacts from site to site, thus, GEAPP activities may require more studies, environmental impact assessment, based on specific sites. Category B may require limited scope EIA whose terms of reference will be developed by the EIA Programme Officer at NEA and a consultant sought by the PCU to carry out the study. This will be validated by the multi-sectoral EIA Working Group then a decision made to reject, approve with or without conditions of implementation. As in this ESMF, identified mitigation measures shall be accompanied by corresponding parties for implementation and those responsible for monitoring.

In The Gambia, Class B means more information is required to make a decision – towards full study (A) or direct approval (C). However, Class C may still come with conditions rather than no environmental work as per WB procedures. Class A for both means major negative impacts and full EIA study.
The two systems have little differences which can be harmonised for better understanding, yet still compliance to both. It is recommended that the training of technical officers consider and treat this issue extensively.

5.3.1 Summary of screening process

<table>
<thead>
<tr>
<th>Process</th>
<th>Actor</th>
<th>Expected output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of screening checklist</td>
<td>VADPs and beneficiaries</td>
<td>Potential impacts identified</td>
</tr>
<tr>
<td>Form validated</td>
<td>NEA Regional and EIA Programme Officers</td>
<td>Classification recommended</td>
</tr>
<tr>
<td>Classification</td>
<td>NEA Executive Director</td>
<td>Classification endorsed affecting subsequent steps</td>
</tr>
<tr>
<td>Class A decision for full scale EIA study (not anticipated in GEAPP)</td>
<td>Study by developer’s consultant</td>
<td>EIA report with impacts and mitigation measures</td>
</tr>
<tr>
<td>Class B decision for I - small scale EIA study</td>
<td>Developer’s consultant</td>
<td>EIA report with impacts and mitigation measures.</td>
</tr>
<tr>
<td>Review of study</td>
<td>EIA Working Group under NEA</td>
<td>Decision to approve or reject project</td>
</tr>
<tr>
<td>II - Approval with conditions allowing implementation</td>
<td>Various parties carry out project activities with corresponding mitigation measures as in the ESMF</td>
<td>Project and mitigation implementation</td>
</tr>
<tr>
<td>Class C decision for implementation without further requests</td>
<td>Various parties carry out project activities with corresponding mitigation measures as in the ESMF</td>
<td>Project and mitigation implementation</td>
</tr>
</tbody>
</table>

Upon implementation of the project, monitoring as proposed in Chapter 8 will help to ensure all GEAPP intervention are environmentally sound. The NEA, various players under Ministry of Agriculture, contractors and farmers have responsibilities in implementation of mitigation measures or monitoring.

5.3.2 Screening and subsequent monitoring indicators

- Target trainees receive their training before implementation
- Evidence of best practice in the way farmers work as compared to present
- Water quality does not degrade below that of the baselines to be established
- Safe waste management related to construction and equipment use
- Soil conservation translates to reduced gullies and depositions
- Communities are stable compared to history with regards land use, ownership and input distribution

5.4 Selection Process of Beneficiaries

The GEAPP District and Village Level Agricultural Inputs Distribution Plan (2010) used the following targeting criteria:
District / Village Level

- Population – consideration was given to the active farmers involved in the cultivation of early millet, upland and lowland rice as these were the seeds intended for distribution to the farmer beneficiaries. The district and village populations were also taken into consideration.
- Land Availability - farmers to benefit from these inputs should be active in farming and have access to land. For early millet farmers beneficiaries must cultivate a minimum of 0.5 ha and 0.25 ha for upland and lowland rice.
- Ecology and Production Specialization – district/village involvement in early millet, upland and lowland rice production was taken into account.
- Production Capacities – beneficiaries must have the capacity to mobilise adequate labour to be able to put the recommended crop production practices to allow maximising output.
- Extent to which villages benefited from AELP Crop Loss Compensation packages and CDDP interventions in the area of food security was also considered.
- Care was taken to avoid distribution to villages involved in The Gambia Government – Taiwan upland rice expansion project which has similar objectives.
- Vulnerability of districts as described by the 2008 WFP Report was also considered.
- Another criteria employed in this exercise was the quantity of inputs available from the project i.e. 525 tons of seeds and 3000 tons of fertilizer.

Household Level

- Active farming population/available household; these are farmers who are active in the cultivation of early millet, upland or lowland rice.
- Poverty level – poor farmers with not less than 0.5ha under cultivation were deliberately targeted for early millet.
- Priority should be given to rice women rice farmers with access to farm land not less than 0.25ha.
- Existence of cohesive women farmer groups (particularly women “kafoos”) should also be taken into consideration.
### 6.0 Evaluation of impacts

#### 6.1 Assessment of Impacts Related to the Project Activities

Table 2: Evaluation Matrix of Impact Significance

<table>
<thead>
<tr>
<th>IMPACT ON</th>
<th>PROVISION OF FERTILIZERS</th>
<th>PROVISION OF SEEDS</th>
<th>PROVISION OF EQUIPMENT</th>
<th>SEED STORE REHABILITATION</th>
<th>SEED MULTIPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PHYSICAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Water Quality</td>
<td>-2</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>Ground Water Quality</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>Air Quality</td>
<td>-1</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>Soil</td>
<td>+2</td>
<td>+1</td>
<td>-2</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>Noise</td>
<td>0</td>
<td>0</td>
<td>-1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sedimentation Downstream</td>
<td>0</td>
<td>-1</td>
<td>-2</td>
<td>0</td>
<td>-2</td>
</tr>
<tr>
<td>Road Infrastructure</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>BIOLOGICAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic Ecosystem</td>
<td>-2</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
<td>-2</td>
</tr>
<tr>
<td>Terrestrial Ecosystem</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>Wildlife</td>
<td>-1</td>
<td>0</td>
<td>-1</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>Forest</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fisheries</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>SOCIOECONOMIC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>+2</td>
<td>+2</td>
<td>+2</td>
<td>+2</td>
<td>+2</td>
</tr>
<tr>
<td>Land Ownership / land use</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Employment</td>
<td>+2</td>
<td>+2</td>
<td>+2</td>
<td>-1</td>
<td>+2</td>
</tr>
<tr>
<td>Communication</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Energy</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Education</td>
<td>+2</td>
<td>+2</td>
<td>+2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Livestock</td>
<td>+2</td>
<td>+2</td>
<td>-1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Migratory Population</td>
<td>+2</td>
<td>+2</td>
<td>+2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Community Stability /</td>
<td>-2</td>
<td>-2</td>
<td>-2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vulnerable groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Culture /Tourism</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Housing Development</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>Public Health</td>
<td>-2</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
<td>-2</td>
</tr>
<tr>
<td>Revenue Generation</td>
<td>+2</td>
<td>+2</td>
<td>+2</td>
<td>-2</td>
<td>+2</td>
</tr>
</tbody>
</table>

Evaluation key for the matrix, table 2:

-2 High Negative Impact +1 Moderate Positive Impact
-1 Moderate Negative Impact +2 High Positive Impact
6.2 Description of Main Environmental Impacts of the GEAPP

6.2.1 Potential Positive Impacts

- The main aim of the Project is to enhance crop yield. Therefore, it is expected that the various activities will contribute towards increased harvest for beneficiaries and subsequently more income.
- Sensitization programmes under the GEAPP ESMF will assist in more understanding of farming activity timing, soil conservation and integrated pest management, thus, preventing environmental degradation and also avoiding sensitive areas.
- During the consultations, the project impacts discussed included more income and less need for physical labour, hence children will be released to attend school.

6.2.2 Potential Negative Impacts

Negative Impacts on the Physical Environment

The provision of farming implements such as power tillers, sine hoes and seeders to the farmers could have negative impacts on the physical environment. If these implements are not used properly they could encourage erosion especially when the topography consists of steep slopes and sandy soils. Deep tillage makes the soil more erodible and, thus, more soil will be carried downstream. This may result to gully formation which can change the landscape of the area in extreme circumstances. It may also carry sediments downstream to the lowlands, thus, covering the fertile lowland and rendering it unproductive or reduce its productivity.

In almost all the villages visited, runoff water was a problem; gullies are observed and the farmers expressed their concerns on the issue of controlling erosion. The consultant concluded that the supply of farming implements should be preceded by training on soil and water conservation techniques such as contour farming and the creation of diversions. The extension workers at the village level should be trained and they in turn train farmers.

The availability of free inputs and equipment could encourage farmers to expand the land to be cultivated. This expansion could encroach into forest or sites of cultural significance unless controlled by full implementation of the ESMF.

Negative Impacts on the Biological Environment

Over application of fertiliser could lead to the pollution of surface water bodies. Such pollution could affect aquatic organisms such as fish. Many of the villages to benefit from the project are situated close to the River Gambia or one of its tributaries. Due to the runoff volumes, most of the fertiliser could be washed away into water bodies unless soil and water conservation techniques are implemented. Farmers also need to be trained on the right application rates to avoid over application. Movement of wildlife and livestock for food and water could be affected indirectly, if their paths are badly affected by erosion.
Negative Impacts on the Socio-economic Environment

The issue of giving the implements and inputs for free is expected to cause instability in the community. In all our consultations with the farmers, the issue of the quantities to be given came up and whether or not it will be ‘enough’ for everyone. The fact that it is free makes distribution very difficult because community members that do not have allocations will be dissatisfied with the project and this could be a source of conflict among community members.

Women also fear that unless a specified amount is allocated to them, men may take everything or most of it. The implements that are to be issued without the draft animals to operate them is another constraint. This means only those with draft animals can have them. Most of these people already have some implements and giving them another one could lead to them selling one. Giving these implements to people without animals will also mean they borrow or hire animals from the owners. They will only get animals when the owners are ready with their work. This will have a significant negative impact on timely cultivation which will invariably affect productivity. Timely cultivation is also a method of integrated pest management in view of the fact that pesticides are not issued as part of the project.

To mitigate this important social impact, the VDCs shall participate in identifying beneficiaries based on the criteria indicated in the approved Inputs Distribution Plan for the Project with focus on farmer groups. In order to ensure sustainability of operation and equitable distribution, we recommend token cost recovery from farmers to be managed by the VDCs, where individual farmers are benefiting.

The availability of free inputs and equipment could free up some cash with the farmers and they may spend that on pesticides in view of the fact that pesticides are not part of the project. Farmers may buy pesticides that are banned or not recommended which may lead to negative environmental impacts.

To mitigate this potential impact, farmers need to be sensitised on integrated pest management including continuous and timely monitoring of pest.
7.0 Environmental and social management framework for potential significant negative impacts

7.1 Fertilizer Distribution and use

Table 3: Negative impacts and corresponding mitigation, monitoring, time and budget for fertilizer distribution and use
### 7.2 Seed Distribution and use

<table>
<thead>
<tr>
<th>Activity</th>
<th>Negative Impacts</th>
<th>Mitigation Measures</th>
<th>Responsible for mitigation</th>
<th>Responsible for monitoring</th>
<th>Period</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>Local air pollution</td>
<td>Use enclosed trucks / cover fertilizer stocks</td>
<td>NGOs / RADs</td>
<td>PCU</td>
<td>During transport</td>
<td>As part of transporter’s budget</td>
</tr>
<tr>
<td>Storage</td>
<td>Minimal local air pollution</td>
<td>Store seeds away from dwellings and stored food</td>
<td>DADOs / VDCs</td>
<td>RAD</td>
<td>Before distribution</td>
<td></td>
</tr>
</tbody>
</table>
| Field application | 1. Pollution of surface water due to runoff and improper application  
|                   | 2. Community stability - dissatisfaction of some farmers | 1a. Train farmers and extension worker on the right application rates and contour farming  
|                   |                                                       | 1b. Good farming techniques to be utilised by farmers    | 1a. SWMU / DADOs / VDCs    | 1. NEA / RADs / DWR    | Before distribution | As part of ESMF implementation budget |
|                   |                                                       | 2. Equitable and fair distribution of inputs. Community ownership of inputs and targeting of groups rather than individuals. Practice traditional conflict resolution systems.  
|                   |                                                       | 2b. VDCs                                                  | 1b. VADPs                  | 2. RADs                    | During use       |                                    |
|                   |                                                       |                                                           |                            |                            | Before / during distribution |    |

Table 4: Negative impacts and corresponding mitigation, monitoring, time and budget for seed distribution and use
### Storage

- Minimal Local air pollution due to potential use of seed dressing chemicals
- Proper ventilation of seed stores
- Store away from dwellings and stored food

### Field Use

1. Encroachment into sensitive areas
   - 2a. Land use and land tenure conflicts especially vulnerable groups such as women
   - 2b. Community stability-dissatisfaction of some farmers
      - 3. Use of illegal pesticides and improper use and storage of pesticides

<table>
<thead>
<tr>
<th>Activity</th>
<th>Impacts</th>
<th>Mitigation measures</th>
<th>Responsible for mitigation</th>
<th>Responsible for monitoring</th>
<th>Period</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Proper training of farmers and extension workers on the community forest concepts</td>
<td>DADOs / VDCs / VADPs</td>
<td>RAD / PPS / NEA</td>
<td>During operation</td>
<td>As part of ESMF implementation budget</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equitable and fair distribution of inputs. Community ownership of inputs and targeting group rather than individuals. Practice traditional conflict resolution systems.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Training on integrated pest management and the safe use of pesticides. Abide by the Pest Management Plan of The Gambia.</td>
<td>1. Regional Forestry Officers/ DADOs / VDCs 2. VDCs 3. PPS</td>
<td>1. NEA / RADs 2. RADs 3. NEA</td>
<td>Before distribution</td>
<td>Before / during distribution</td>
</tr>
</tbody>
</table>

### 7.3 Equipment distribution and use

**Table 5: Negative impacts and corresponding mitigation, monitoring, time and budget for equipment distribution and use**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Impacts</th>
<th>Mitigation measures</th>
<th>Responsible for mitigation</th>
<th>Responsible for monitoring</th>
<th>Period</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Proper training of farmers and extension workers on the community forest concepts</td>
<td>DADOs / VDCs / VADPs</td>
<td>RAD / PPS / NEA</td>
<td>During operation</td>
<td>As part of ESMF implementation budget</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equitable and fair distribution of inputs. Community ownership of inputs and targeting group rather than individuals. Practice traditional conflict resolution systems.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Training on integrated pest management and the safe use of pesticides. Abide by the Pest Management Plan of The Gambia.</td>
<td>1. Regional Forestry Officers/ DADOs / VDCs 2. VDCs 3. PPS</td>
<td>1. NEA / RADs 2. RADs 3. NEA</td>
<td>Before distribution</td>
<td>Before / during distribution</td>
</tr>
</tbody>
</table>
7.4 Seed Stores

Table 6: Negative impacts and corresponding mitigation for rehabilitation of seed stores

<table>
<thead>
<tr>
<th>Activity</th>
<th>impacts</th>
<th>Mitigation measures</th>
<th>Responsible for mitigation</th>
<th>Responsible for monitoring</th>
<th>Period</th>
<th>Budget</th>
</tr>
</thead>
</table>

Use

1. Encourage soil erosion
2. Indirect impact on surface water quality
3. Impede movement of livestock due to gullies
4. Accidents

1 - 3 Training on soil and water conservation techniques for farmers to be able to avoid soil degradation
4. Training on safe use and maintenance of equipment for safe and efficient operation of equipment

1 - 3 SWMU / DADOs / VAPDs
4. Agricultural Engineering Services

1 - 3 PCU / RAD
4. RAD

Before distribution
As part of ESMF implementation budget

Maintenance

1. Disposal of used oil
2. Disposal of used spare parts
3. Spillage of hydrocarbons e.g. fuel
4. Inadequate resources and capacity for sustainable maintenance

1. Avoid disposal into or near water bodies
2. Collect for recycling
3. Regular preventive maintenance; accidental spillage near water bodies must be immediately cleaned
4. Sensitization on the need for continuous maintenance and develop mechanisms for generating income for maintenance and operation

1. Farmers
2. Farmers
3. Farmers
4. Agricultural Engineering Unit / RADs / NGOs VDCs & farmers to maintain equipment

1. VADPs / NEA
2. VADPs / NEA
3. VADPs / NEA
4. RADs / PCU

During operation

After distribution
| Partial Demolition  | 1. Local air pollution  
2. Waste generation  |
|---------------------|-----------------------------|
|                     | 1. Wetting  
2. Appropriate disposal as advised by NEA  
3. Use of pressed bricks  |
|                     | 1-3 Contractor / control firm |
|                     | 1-3 NEA / PCU  |
|                     | During construction  |
|                     | 2-3 As part of budget for seed store rehabilitation  |
| Construction        | 1. Source of raw materials – sand gravel wood  
2. Importation of workers mainly from the Greater Banjul Area  |
|                     | 1. Collection of sand, gravel and wood only from approved designated sites / sources  
2. Use local workers, particularly unskilled  |
|                     | 1. Contractor  
2. Contractor  |
|                     | 1. NEA / PCU  
2. PCU  |
|                     | Before works  |
|                     | During works  |
|                     | As part of budget for seed store rehabilitation  |
| Operation           | 1. Pest infestation  
2. Health effects if close proximity to residences  |
|                     | 1. Construction of impervious pest prove (floor, walls and ceiling)  
2. Train the VDCs or store keeper on the proper operation of stores  |
|                     | 1. Contractor  
2. PPS / DADOs  |
|                     | 1. NEA / PCU  
2. NEA / PCU  |
|                     | Plan before works  |
|                     | Before works  |
|                     | 1. As part of budget for seed store rehabilitation  
2. ESMF implementation budget  |

### 7.5 Seed multiplication

**Table 7: Negative impacts and corresponding mitigation for seed multiplication activities**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Impacts</th>
<th>Mitigation measures</th>
<th>Responsible for mitigation</th>
<th>Responsible for monitoring</th>
<th>Period</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>1. Construction</td>
<td>1. Collection of sand, gravel</td>
<td>1 – 3</td>
<td>1 – 3</td>
<td>Before /</td>
<td>As part of budget</td>
</tr>
<tr>
<td>Rehabilitation of centres, stores and drying floors</td>
<td>materials 2. Waste generation and wood only from approved designated sites / sources 2. Appropriate disposal as advised by NEA 3. use of pressed bricks</td>
<td>Contractor</td>
<td>NEA / PCU</td>
<td>During construction</td>
<td>for seed production and supply</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Installation of irrigation facilities</td>
<td>Boreholes – ground water quantity Provide water for the users of wells close to the boreholes if their water supply is affected</td>
<td>NARI</td>
<td>DWR</td>
<td>Before activities</td>
<td>As part of budget for seed production and supply</td>
<td></td>
</tr>
<tr>
<td>Provision of machines and tools</td>
<td>1. Waste oil generation 2. Soil conservation issues 1. Appropriate disposal as advised by NEA 2. Training on soil and water conservation techniques for participating members of the Seed Growers Association to be able to avoid soil degradation</td>
<td>1. NARI 2. SWMU / NARI / Seed Growers</td>
<td>1. NEA 2. SWMU</td>
<td>Before / During construction and operation</td>
<td>1. As part of contractor’s budget 2. As part of ESMF implementation budget</td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>1. Maintenance issues 2. Improper use of agrochemical usage 1. The need for continuous maintenance 2. Training on integrated pest management and the safe use of agrochemicals for seed growers</td>
<td>1. NARI 2. PPS / NARI / seed growers</td>
<td>1. PCU 2. PCU / NARI to monitor seed growers</td>
<td>During / before construction and operation</td>
<td>1. As part of budget for seed production and supply 2. ESMF implementation budget</td>
<td></td>
</tr>
</tbody>
</table>
8.0 MONITORING AND EVALUATION OF THE ESMF

8.1 Monitoring and Evaluation

Monitoring of the ESMF implementation is essential in ensuring the project is environmentally sound, by checking that the recommended mitigation measures have been carried out effectively in a timely manner.

Monitoring also helps in evaluating whether the measures recommended are adequate in preventing, reducing or compensating the identified negative impacts. Efficiency of the ESMF implementers and implementation structures should also be reviewed and the necessary changes made accordingly.

The main issues to be monitored include the activities that have earlier been identified to have potential significant negative impacts on environmental parameters, society and the economy. All activities of the GEAPP must be considered in relation to traditional activities and similar projects in the beneficiary villages as it is impossible to consider some impacts in isolation when their effects result from a combination of factors.

Monitoring and evaluation of the ESMF will be mainstreamed in the general monitoring system of the GEAPP at various levels.

The VADPs shall monitor the ESMF implementation at local level whilst they will in turn be monitored by the National Environment Agency Regional Programme Officer. To ensure proper coordination at field level, we propose Regional Environment Coordination Teams headed by the NEA to coordinate the general implementation of the ESMF. The team shall comprise the NEA Regional Programme Officer and Regional Agricultural Directorate (DADO and Plant Protection specialist).

It is the responsibility of the GEAPP Monitoring and Evaluation Officer to ensure that all involved stakeholders are facilitated as requested to monitor the ESMF implementation. Memorandums of Understanding should be developed in this respect. Notwithstanding, random joint monitoring is recommended at an early stage to ensure consistency.

It is recommended that an independent environmental auditor be contracted to undertake a midterm performance review to prevent bias in reporting and recommend any necessary corrective measures on time.

8.2 Reporting

Effective communication between the local monitors and the NEA and PCU is essential.

Monthly reporting of monitoring and evaluation results is recommended from the VADPs to the PCU through the Regional Environment Coordination Team.
The PCU shall in turn evaluate the reports and facilitate immediate improvement considering the short length of the project duration.

The independent environmental auditor shall review the ESMF implementation from the beneficiary level to the local monitors and PCU levels.
Table 8: Guidelines for implementation of the Project’s monitoring

<table>
<thead>
<tr>
<th>POTENTIAL SIGNIFICANT IMPACTS</th>
<th>ISSUES TO CONSIDER</th>
<th>RECOMMENDED ACTIONS TO BE TAKEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential increase in Soil erosion due to the use of additional equipment</td>
<td>Evidences of gullies or gully formation in the fields of beneficiary farmers&lt;br&gt;Proximity of beneficiary farms or fields to water bodies such as rivers, streams or wetlands&lt;br&gt;Presence of a buffer with trees and vegetation between the low land and upland&lt;br&gt;Steep topography and the area of the watershed</td>
<td>VADPS to visit fields of beneficiary farmers. Farmers must be trained to plant or plough on the contour. VADPS must help farmers to establish contour guideline in the field to be followed during planting and ploughing.</td>
</tr>
<tr>
<td>Fertilizer washed off by runoff into water bodies or wetlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed store rehabilitation</td>
<td>Presence of hazardous waste such as old pesticide stocks, asbestos, old chemical containers&lt;br&gt;Proximity of seed store to human residences&lt;br&gt;Location of seed store – in terms of water ways or drainage channels&lt;br&gt;Pest infestation levels in the old stores</td>
<td>DADOs / VADPs / NEA Regional Officers must inspect the seed stores that are to benefit from rehabilitation and take an inventory of all waste. This can be done under supervision of the NEA that has expertise under full personal protection. Following the initial visit if there is any hazardous waste they must not remove but secure stock and liaise with NEA Headquarters for safe removal and disposal. Collaboration with the PCU is also essential considering the AELP experience in pesticide store inventory and management procedures. The stock, included products from store cleaning.</td>
</tr>
</tbody>
</table>
must be collected and stored with other obsolete chemicals collected by the NEA for secured storage and final disposal by the NEA. NEA has experience in exporting obsolete chemicals for treatment and disposal, hence proper facilities are not available in the Gambia. Based on the outcome of the inventory, it is recommended that the team calculates the cost of collection and disposal of any hazardous waste or obsolete pesticides found. Stores located in close proximity to water bodies and human dwellings should not be rehabilitated to discourage future use and potential adverse impacts which were not major issues at the time the store was being located there. This decision shall be made by NEA after screening.

Pest infestation in the old store must be treated before the rehabilitation works starts to ensure pest do not migrate into peoples’ dwellings and reappear after construction.

| Availability of free inputs and equipment to farmers – negative impacts on community stability | Inadequate inputs for everyone – everyone feels she/he has an equal right to it. Farmers not benefiting feel left out or unhappy Sustainable use of free inputs and equipment Animal drawn equipment without animal | Inputs to be handed to VDCs for free. VDCs to issue inputs to chosen farmers and farmer groups that will maximise the productivity of the inputs and equipment. Beneficiary farmers or farmer groups to pay back something little, to be agreed upon, to the VDC to manage this resources for other farmers to benefit in future and also take care of the equipment maintenance and running costs. |
| Seed multiplication centres and seed farms | Borehole affecting the wells around the seed multiplication centres  
The use of agrochemicals and the potential impacts on surface ground water | The VDCs to identify farmers and farmers groups that need the equipment and hire it out to them (to be paid in kind at the end of the season).  
The VDCs to take possession of the equipment for sustainable maintenance for the benefit of the whole village. | Monitor well around the seed multiplication centres, if their water levels are affected provide alternative water source for residents in that area.  
Use approved chemicals only and the recommended dose.  
Avoid steep slopes and runoff from centres to water bodies and wetlands  
Provide constant advise to seed growers |
Table 9: Monitoring Programme including budget
<table>
<thead>
<tr>
<th>Institution</th>
<th>Monitoring activity</th>
<th>Timeline</th>
<th>Recommended frequency</th>
<th>Requirements</th>
<th>Proposed budget ($)</th>
</tr>
</thead>
</table>
| National Environment Agency | Field visits by Regional Officers to check if mitigation measures are being implemented  
Monitoring evaluations by senior NEA Programme Officers from NEA Headquarters to check on regional activities | Whole duration of the project.  
August 2010 and February 2011 recommended for monitoring evaluations | For all five regions: monthly visits per district plus screening visits  
Two during project | Logistics for field visits including Geographical Information Systems and mapping expenses, fuel, communications, report preparations, allowances etc. As above | (12mths x 5 regions x $180)  
10,800.00  
(2 x $600)  
1,200.00 |
| GEAPP Project Coordination Unit | Field visits to check if mitigation measures they are to monitor are being implemented  
Whole duration of the project | At least monthly visits and sites to be visited based on progress of implementation | Logistics for field visits such as fuel, communications, report preparations, and allowances etc. | As part of PCU M&E budget | |
| Regional Agricultural Directorates to cover RADs include RADs, VADPs, SWMU and PPS regional specialists | Field visits to check if mitigation measures they are to monitor are being implemented including screening by the VADPs  
Whole duration of the project | Based on project implementation, monthly district visits by RADs and PPS / SWMU technical specialists; Weekly farm visits by VADPs for each region | Logistics for field visits such as fuel, communications, report preparations, and allowances etc. | (12mths x 5 regions x $180)  
10,800.00  
52wks x 5 regions x $35.4  
9,200.00 |
| National Agricultural Research Institute | Monitor seed growers in techniques used  
During multiplication of registered seeds | At least 3 inspections per cropping season | Logistics for field visits such as fuel, communications, and allowances etc. | As part of ‘operational budget’ for seed production and supply / PCU M&E budget | |
| Independent environmental auditor | Independent audit to evaluate status of ESMF implementation assessing all stakeholders with ESMF implementation responsibilities  
End of October 2010 is recommended to allow time for improvement if needed | Once | Consultancy including professional fees, trekking logistics and report preparation | 4,000.00 |
| Department of Water Resources | Water quality sampling  
At the project beginning for baseline and during project implementation. July 2010 and February 2011 recommended | Two sampling sessions of: 2 samples per district to be chosen in collaboration with NEA and SWMU plus strategic sites at each of the 3 seed multiplication centres. | Reagents and analysis for nitrogen, potassium, sodium, coliforms, and dissolved oxygen. | (2 samples x 10 districts + 3 centres) x 2 times = 46 x $45  
2070.00  
2 X $465  
930.00 |
| Joint team (DADOs, VADPs & NEA Regional Officers) headed by NEA Headquarters | Inventory of all 35 seed stores to be rehabilitated  
Before construction commences | One inventory | Logistics for site visits, protective gears, allowances for 10 days | US$1,800.00 |
9.0 CAPACITY ENHANCEMENT AND TRAINING REQUIREMENTS

During the study, a number of shortcomings were raised that may affect the implementation of the ESMF, and as a result a programme of environmental management training and institutional capacity enhancement is recommended for effective implementation.

9.1 Environmental Training and Sensitisation

Training and sensitisation will be required at all levels: Monitoring and Evaluation Officers of the GEAPP, RADs, VADPs, NEA Regional Programme Officers, NEA Regional Environmental Inspectors, Community Development Assistants and beneficiary farmers.

The PCU shall collaborate with the relevant institutions for the required specialists to deliver a range of technical training on environmental and social management issues to the target groups. The VADPs shall carry out step down sensitisation sessions for the farmers.

Capacity building in environmental knowledge for the identified technical partners shall include training on:

- environmental laws and regulations to give a background on the requirements they are expected to contribute towards
- importance of the ESMF and the need for timely implementation to ensure successful project whilst preserving the environment for future generations
- completing and evaluating screening and monitoring checklists giving particular attention to classification and categorization based on WB and Gambian procedures.
- understanding issues related to all potential adverse impacts and corresponding mitigation measures
- basic community development concepts to other interrelated issues do not negatively affect the GEAPP and its ESMF implementations
- means of keeping to reporting expectations
- store management including stock control and control of contamination
- monitoring techniques
- effective means for sensitisation and communication
- means of collaborating with other projects to avoid conflicts

VDCs and Farmers will be sensitised and given practical demonstrations on all mitigation measures for their implementation and general community development. These include, good practice in farming to conserve soil properties, equipment utilisation and maintenance, integrated pest management and waste disposal.

9.2 Capacity Enhancement

In addition to human resources, there is some capacity at all levels to implement the mitigation measures of this ESMF, however, as understood during the consultations,
there is limited resources in the implementing institutions, which needs enhancement for success.

For both the Department of Agriculture Regional Agricultural Centres and National Environment Agency Regional Offices, support is required to supplement resources for monitoring and reporting. The agricultural technical units such as NARI and PPS may also be supported for effective implementation. A sample baseline survey of water quality in target areas has also been proposed by the SWMU and Department of Water Resources.

9.3 ESMF Implementing BudgetMost of the mitigation activities do not need funds for implementation, rather the activities merely require attitude change and consideration of the environment at all times. Notwithstanding, to ensure the mitigation measures in the ESMF are implemented, training and sensitisation on the issues are essential in addition to constant monitoring. Therefore, as indicated in tables 9 and 10, the budget required for the ESMF implementation is:

Monitoring - US $ 40,800.00
Training and sensitisation – US $18,000.00
Possible need for further site specific environmental assessments – US $ 3,500.00

TOTAL ESMF implementation budget: US $62,300.00
### Table 10: Training and sensitisation programme

<table>
<thead>
<tr>
<th>Target group</th>
<th>Training / sensitisation</th>
<th>Duration</th>
<th>Frequency</th>
<th>Time</th>
<th>Provider</th>
<th>Budget (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DADOs</td>
<td>- Environmental laws</td>
<td>2 days</td>
<td>Two workshops at the beginning of Project</td>
<td>1st week June 2010</td>
<td>Technical experts from NEA, SWMU, PPS, PCU, NARI</td>
<td>8,000.00</td>
</tr>
<tr>
<td>VADPs</td>
<td>- Importance and implementation of the ESMF - Monitoring and reporting - Sensitisation / awareness raising requirements - Guidance on all mitigation measures and good practice - Related community development issues for socio-economic improvement including conflict prevention / resolution - Collaboration with similar projects to avoid conflict and duplication</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CDA</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEA Regional POs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEA Regional EIs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCU M&amp;E Officers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers and VDC members</td>
<td>- Guidance on all mitigation measures - General community development issues</td>
<td>A day</td>
<td>At least three times during Project duration</td>
<td>From June 2010 throughout the project duration for different villages</td>
<td>VADPs</td>
<td>10,000.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>18,000.00</strong></td>
</tr>
</tbody>
</table>
10.0 **Recommendations**
The ESMF highlights the following recommendations for effective implementation:

- Policy and decision makers from all relevant institutions must be sensitised on the Project ESMF before project activities commence at district level.
- All training and sensitisation programmes must take place before project activities commence at district level.
- Harmonise the World Bank and Gambia EIA procedures to avoid confusion and make the process more user friendly.
- Enhance monitoring of the importation, sale and use of illegal pesticides most of which comes through the porous borders with Senegal and sold at the “lumos”.
- We recommend the inputs be provided as a grant to farming groups only, however, where individual farmers are benefiting, in order to ensure sustainability and equitable distribution, we recommend token cost recovery from farmers to be managed by the VDCs.
- Establishment of a Regional Environment Coordination Team comprising of the NEA Regional Programme Officer and Regional Agricultural Directorate (DADO and Plant Protection specialist)
- An independent environmental audit carried out mid-term of project ESMF implementation.

*It is recommended that an inventory be carried out on the seed stores to be rehabilitated and the cost of collection and disposal of any hazardous waste or obsolete pesticides found shall be calculated.*
11.0 Bibliography

- Agriculture and Natural Resources (ANR) Policy 2009 – 2015 (to be adopted by parliament)
- Draft Health Profile by the Gambia Ministry of Health, Sept 2009
- EIA Guidelines by NEA, 1999
- EIA Procedures by NEA, 1999
- Gambia Community Development Project, Environmental and Social Management Framework, 2008
- Gambia Emergency Agricultural Production Project, District and Village Level Agricultural Inputs Distribution , 2010
- Gambia Emergency Agricultural Production Project, Operational Manual, 2010
- Gambia Emergency Agricultural Production Project, Project Appraisal Report, 2009
- Gambia Emergency Agricultural Production Project, Seed Production and Supply Plan, 2010
- Gambia Lowland Agricultural Development Project (Western Region), Project Appraisal Report, 2007
- Local Government Act, 2002
- National Environment Management Act, 1994
- Participatory Integrated Watershed Management Project, Environmental and Social Management Plan, 2010
- Public Health Act, 1990
  - World Bank Operational Manual Bankand Procedures on Environmental Assessment Management, BP 4.01,1999
### 12.0 ANNEXES

**ANNEX 1: Consultations**

List of individuals / institutions consulted

<table>
<thead>
<tr>
<th>INSTITUTION</th>
<th>NAME</th>
<th>POSITION</th>
<th>ISSUES DISCUSSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPS</td>
<td>Mr. Landing Sonko</td>
<td>Deputy Director</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mr Sarja Conateh</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Potential pesticide use and integrated pest management</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Importance of activity timing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Illegal pesticides</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Soil conservation</td>
</tr>
<tr>
<td>SWMU</td>
<td>Mr Hassan Jallow</td>
<td>Director</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Soil conservation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Need for sensitisation of extension workers / seed growers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Need for coordination within agriculture</td>
</tr>
<tr>
<td>NARI</td>
<td>Mr. Lamin Jobe</td>
<td>Director of Research</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Variance in ecologies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Constant stealing of agricultural construction materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Seeds local, hence no new exotic species</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• NARI for quality assurance and breeder seed production</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Operations may take longer that project duration for output</td>
</tr>
<tr>
<td>AELP / GEAPP PCU</td>
<td>Mr. Sheikh Tijan Sosseh</td>
<td>Project Coordinator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mrs Yassin Khan</td>
<td>Deputy Project Coordinator</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Reporting structures for the AELP / GEAPP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Trainings done by AELP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Monitoring resources will be provided</td>
</tr>
<tr>
<td>PIWAMP</td>
<td>Mr. Ensa Colley</td>
<td>Monitoring &amp; Evaluation Officer</td>
<td></td>
</tr>
<tr>
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<td></td>
<td>• PIWAMP ESMP validated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Soil conservation</td>
</tr>
<tr>
<td>GALDEP</td>
<td>Mr. Famara Badjie</td>
<td>Project Coordinator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mr. Cora Sarr</td>
<td>Administrator / Financial</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Controller</td>
<td>• Sustainability issues</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Landuse / land allocation issues</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>• Environmental Protection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Similarities in agricultural projects activities</td>
</tr>
<tr>
<td>DOA</td>
<td>Mr. Jewru Saidy</td>
<td>Regional Agricultural Director</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Mandate and structure of regional agricultural directorates</td>
</tr>
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<td></td>
<td></td>
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<td>• Soil Conversation</td>
</tr>
<tr>
<td>Organization</td>
<td>Name</td>
<td>Position</td>
<td>Comments</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>World Bank</td>
<td>Mr. Emmanuel Saine</td>
<td>Task team leader - AELP</td>
<td>• Expectations for the GEAPP ESMF</td>
</tr>
<tr>
<td></td>
<td>Mr. Denis Jordy</td>
<td>Environmental Specialist</td>
<td>• AELP QUEST Teams</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• As emergency project, no time to study ecology of each site specifically</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Consider ecological sensitive area</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Involvement of policy makers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• The GEAPP is flexible</td>
</tr>
<tr>
<td>NEA</td>
<td>Mr. Salmina Jobe</td>
<td>Senior Programme Officer, Agriculture &amp; Natural Resources</td>
<td>• Lack of consultation by the PCU during the process</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Need for constant collaboration for success</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Biophysical environment and socioeconomic issues related to the project activities</td>
</tr>
<tr>
<td>DOA</td>
<td>Lamin Jawara</td>
<td>District Agricultural Development Officer</td>
<td>• Need resource support as only concentrate on closer villages due to constraints</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Other projects exist with similar activities, therefore, there is need to collaborate to avoid duplication and conflict</td>
</tr>
<tr>
<td>Kampant Village</td>
<td>Araba Bojang</td>
<td>Alkalo</td>
<td>• Foresee distribution problems as even the lazy ones will claim, hence it is free</td>
</tr>
<tr>
<td></td>
<td>Muhammed Bojang</td>
<td>VDC Chair</td>
<td>• Proposed women and men allocations be separated from the source</td>
</tr>
<tr>
<td></td>
<td>Isatou Jobe Badjie</td>
<td>Treasurer</td>
<td>• Seed store needs rehabilitation and it is shared by them and Gimbagari Village</td>
</tr>
<tr>
<td></td>
<td>Amie Jarju</td>
<td>VDC Member</td>
<td>• Gullies present</td>
</tr>
<tr>
<td></td>
<td>Yama Jammeh</td>
<td>VDC Member</td>
<td>• High soil deposition</td>
</tr>
<tr>
<td>Dobong Village</td>
<td>Baba Gibba</td>
<td>Alkalo</td>
<td>• Propose tractor to save time as they cover larger areas in shorter times</td>
</tr>
<tr>
<td></td>
<td>Baba Manga</td>
<td>VDC Chair</td>
<td>• Gullies present</td>
</tr>
<tr>
<td></td>
<td>Ismaila J. Bojang</td>
<td>VDC Organiser</td>
<td>• Concerned about the amount of seeds with regards to equitable</td>
</tr>
<tr>
<td></td>
<td>Landing Jatta</td>
<td>VDC Organiser</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fansainey Badjie</td>
<td>VDC Organiser</td>
<td></td>
</tr>
<tr>
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<td>Allassan Gibba</td>
<td>VDC Member</td>
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<td>Tophy Gibba</td>
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<tr>
<td>Burock Village</td>
<td>Dumbuya Colley</td>
<td>Alkalo</td>
<td>distribution. However, VDC can put system in place to recover some funds which can be used in future for others that missed earlier distributions</td>
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<td></td>
<td>Ismaila Bojang</td>
<td>VDC Member</td>
<td>- Increasing problems runoff</td>
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<td></td>
<td>Mamadi Bekai</td>
<td>VDC Member</td>
<td>- Sine hoes may not be suitable due to clayey soils</td>
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<td></td>
<td>Sarjo Jatta</td>
<td>VDC Member</td>
<td>- If animals are not provided, it implies that equipment are for men</td>
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<td>Abdoulie Sarjo</td>
<td>VDC Member</td>
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<td>Habib Colley</td>
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<td>Adama Bojang</td>
<td>VDC Member</td>
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<td>Terema Gibba</td>
<td>Lady President</td>
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<td></td>
<td>Yusupha Badjie</td>
<td>Forest chairman</td>
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<td></td>
<td>Metta Jammeh</td>
<td>Lady Councillor</td>
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**ANNEX 2: Photos from the Consultations and Visits to Seed Stores**

1. Meeting at Kampant Village
2. Seeds stored in the veranda of the Alkalo’s residence due to poor condition of village seed store

3. Kampant and Gimbagari disused seed store
4. Sand deposition around the front of Kampant / Gimbagari Villages seed store
5. Dobong: Water way made in a fence to avoid impact of heavy runoff usually experienced

6. Dobong disused, dilapidated seed store

7. Dobong: evidence of gully formation within the village from uplands to lowlands
8. Landscape degradation as a result of sand collection next to seed store for construction

9. Some members met at the Burock Village meeting
10. Holes in roof and cracked walls of Burock Village seed store.
11. Termite infestation in Burock seed store

12. Burock seed store adjacent to a residence
ANNEX 3: List of Mitigation Measures for Potential Negative Impacts

Fertilizer distribution and use
1. Use enclosed trucks or cover fertilizer stocks during transportation
2. Train farmers and extension worker on the right application rates and contour farming
3. Equitable and fair distribution of inputs. Community ownership of inputs and targeting of groups rather than individuals. Practice traditional conflict resolution systems.
4. Good farming techniques to be utilised by farmers

Seed Distribution and use
6. Proper ventilation of seed stores
7. Store seeds away from dwellings and stored food
8. Training of farmers and extension workers on the community forest concepts
10. Training on integrated pest management and the safe use of pesticides. Abide by the Pest Management Plan of The Gambia

Equipment distribution and use
7. Training on soil and water conservation techniques for farmers to be able to avoid soil degradation
8. Training on safe use and maintenance of equipment for safe and efficient operation of equipment
9. Avoid disposal into or near water bodies
10. Collect waste metal / plastic for recycling
11. Regular preventive maintenance; accidental spillage near water bodies must be immediately cleaned
12. Sensitization on the need for continuous maintenance

Seed Store Rehabilitation
4. Wetting if dusty
5. Appropriate disposal of waste as advised by NEA
6. Use of pressed bricks
7. Collection of sand, gravel and wood only from approved designated sites / sources
8. Use local workers, particularly unskilled
9. Construction of impervious pest prove (floor, walls and ceiling)
10. Train the VDCs or store keeper on the proper operation of stores
Seed Multiplication

1. Collection of sand, gravel and wood from approved designated sites / sources
2. Appropriate disposal as advised by NEA
3. Use of pressed bricks
4. Provide water for the users of wells close to the boreholes if their water supply is affected
5. Training on soil and water conservation techniques for participating members of the Seed Growers Association to be able to avoid soil degradation
6. The need for continuous maintenance
7. Training on integrated pest management and the safe use of agrochemicals for seed growers
ANNEX 4: Environmental and social screening checklist

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<tr>
<th>IMPACT ON</th>
<th>PROJECT ACTIVITIES</th>
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<td>PROVISION OF FERTILIZERS</td>
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<td>Surface Water Quality</td>
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<td>Ground Water Quality</td>
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<td>Aquatic Ecosystem</td>
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<td>Terrestrial Ecosystem</td>
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<td>Livestock</td>
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<td>Migratory Population</td>
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<td>Community Stability / Vulnerable groups</td>
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<td>Culture /Tourism</td>
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<td>Housing Development</td>
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<td>Public Health</td>
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<td>Revenue Generation</td>
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Evaluation key for the matrix:
-2 High Negative Impact  +1 Moderate Positive Impact
-1 Moderate Negative Impact  +2 High Positive Impact
0 No Discernible Impact
ANNEX 5: Guidelines for Construction Contractors

Construction contractors are mainly involved in the rehabilitation of the seed stores and seed multiplication centres. It is recommended that the PCU ensures that all contracts include mitigation measures they are to implement. The major ones are:

- Prevention of localised dust during demolition by wetting.
- Take action as advised by NEA regarding waste disposal based on location.
- Collect raw materials such as sand and wood only from sites approved by Government.
- Employ local workers where works will be carried out
- Work according to standards and specifications as directed by the PCU to make pest proof stores
- Always liaise with the PCU for clarification
- Ensure the workplace is safe, healthy and secure
- Ensure construction materials are not left in public rights of way
ANNEX 6: Terms of Reference (TOR) for the Preparation of an Environmental and Social Management Framework for the Gambia Emergency Agricultural Production Project

Background and Introduction

The European Commission through the World Bank (The International Development Association) provided Government with grant of Euros 5.3 million to implement The Gambia Emergency Agricultural Production Project (GEAPP). GEAPP is a grant aimed at improving access to agricultural inputs and equipment for targets farmers within ten most vulnerable districts. It will be implanted during a period of eighteen (18) months, approved 5<sup>th</sup> January 2010 and is intended to increase cereal (millet and rice) production in the ten districts identified as the most vulnerable. The targeted districts are in the Local Government Areas (LGAs) of Brikama (Foni Bintang, Foni Kansala, Foni Bondali), Masakonko, (Jarra West), Kerewan (Lower Nuimi, Upper Nuimi), Janjanbureh (Niamina East), Basse (wuli, Sandu) and Kuntaur (Niani). The estimated population of these ten districts is 238,000. About 20,000 farmers groups will benefit from project assistance. GEAPP will phase out by the 30<sup>th</sup> June 2011.

In implementing this project, an Environmental Social Management Framework (ESMF) has to be developed and implemented as part of the grant Agreement covenants for the effectiveness of the project.

The applicable Bank Safeguard Policies, as specified in the project’s Integrated Safeguard Data Sheet (ISDS), are the following:

OP/BP/GP 4.01 Environmental Assessment
OP 4.01 Environmental and Social Management Framework. This project has been rated as a Category B, because the potential adverse impacts on human population or environmentally important areas are assessed as being low. The purposed intervention will include:

(i) Supply of fertilizers and implementation machines
(ii) Rehabilitation of existing community storage facilities and,
(iii) Installation of supplemented irrigation to enhance year around production of certified seed. No pesticides be procured. Despite the fact that the project will rehabilitate boreholes for complementary irrigation, OP/BP 4.01 is triggered as boreholes are not tapping transboundary aquifer. Accordingly, OP/BP 4.01 is triggered by the project. An Envirmental and Social Management Framework (ESMF) will be prepared, with appropriate elements incorporated into the Project Implementation Manual. The ESMF will be publicly disclosed in The Gambia and a World Bank Infoshop within a period of 60 days after the effeteness of the project.

Principles and Objectives

The principles on which this Environmental and Social Management Framework (ESMF) is based are that the project will:
(i) Support rural farming communities in providing agricultural inputs (seeds and fertilizer) strengthen their production capacities while avoiding or minimizing environmental and social safeguard concerns
(ii) Support local farming communities in improving village seed storage facilities
(iii) Provision of farming machinery and implements
(iv) Strengthen of seed multiplication centers to supply certified seeds to farmers, more detailed environmental or social planning is required before inputs, machinery and infrastructure can provided
(v) Enhance extension teams to assist communities in their agricultural production activities
(vi) To support communities and extension teams in carrying out their respective roles by funding substantial training, information resources, and technical assistance; and
(vii) Enhance review for assessing compliance, learning lessons, and improving future performance, as well as assessing the occurrence of and potential for cumulative impacts due to Project-funded and other development activities

The specified Environment and Social Management Framework (ESMF) Objective includes:

- To establish clear procedures and methodologies for the environmental and social planning review, approval and implementation of sub-projects to be financed under the project
- To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to the project activities
- To determine the training, capacity building and technical assistance needed to successfully implement the provision of the ESMF
- To establish the project funding required to implement the ESMF requirements and
- To provide practical information resources for implementing the ESMF

Although the potential environmental and social impacts of the infrastructure investments under the project are expected to be generally minimal, potentially significant localized impacts may occur, thus required appropriate mitigation measures. Potential environmental impacts would be addressed in the context of this ESMF.

Scope of Work

The preparation of the ESMF will adhere to the guidelines and formats provided in the Environmental and Social Management Framework for World Bank project with Multi Small-Scale Sub-Projects: a Toolkit (the ESMF Toolkit id attached).

Preparation of the ESMF will include, inter alia, the research, interview and field work needed to develop:
(a) A detailed description of the project, its components and implementation arrangement
(b) An understanding of the legislation, regulation and administration framework in which the project will operate, with a focus on requirements that will apply to the different phases of the sub-project cycle
(c) A review of existing Environmental Impact Assessment document of the African Emergency Locust Project
(d) An understanding of the institutional needs for implementing the ESMF. This should include a review of the authority and capacity of institution at different levels, and their capacity to manage and monitor ESMF implementation. The functions, inter-sectoral arrangements, management procedures and training, budgeting, and financial support
(e) An understanding of the socio-economic characteristics of the project in order to (i) identify potential environmental and social impacts that might result from future infrastructure investment; (ii) identify the social characteristics of the project interventions areas (ethnicity, gender, age, socially excluded or geographically isolated, etc.) (iii) identify opportunities and constraints of the local institutions and propose mechanisms for fostering inclusion; (iv) propose appropriate mitigation measures; (v) outline environmental impact assessment procedures.
(f) A training and capacity building program for the institutions responsible for implementing the ESMF
(g) Specification of requirements for technical assistance to communities, services provided and public-sector institutions to support their ESMF implementation work; and
(h) The definition of a budget for implementing the ESMF

ESMF Report

① An executive summary
② An introduction describing the ESMF purpose, objective, principles and methodology
③ A description of the project, project target areas; project coordination and implementation arrangement with details of institutional arrangements for managing the sub-project cycles; and annual reporting and performance review requirements;
④ Major section addressing the requirements of individuals safeguards policies applicable to the project (sections B5 to B8 of the ESMF Toolkit)
⑤ Description of capacity building, training and technical assistance required to implement the ESMF;
⑥ An ESMF implantation budget; and
⑦ Technical annexes to support ESMF implementation

Consultant Qualification

The Consultant will be familiar with World Bank environmental Safeguard policies, and similar requirements, and have demonstrated experience in successfully meeting these requirements. He will be particularly familiar wit the environmental assessment of small-scale projects, and with systems for the environmental review and approval of development projects in developing countries.
Expected Level of Effort

The expected level of effort (LOE) would be about a total of two (2) staff-weeks involving 1 week in the field and 1 week of ESMF report-writing, to be sub divided by team members or ESMF elements.

Services, Facilities and Material to be provided by the Client

The World Bank will provide to the Consultant example of ESMFs that demonstrates best practice as well as a copy of the ESMF Toolkit, both in hard and soft version (CD-ROM).

Schedule and Deliverables

A first electronic draft ESMF should be made available to the project by May 20th, 2010. The final version should be made available 1 week after reception of comments from the project and the World Bank.

Technical Proposal Contents

The Consultant will have to provide technical proposal that:

- Demonstrates she/he understands the overall scope and nature of the ESMF preparation work, and of what will be required to respond satisfactorily to each component of these terms of reference;
- Demonstrates she/he and his proposal team have relevant and appropriate experience to carry out all components. Detailed curriculum vitae for each member must be included;
- Described the overall methodology for carrying out each component; and
- Provision an initial plan of work, outputs, and staff assignment with level of effort by task.