



THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT AND THE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) REPORT

FOR

THE GAMBIA AGRICULTURAL VALUE CHAIN DEVELOPMENT PROJECT (AVCDP)

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ACRONYMS

AfDB	: African Development Bank
ANR	: Agriculture and Natural Resources
ARDP	: African Development Bank's Agriculture and Rural Development Policy
ARVs	: Anti-Retroviral Drugs
ASAL	: Arid and Semi-Arid Land
ASDS	Agriculture Sector Development Strategy
AVCDP	: Agriculture Value Chain Development Project
CPCU	: Central Projects Coordinating Unit
CR	: Central River
EIA	: Environmental Impact Assessment
ESIA	: Environmental and Social Assessment
ESMP	: Environmental and Social Management Plan
FAO	: Food and Agriculture Organisation of the United Nations
FSS	: Farmer Field School
GDP	: Gross Domestic Product
GNAIP	: Gambia National Agriculture Investment Plan
HIV/AIDS	: Human Immune Virus/Acquired Immune Deficiency Syndrome
ISP	: African Development Bank's Integrated Safeguards Policy
ISS	: Integrated Safeguards System
MoA	: Ministry of Agriculture
NEA	: National Environmental Agency
NEMA	: National Environmental Management Act
NPAGW	: National Policy for the Advancement of Gambian Woman
PAGE	: Programme for Accelerated Growth and Employment
POU/C	: Project Oversight Unit/Committee
PS	: Permanent Secretary
RMC	: Regional Member Country
ToR	: Terms of Reference
UNFCCC	: United Nations Framework Convention on Climate Change
URR	: Upper River Region
US	: United States of America

1. GENERAL INFORMATION

- 1.1. Project Name: The Gambia Agricultural Value Chain Development Project (AVCDP)**
- 1.2. Country: The Gambia**
- 1.3. Project Number: P-GM-AA0-014**
- 1.4. Objectives of the Environmental and Social Assessment and Management Plan**

The principal objectives of this environmental and social assessment and planning and the environmental and social management plan (ESMP) included among others: (i) To describe the baseline environmental conditions of the project sites; (ii) To find as well as to predict what environmental problems are likely to be caused by the implementation of The Gambia Agriculture Value Chain Development Project (AVCDP); (iii) To analyse identified environmental impacts likely to be generated from the project activities; (iv) To find ways and means of avoiding the problems and/or assess the project's alternatives including "No Alternative"; (v) To make appropriate recommendations for mitigation measures, identify training needs and cost estimates for mitigations as well as defining responsible parties to address any resultant adverse effects; and (vi) To develop an Environmental and Social Management Plan (ESMP) that highlights the opportunities and suggests ways and means of enhancing the positive effects of the project.

2. CONTEXT OF THE ENVIRONMENTAL AND SOCIAL ASSESSMENT

2.1. Country background

The Gambia is located on the west coast of Africa and is the smallest country on the African mainland Continent. It is a narrow country dissected into two parts by the meandering Gambia River and is completely surrounded by Senegal except at the western coastline which borders the Atlantic Ocean. The country lies between latitudes 13° and 14°N, and longitudes 13° and 17°W. The total land area is 11,295 km² of which 1,300 km² or 11.5% is covered by water.

2.2. Climate and ecology

Climatically, The Gambia is largely a semi-arid country with a 7 month dry season (November to May) and a 5 month wet season (June to October) while ecologically, based on the rainfall patterns, the country is divided into 3 major agro-ecological zones namely Sahelian, Sudan-Sahelian and Sudan-Guinean zones with rainfall range of about 500mm to

1200 mm per annum. Average daily temperatures are 28° C. The drought spells of variable durations do affect the cropping patterns and usually lead to periodic food shortages.

2.3. Land use and agricultural production

Agriculture is the backbone of The Gambian economy contributing more than 30% of the Gross Domestic Product (GDP). There are three types of agricultural land use patterns: (i) The Upland agricultural systems involving the cultivation of crops such as millet, sorghum and maize, as well as horticultural crops and livestock production; (ii) The Lowlands systems focusing almost exclusively on rice cultivation; and (iii) The Rangelands which are principally livestock production systems.

Land Tenure, like in most African countries remain a challenge. There are two main types - *informal* system which comprises the customary land tenure and commonly exists in rural areas and the *formal* land tenure systems where land is either on leasehold (for 99 years) or freehold. The informal system is based on traditional customs and practices and is governed by the customary laws and land is collectively owned by the family. In the formal land tenure system, the ownership rights is legalized through registration and titling of the property. Despite the fact that women constitute a greater proportion of the population that works the land, they remain disadvantaged in terms of land ownership.

The Gambian economy is a liberal, market-based economy characterised by traditional subsistence agriculture. Agriculture accounts for about 30% of the gross domestic product (GDP) and employs about 70% of the labour force. Industrial production accounts for approximately 8% of GDP while the services approximately contribute 58%. The limited amount of manufacturing is primarily agricultural-based and include peanut butter processing, bakeries, brewing, and tanning as well as soap production, soft drinks, and clothing. Tourism plays a major part in the economy of The Gambia. Service industry includes banking, hotels and transport. The Gambia remains one of the poorest countries in Africa and in the World with a GDP of less than US\$1000 million with a per capita GDP of less than US\$500.

2.4. Environmental as well as socio-economic challenges

Various challenges affect agriculture and livelihoods. Such challenges include: (i) poor soil fertility; (ii) soil erosion; (iii) crop and livestock diseases and pests; (iv) flooding and lowland siltation; (v) regular droughts that affect both livestock and crop production sectors; (vi) lack of farm inputs; (vii) limited skills in both livestock and crop production; (viii) poor range conditions which affect livestock production; (ix) increase in invasive vegetation species that are not palatable for livestock feeding; (x) limited extension services for both crop and livestock production; (xi) poor supply of farm inputs; (xii) limited market for farm produce; (xiii) inadequate supply of disease and pest control drugs and chemicals; (xiv) lack of farm preparation implements.

2.5. The project sites

The Agriculture Value Chain Development Project is earmarked for implementation and intervention in three sites, namely **Dampha Kunda** (in Tumana District), **Sotomo Samba** (in Jimara District) and **Kossemar** (in Jimara District). All the three project sites are located in the **Upper River Region (URR)** in the eastern part of the country. The choice of this region stems primarily from its high potential in pump irrigable lands that will enhance agricultural production in the country. Upper River Region (URR) is located at the east-most part of the country with a total area of 2,069 square kilometers. It is the sixth administrative region of the Gambia headed by a governor with 7 districts namely Jimara, Fulladu East, Tumana, Canfora, Wulli East, Wulli West and Sandu. The region has a total population of about 239,916 inhabitants based on the 2013 National Census results, with male and female populations at 48% and 52%, respectively. The region lies in the tropical zone and a lowland landscape a sudano-sahelian type of climate characterized by regular flooding.

2.6. The Gambia Agriculture Value Chain Development Project (AVCDP)

The Gambia Agriculture Value Chain Development will be implemented within a period of 5 years (2016-2021). The project has three main components namely (i) Land and Infrastructure Development; (ii) Rice and Livestock Value Chain Development; and, (iii) Project Management. **The land and infrastructure development** will include: (i) the development of 500 ha of pump irrigation land in block sizes of 40-50 ha; (ii) development of ancillary facilities including construction of 50 km of access roads, 10 drying floors and 10 warehouses; 50 km of stock routes and 5 watering points for livestock and 3 meat stalls with appropriate fencing and equipment; (iii) developing up to 200 poultry production units including 100 broiler and layers and 100 small ruminant fattening and breeding enterprises/units.

The rice and livestock value chain development will ensure the production, processing and marketing of high value polished rice as well as the fattening of small ruminants, and poultry business for meat and egg production. The project will foster synergy between the two commodities through innovative platforms, networking and market linkages using market information systems. The project will develop business skills of beneficiaries by facilitate partnership with the private sector actors and other development partners as well as mentoring and evaluation.

The project management component: This component's activities will include performing day to day implementation and governance of the project, project monitoring and evaluation, implementation of ESMP and gender. Capacity building and training of staff and beneficiaries. Oversight and supervision will be performed by the Project Steering Committee.

3. LEGAL ENVIRONMENTAL AND REGULATORY FRAMEWORKS TO GUIDE THE PROJECT

3.1. The National Environmental Management Act 1994

The National Environmental Management Act (NEMA, 1994) is the legal framework for the control and management of the environment and all other related environmental issues. NEMA Act, 1994 establishes the National Environment Agency (NEA) which safeguards all environmental matters in the country. The Gambia Agriculture Value Chain Development Project having been classified as a Category 2 Project, it is exempt of Part V of the Act that enforces requirements for the EIA Regulation 2014 for projects listed under Schedule A to be considered for environmental impact assessment.

3.2. The Local Government Act, (1990)

This Act and its re-enacted version of 2002 establishes, and empowers, local government Councils to, among other things ensure, in their areas of jurisdiction; (i) prevention of soil erosion; (ii) the management of forests and forest products, especially with regard to prevention of soil erosion; and (iii) The regulation of the disposal of refuse; (iv) generally the oversight of health and sanitation. This Act will be useful in the land and water management programmes of the project as well as waste management in the value addition programmes of the project.

3.3. The Forestry Act

The Forestry Act which deals with the conservation and protection of forestry resources in The Gambia will be useful as concerns the conservation of biological conservation as a number of project activities will have bearing on forest resources and wildlife conservation.

3.4. The Wildlife and Biodiversity Act, 2003

Because this project and its activities will have potential effects on biodiversity as well as wetlands; for example, the land development activities for irrigation and construction of protection dykes will have fairly significant vegetation clearance as well as alteration of water flow systems which may impede comfortable movement of aquatic life hence the need to consider and pay attention to the Wildlife and Biodiversity Act.

3.5. The Hazardous Chemicals and Pesticides Control and Management Act 1994

At one point the project activities will deal extensive use of agro-chemicals. As such this Act will be useful in determining the chemicals to purchase and import for use in The Gambia.

3.6. Policies and Regulations governing implementation of such projects

While adhering to the various Acts governing implementation projects such as this one, the project will also take due cognisance of various policies and regulations governing implementation of similar projects in The Gambia. These policies and Regulations will include: (i) *The Agricultural and Natural Resources (ANR) Policy*, the umbrella strategy that supports the Gambia National Agriculture Investment Plan (GNAIP) 2011-2015; (ii) *The Gambia Environmental Action Plan (GEAP)* which provides the overall policy framework for sound environmental management in the country; (iii) *The Biodiversity and Wildlife Policy (2003)*, which defines a coherent biodiversity/wildlife policy framework as the basis of biodiversity conservation, management and sustainable use; and, (iv) *The Fisheries Policy (2007)* which among other purposes charts the goals for a rational and long-term utilization of the fisheries resources, the use of fish as a means of improving the nutritional standards of the population and increasing employment opportunities in the sector as well as increasing foreign exchange earnings through exports and aquaculture development.

Other policies will include: (i) *The Forestry Policy (2010 – 2020)* that promotes the rational management of the forest resources through the active participation of the rural population who are the immediate stakeholders; (ii) *The Programme for Accelerated Growth and Employment (PAGE) 2012 – 2015*, which is The Gambia's development strategy and investment programme for 2012 to 2015; and, (iii) *The Gender and Women Empowerment Policy*, the blueprint for gender equality and women empowerment.

3.7. International Guidelines and Principles: The implementation of the project will also be subjected to International Guidelines and Principles which will include among others: (i) The African Development Bank's Integrated Safeguards Systems (ISS); (ii) The African Development Bank's Integrated safeguards Policy (ISP); (iii) The African Development Bank's Agriculture and Rural Development Policy (ARDP); (iv) The African Development Bank's Integrated Water Resources Management Policy (IWRMP); (v) The African Development Bank's Integrated Environmental and Social Impact Assessment Guidelines; (vi) The Convention on Biological Diversity; (vii) The Ramsar Convention (1971); (viii) The Convention on Migratory Species of Wildlife; and, (ix) The United Nations Framework Convention on Climate Change (UNFCCC) of 1992.

3.8. Institutional Framework

The proposed project will be domiciled in the Central Project Coordination Unit (CPCU) of the Ministry of Agriculture. The project will have a lean staff at the CPCU with the implementation being done through Regional Directorates and other relevant Service Providers at the project sites. The Central Project Coordinating Unit lacks environmental expertise and will rely heavily on the National Environmental Agency (NEA) for environmental aspects of the project.

4. POSSIBLE ENVIRONMENTAL AND SOCIAL IMPACTS

Developments entail changes in the economic, social and environmental aspects to the local affected communities. Anticipated changes will have both positive and negative impacts. This report has been classified as a Category 2 Project hence its negative impacts have been identified and mitigation measures proposed.

4.1. Positive impacts

The positive impacts of The Gambia Agriculture Value Chain Development Project (AVCDP) will include: (i) **Increased Agricultural Activities** and subsequent improved agricultural production and productivity; (ii) **Improved agricultural production and outputs** due to improved land management programmes; (iii) **Improved Food Security and Nutritional Status of the beneficiaries and of the country** as a result of the increase in the quantity of food produced once the project becomes operational; and, (iv) **Minimized Food Imports and savings on the foreign exchange** due to increase in local production of the staple food, rice. Other positive impacts are: (v) **Improved Land Conditions** due to improved land and water management and conservation activities; (vi) **Improved Water Supplies** as a result of enhanced water management programmes and flood controls; (vii) **Enhanced Livestock Feed Supplies** as a result of feed supplies due to increased soil conservation measures such grass bands, planting of leguminous agro-forestry trees, re-seeding of denuded areas; and, (viii) **Improved Soil and Water Conditions** resulting in enhanced land conditions.

Additional positive impacts are: (ix) **Increased Employment Opportunities** due to increase due to increase in economic activities; (x) **Improved Infrastructure** due to expansion of the rural access roads and livestock trucks which will ultimately lead to opening up to the markets and hastening of transportation of farm produce; (xi) **Capacity Building** will enhance the knowledge base of the technical officers and local communities hence enhancing their production potentials resulting in improved crop and livestock production; (xii) **Developed Market Infrastructure** which will result in improved market access facilities and improved trade; (xiii) **Improved quality of agricultural produce** due to improved husbandry and through value addition and processing; and, (xiv) **Increased storage for agricultural produce and reduced post-harvest losses** as a result increased basic storage facilities and basic value chain systems.

4.2. Negative impacts as well as mitigation and enhancement measures proposed

The Agriculture Value Chain Development Project is likely to generate negative impacts during its implementation. These negative impacts will stem from a number of activities in the infrastructure development and value chain components of the project. Activities that will generate negative impacts in the infrastructure component include: (i) development and construction of irrigation canals; (ii) development and construction of rural access road infrastructure; (iii) construction of storage and warehousing facilities; (iv) development of

stocking routes; (v) development of livestock watering points; and (vi) development of livestock housing units as well as development of meat stalls. The value chain component activities that will have negative impacts include: (i) development of warehousing and milling facilities; (ii) development of slaughter houses and abattoirs; and, (iii) construction of market facilities. The operational phase of the project is also likely to contribute negative impacts such as pollution arising from the use of fertilizers and other agro-chemicals.

The identified negative impacts and proposed mitigation measures are:

- i. **Vegetation loss:** There is anticipated increase in clearing of vegetation through the process of expanding land for irrigation agriculture, construction of road infrastructure, construction of market infrastructure, livestock infrastructure.

Mitigation: To mitigate against vegetation loss, (i) where possible, the clearing of vegetation, particularly of indigenous trees needs to be avoided as much as possible during construction, and the clearing needs to be carried out only where necessary; (ii) where clearing is done, land should be landscaped and reclaimed by planting more trees and other forms of vegetation; (iii) where erosion may occur due to vegetation loss, erosion control measures need to be put in place.

- ii. **Loss of biodiversity and destruction of the natural habitat:** The clearing of vegetation and the subsequent loss of habitat is likely to lead to loss of biodiversity especially of organisms that are prevalent in the micro-areas.

Mitigation: To mitigate: (i) avoid clearing and construction within key sensitive habitats such as wetlands, culturally protected areas, unique and special habitats; and (ii) where possible, buffer the special, sensitive and ecologically important habitats.

- iii. **Soil Compaction and destabilisation of the geological balance:** The use of heavy machineries and increased traffic during the construction work within the project area is likely to lead to compaction of the soil structure which may lead to reduced soil infiltration capacities and subsequently resulting in increased run-off. The increased run-off may lead to soil erosion and subsequently gully formation. It may also affect soil-water balance and the general hydrological cycle.

Mitigation: To mitigate against the compaction: (i) minimize heavy machinery movements and other equipment and away from designated transportation and operational areas; (ii) unnecessary vehicular and machinery movements should be avoided as much as possible; (iii) reclaim and re-vegetate excavation sites once work is completed to reduce run off.

- iv. **Pollution of Rivers and Wetlands which may include Eutrophication:** The construction of the intake canals and water conveyance systems as well as infrastructure development, if not well controlled and managed could deposit resultant construction wastes such as sediments from the earthworks and oils and fuels from machinery into the rivers and also through surface run offs. This may ultimately lead to potential degradation of the water quality especially for downstream users and adversely affect the aquatic life. Pollution could also come from heavy use of agricultural chemicals during the implementation of the project some of which may lead to eutrophication. There will be need to have these well addressed during the project implementation. **Mitigation:** (i) ensure adequate and regular checks on the equipment in use to ensure they are well maintained and in good working condition to

prevent leaking oils and fuels; (ii) refueling should be done in safe locations where there is no likelihood of spillages; (iii) access roads should not venture into the sensitive areas such as wetlands around the project area; (iv) apply sediment control procedures to prevent sediment returning into the rivers; (v) ensure all construction equipment and machineries are clean and mud free; (vi) ensure usage of the right chemical types and in right quantities; (vii) ensure appropriate application of chemicals and in the right quantities; (viii) put measures to minimize leaching and chemical run-off through appropriate soil and water conservation measures

- v. **Destruction of fish breeding grounds through pollution:** The fish are known to breed in the upstream parts of rivers to minimize their young ones being preyed by other fish predators. Due to increase in the use of fertilizers and other agro-chemicals, there is likelihood of increase in water pollution which may affect the breeding sites of the fish and well as their breeding patterns. Farming if not well regulated may also interfere with the breeding sites.

Mitigation: (i) conserve river banks; (ii) apply agro-chemicals appropriately; (iii) apply soil and water conservation measures to minimize seepage and run-off of chemicals in waterbodies.

- vi. **Pollution: Noise, Dust and Air Quality Concerns:** The construction activities mostly the excavation and transportation of construction materials are likely to generate a significant amount of dust as well as emitting smoke and fumes from engines and oil spills that will lead to pollution of air, water and other environmental resources.

Mitigation: This could be mitigated against by: (i) ensuring that all vehicles transporting raw materials especially soil should be covered or avoid overloading to reduce dust emissions; (ii) the workers in dusty areas should be provided with requisite protective equipment such as dust masks and dust coats for preventive and protection purposes; (iii) the movement and speed of the construction machineries and vehicles should be controlled and properly managed; (iv) the removal of vegetation should be avoided and denuded surfaces should be adequately re-vegetated; (v) most noisy machinery should be fitted with proper silencers to minimise noise emissions; (vi) where necessary, ensure good and appropriate selection of construction machinery and equipment; (vii) the amount of blasting in the quarries should be controlled where necessary; (viii) sprinkle water in construction yards, on dusty roads and soil heaps to keep down the dust produced; (ix) ensure the construction work takes the shortest time possible, in addition, the activities generating dust should be carried out in calm weather; (x) ensure the noise levels are kept at the minimum acceptable levels and the construction activities are confined to the working time limits

- vii. **Generation of wastes due to processing:** Value addition of agricultural produce will result in generation of both solid wastes and wastewater which may have negative impacts unless properly managed.

Mitigation: (i) put in place appropriate waste management mechanisms for both solid and wastewater; (ii) educate and sensitize the population on being mindful of and responsible for their own environments.

viii. **Transmission of HIV/AIDs and other communicable diseases:** The prevalence of HIV/AIDS in the area could increase due to free-flow and high influx of people particularly during the construction phase of the project. The influx of people into the project areas may result in increased infections of diseases, particularly HIV/AIDS. During project implementation activities such trade and employment are also likely to increase hence increased interactions consequently leading to increased infections.

Mitigation: Challenges due to infections could be addressed through: (i) enhancing education and sensitization of workers and the local communities on the dangers and prevalence of disease; (ii) regular sensitization campaigns and monitoring of the spread diseases; (iii) development of brochures and other materials that will convey information about diseases and infections; (iv) regular provision of adequate prevention measures such as condoms; (v) provision of drugs such as anti-retriviral drugs (ARVs).

4.3. Climate Change

The project will definitely be impacted on by changes in climatic conditions. Such changes will include increased drought intensity and severity as well intermittent flooding. Impacts of climate change will be mitigated upon by diversification of livelihoods and enhanced measures against irrigation infrastructure. Other measures will include capacity building and use climate resistant crops.

4.4. Gender and social analysis

The African Development Bank Group's (AfDB) gender policy provides the requisite conceptual and operational framework for promoting gender responsive development in Africa. Through this policy, the Bank seeks to promote the mainstreaming of gender in Bank operations and to assist African Regional Member Countries (RMCs) in obtaining gender equality objectives.

In The Gambia women constitute about 52% of the population and are the contributors of farm labour ensuring household and largely community food security. They are, therefore, an important segment in the implementation of the Agriculture Value Chain Development Project. The new project will fulfil a major priority area in the Gambian Policy on Gender and livelihoods which include developing and implementing interventions that respond to diverse livelihood needs of both men and women and developing incentive frameworks to improve the earning potential of poor women and men for improved productivity. The project will take cognisance of the Constitution of Gambia, 1997, the National Gender Policy, Employment Act, Guidelines for Gender Mainstreaming in Development and Management through instruments such as: (i) the National Women's Council and Bureau; (ii) the National Policy for the Advancement of Gambian Women (NPAGW 1999-2009); and, (iii) the formulated Gender and Women Empowerment Policy 2010-2020.

5. PROJECT ALTERNATIVES

This ESIA study sought also to consider possible alternatives of the the project. These alternatives included among other considerations the alternative sites and alternative activities as well as the different irrigation models. This study has therefore sought to identify and assess alternatives to the proposed developments so as to have the best working models that will have least minimal effects.

5.1. The “No Project” Alternative

This alternative implies the project does not proceed thereby maintaining the status quo. The status of the environmental resources neither improves nor worsens since the state of the resources is not interfered with at all. However, the implementation of this project has many benefits as given in section 4.1 above. The ‘No Alternative’ has various negative and possibly long term impacts to the region which include: (i) the local populations continue to suffer from food scarcity and consequently food insecurity due to lack of agricultural produce; (ii) projected reduction in poverty levels.

5.2. Flood Irrigation

This is a form of gravity irrigation from a river without the need for an intake structure to divert the water. Seasonal rains raise the streams and rivers courses and the flow waters can be used by the farmers to irrigate their fields. Channels can be constructed to maintain the water in the fields for as long as possible, and as the flood recede the residual moisture, is used by the crop. Once the floods and residual moisture have been exhausted the farmer can make use of the shallow water table and construct shallow wells to lift the water by bucket for irrigating the crops. This method is prohibitive in the sense that the project location is a flooding zone and if left to flood, the crops suffer water-logging.

5.3. Alternative Location

Because of several challenges experienced in the current project sites, farming has significantly reduced. Poverty levels have risen. Some of the factors that influenced the choice of the locations include the agro-climatic conditions of the area (ASAL areas with high potential for cropping), the soils (fairly good soils for crop production), water availability and the drainage system in the areas. These sites are therefore very appropriate site locations for the activities because of close proximity to the sources of water to be used for these activities and for the convenience of the water sustainability. The selected sites are also suitable in terms of socio-economic aspects. The projects will help reduce high poverty levels and improve incomes and living standards.

6. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

6.1. Summary of the project impacts and the intended mitigation measures

Activities forming sources of impacts	Identified impacts	The negative impact(s)	Duration of impact	Scope of impact (local, regional or global)	Level of risks associated with the impact	Proposed mitigation measures	Capacity building required	Reporting frequency	Responsibility
Development of irrigation infrastructure	Loss of vegetation and biodiversity	-	One-Two years	Local	Moderate	<ul style="list-style-type: none"> Minimise vegetation clearing Landscape and reclaim Control soil erosion Create buffer zones 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA
	Destruction of natural habitats	-	One-Two years	Local	Moderate	<ul style="list-style-type: none"> Avoid sensitive ecological areas Buffer areas of special ecological importance 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA
	Soil compaction	-	Three months	Local	Moderate	<ul style="list-style-type: none"> Avoid unnecessary movement of vehicles and machinery Reclaim and re-vegetate 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA
Soil and water conservation programmes	Introduction of foreign species	-	Three months	Local/National	Could be severe	Ensure proper control of what might turn out as invasive species	Sensitisation and Public awareness campaigns	May require a study	CPCU/NEA
Development of rural access road infrastructure	Loss of vegetation and biodiversity	-	Can be long term	Local	Moderate	<ul style="list-style-type: none"> Minimise vegetation clearing Landscape and reclaim Control soil erosion Create buffer zones 	Sensitisation and Public awareness campaigns	Monthly during construction period	CPCU/NEA
	Modification and loss of natural habitats	-	One-Two years	Local	Moderate	<ul style="list-style-type: none"> Avoid sensitive ecological areas Buffer areas of special ecological importance 	Sensitisation and Public awareness campaigns	Monthly during construction period	CPCU/NEA
	Soil compaction	-	Three months	Local	Moderate	<ul style="list-style-type: none"> Avoid unnecessary movement of vehicles and machinery Reclaim and re-vegetate 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA

Activities forming sources of impacts	Identified impacts	The negative impact(s)	Duration of impact	Scope of impact (local, regional or global)	Level of risks associated with the impact	Proposed mitigation measures	Capacity building required	Reporting frequency	Responsibility
Development of rural access road infrastructure	Land excavation	-	Three months	Local	Moderate	<ul style="list-style-type: none"> • Ensure construction materials are sourced from designated areas only • Ensure maximum re-use of the excavated materials • Selection of excavation sites and extraction methods must be carefully done • Excavation sites must be subjected to EIAs • Avoid water sources Where blasting is to be done, ensure application of all blasting requirements	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA
	Construction wastes	-	Three months	Local	Moderate	<ul style="list-style-type: none"> • Identify suitable deposition mechanism • Follow the law on waste management 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA
	Air and noise pollution	-	Three months	Local	Moderate	<ul style="list-style-type: none"> • Ensure vehicles transporting wastes are covered • Ensure workers in dusty places have and use protective gears • Control movement of machinery and vehicles • Removal of vegetation must be controlled • Minimise noises by selecting proper equipment and machinery • Sprinkle water Minimise construction time	Sensitisation and Public awareness campaigns	Annual surveys	Supervising Engineer/CPCU/NEA

Activities forming sources of impacts	Identified impacts	The negative impact(s)	Duration of impact	Scope of impact (local, regional or global)	Level of risks associated with the impact	Proposed mitigation measures	Capacity building required	Reporting frequency	Responsibility
Development of rural access road infrastructure	Water and river pollution	-	Can be long term	Local/National	Could be severe	<ul style="list-style-type: none"> • Ensure regular checks and maintenance of vehicles and machinery to avoid oil spills • Refuel at designated locations only • Access roads should not venture into ecologically sensitive areas • Apply sediment control measures • Ensure all construction equipment, machinery and vehicles are clean 	Sensitisation and Public awareness campaigns	Annual surveys/monitoring	CPCU/NEA
	HIV/AIDS and other communicable diseases	-	Depends on management	Local/National	Moderate to severe	<ul style="list-style-type: none"> • Ensure regular education and sensitisation and public awareness • Spread information on HIV/AIDS and other diseases using all means possible • Ensure regular provision of preventive measures including condoms, ARVs 	Sensitisation and Public awareness campaigns	Annual reports	MoA/Health institutions

Activities forming sources of impacts	Identified impacts	The negative impact(s)	Duration of impact	Scope of impact (local, regional or global)	Level of risks associated with the impact	Proposed mitigation measures	Capacity building required	Reporting frequency	Responsibility
Value chain infrastructure development	Loss of vegetation and biodiversity	-	One-Two years	Local	Moderate	<ul style="list-style-type: none"> Minimise vegetation clearing Landscape and reclaim Control soil erosion Create buffer zones 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA
	Modification and loss of natural habitats	-	One-Two years	Local	Moderate	<ul style="list-style-type: none"> Avoid sensitive ecological areas Buffer areas of special ecological importance 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA
	Destruction of soil structure and soil compaction	-	One year to longer term	Local	Moderate	<ul style="list-style-type: none"> Avoid unnecessary movement of vehicles and machinery Reclaim and re-vegetate 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA
	Air and noise pollution	-	Three months	Local	Moderate	<ul style="list-style-type: none"> Ensure vehicles transporting wastes are covered Ensure workers in dusty places have and use protective gears Control movement of machinery and vehicles Removal of vegetation must be controlled Minimise noises by selecting proper equipment and machinery Sprinkle water Minimise construction time 	Sensitisation and Public awareness campaigns	May require annual monitoring	Supervising Engineer/CPCU/NEA
	Construction wastes	-	Three months		Moderate	<ul style="list-style-type: none"> Identify suitable deposition mechanism Follow the law on waste management 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA

Activities forming sources of impacts	Identified impacts	The negative impact(s)	Duration of impact	Scope of impact (local, regional or global)	Level of risks associated with the impact	Proposed mitigation measures	Capacity building required	Reporting frequency	Responsibility
Value chain infrastructure development	Water pollution	-	Three – six months	Local/National	Could be severe	<ul style="list-style-type: none"> • Ensure regular checks and maintenance of vehicles and machinery to avoid oil spills • Refuel at designated locations only • Access roads should not venture into ecologically sensitive areas • Apply sediment control measures • Ensure all construction equipment, machinery and vehicles are clean 	Sensitisation and Public awareness campaigns	Annual monitoring	MoA/NEA
	Land excavation	-	Three months	Local	Moderate	<ul style="list-style-type: none"> • Ensure construction materials are sourced from designated areas only • Ensure maximum re-use of the excavated materials • Selection of excavation sites and extraction methods must be carefully done • Excavation sites must be subjected to EIAs • Avoid water sources Where blasting is to be done, ensure application of all blasting requirements 	Sensitisation and Public awareness campaigns	Monthly during construction period	Supervising Engineer/CPCU/NEA
	HIV/AIDS and other communicable diseases	-	Depends on information and the management programme	Local/National	Could be severe	<ul style="list-style-type: none"> • Ensure regular education and sensitisation and public awareness • Spread information on HIV/AIDS and other diseases using all means possible • Ensure regular provision of preventive measures including condoms, ARVs 	Sensitisation and Public awareness campaigns	Annual reports	MoA/Health institutions

6.2. ESMP monitoring programme

The overall objective of environmental and social monitoring is to ensure that mitigation measures are implemented and are effective. Environmental and social monitoring will also enable response to new and developing issues of concern during the project implementation and, therefore, it will ensure that project activities comply with and adhere to environmental provisions and standard specifications of the Bank and the Government of The Gambia.

The overall responsibility of the environmental and social monitoring will lie with the Ministry of Agriculture, through the Central Projects Coordinating Unit in close conjunction and collaboration with the National Environmental Agency – NEA (the overall national authority on environment) and the African Development Bank, the financing agency. It was noted that the Central Projects Coordinating Unit (CPCU) does not have environmental experts and as such the use of NEA staff as environmental experts will be very useful. NEA has staff up to the district level who will provide environmental supervisory assistance. However, a good number of key staff involved in the implementation of the project may require on-site-training to enhance their ability on various environmental aspects and reviews, including monitoring and compliance which will be helpful in handling environmental and social aspects of the project.

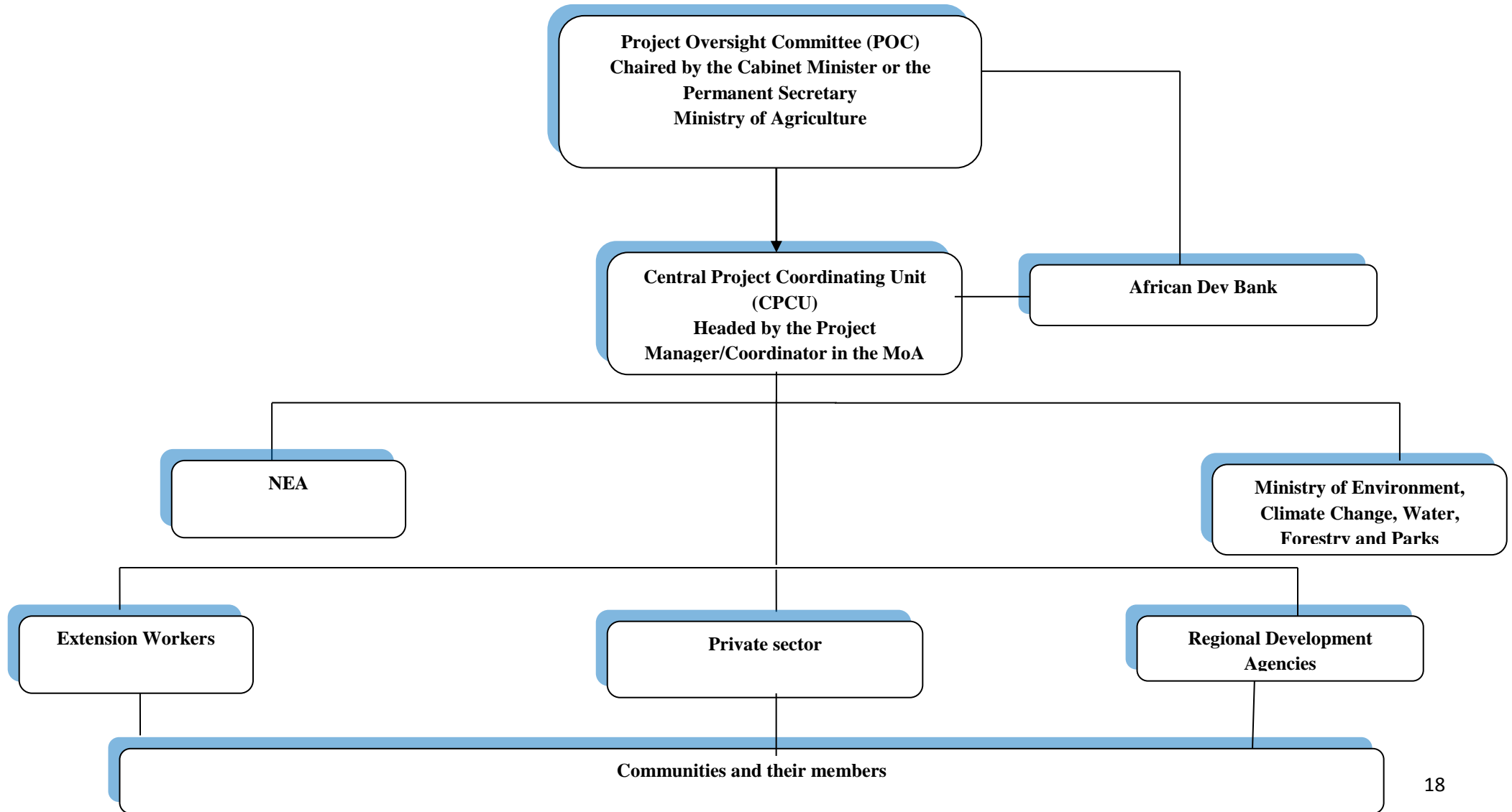
The whole exercise of ESMP monitoring will involve monitoring compliance with regulations, managing worksites, executing specific environmental and social works and seeking solutions to emerging environmental problems. The ESMP monitoring team will ensure regular reporting, depending on the aspects being monitored to avoid any serious environmental consequences. Among the key issues to be monitored will be: (i) the status of the biological conditions; (ii) status of the physical works; (iii) the technical and environmental problems encountered; (iii) proposed solutions to the problems encountered; and, (v) the effectiveness of environmental and social measures adopted.

The ESMP monitoring programme is proposed for implementation at two-levels – the supervisory activity carried out by the control or supervision missions of the African Development Bank and the regular monitoring activities conducted by the MoA/CPCU in collaboration with NEA.

6.3. Monitoring schedules

No.	Aspects to be Monitored	Project Phase (construction, operational & maintenance)	Location	Monitoring Indicators	Frequency of Monitoring	Institution/Agency to Monitor
01	Development of site-specific ESIA's if necessary	Construction	Project sites	❖ ESIA reports ❖ Adherence to laid down legal and policy requirements	Once	Control missions by the Bank and MoA/CPCU
02	Environmental conditions during the irrigation infrastructure development ▪ Status of the biological conditions ▪ Assessing the status of the physical works ▪ Follow up on mitigation measures Assess effectiveness of environmental and social measures adopted	Construction and operational phases	Project sites	❖ Number of meetings planned and held; ❖ Record of meetings that took place ❖ Mission reports	Monthly/annually	Control missions by the Bank and MoA/CPCU/NEA
03	Environmental conditions during the market infrastructure development and operations ▪ Status of the biological conditions ▪ Assessing the status of the physical works ▪ Follow up on mitigation measures ▪ Assess effectiveness of environmental and social measures adopted	Construction and operational phase	Project sites	❖ Number of meetings planned and held; ❖ Record of meetings that took place ❖ Mission reports	Monthly/annually	Control missions by the Bank and MoA/CPCU/NEA
04	Water and soil conservation and management programmes ▪ Status of the biological conditions ▪ Assessing the status of the physical works ▪ Follow up on mitigation measures ▪ Assess effectiveness of environmental and social measures adopted	Project implementation phase	Project sites	❖ Number of meetings planned and held; ❖ Mission reports on the status of land and water	Annually	Bank supervision missions/ MoA/CPCU/NEA
05	Environmental conditions during the rural access roads/infrastructure development ▪ Status of the biological conditions ▪ Assessing the status of the physical works ▪ Follow up on mitigation measures ▪ Assess effectiveness of environmental and social measures adopted	Construction and implementation phases	Project sites	❖ Number of meetings planned and held; ❖ Mission reports on the status of land and water	Monthly/Six monthly and annually depending on the phase of the project	Control missions by the Bank and MoA/CPCU/NEA
06	Institutional strengthening and capacity building	All	Targeted institutions Identified individuals	Training reports	Annually	Bank supervision missions/ MoA/CPCU/NEA

7. INSTITUTIONAL RESPONSIBILITIES AND ARRANGEMENT AND CAPACITY BUILDING



The Ministry of Agriculture through the Central Projects Coordinating Unit (CPCU) will be the lead agency in the implementation of the Agriculture Value Chain Development **Project (AVCDP)**. At the highest level of the Ministry, the Cabinet Minister will chair the Project Oversight Unit/Committee (POU/C) and the Central Projects Coordinating Unit (CPCU). The African Development Bank (AfDB), as the Financing Agency could be represented in both the POC and CPCU. The Cabinet Minister responsible for Agriculture or the Ministry's Permanent Secretary (PS) will chair the Project Oversight Unit/Committee. The CPCU will be headed by the Project Coordinator or the Project Manager who will oversee the day to day running of the project. The Project Coordinator will have a team of experts overseeing the different components of the project. Among the experts on board will be a crops specialist, an irrigation engineer, a livestock specialist, a hydrologist, an agronomist, a community development expert as well as an environmental expert.

For purposes of ESMP implementation, the CPCU must have an environmental specialist or work in serious close collaboration with staff from NEA who will oversee the implementation of ESMP. The CPCU will also work with an environmental specialist at the Bank and in close collaboration with the Regional or District Directors of Environment to ensure compliance with the ESMP and the site-specific ESIAs and EIAs.

The Regional Director of Environment and the project's supervising Engineers will be responsible for ensuring that the environmental and social mitigation measures (referred to as Conditions of Approval) identified for each project site are well reflected in the Tender Documents. It is proposed that a capacity building programme be included as part of this project to help train senior officers at the ministry and other ministries engaged in the implementation of this project in various aspects of environmental assessments.

8. ESTIMATED COSTS OF THE ESMP IMPLEMENTATION AND MONITORING

No.	Activity	Timeframe	Cost (US\$)	Responsibility
01	Preparation of site-specific ESMP/ESIAs	Quarter 1 prior to actual project works	40,000	MoA/NEA
02	Complementary initiatives:			
	<ul style="list-style-type: none"> Capacity Building of Technical officers – environmental matters 	Quarter 1 & 2 of project implementation	5,000	MoA/NEA
	<ul style="list-style-type: none"> Capacity building of farmers – farming practices and farm inputs 	Quarter 2 of project commencement	5,000	MoA/Public Health Workers
	<ul style="list-style-type: none"> Value Addition – Technical Officers Value Addition – Farmers Water resources management 	Quarter 2 & 3 of project implementation Quarter 3 & 4 of project implementation Quarter 2 & 3 of project implementation	5,000 5,000 1,500	MoA
03	ESMP Monitoring			
	<ul style="list-style-type: none"> Regular supervisions – environmental aspects 	Entire project period until hand-over	45,000	MoA/NEA
	<ul style="list-style-type: none"> Control missions 	Annually during project period	50,000	AfDB
04	Capacity building and general public awareness programmes on agricultural production systems	As and when needed	30,000	MoA
05	HIV/AIDS Mainstreaming	Quarterly campaigns	15,000	MoA/ Public Health
	Total		201,500	
06	5% mark-up		10,075	
07	Grand Total		211,575	

9. PUBLIC CONSULTATIONS

During the preparation of this ESMP, public consultations were carried out with the Ministry of Agriculture, the private sector, and respective beneficiary/farming communities. Meetings were held with members of the Central Projects Coordinating Unit, the National Environmental Agency Officials, technical officers in the field and various local leadership including a one day workshop at the Headquarters in Banjul that was attended by several stakeholders. The purpose of consultations was: (i) to generate a good understanding of the project by all stakeholders; (ii) to enhance ownership of the project by local leadership, the community and local farmers; (iii) to understand people's and agency expectations about the project; (iv) to understand and characterise potential environmental, social and economic impacts of the project; (v) to enhance local benefits that may accrue from the project; and (vi) to enable stakeholders involved in the project to provide views, hence participating in or refining project designs. In addition, site-specific investigations were also conducted to gain insight to the likely impacts of the programme on the environment. The views and comments of the public have been incorporated, to the extent possible and are likely to influence the design as well as the locations of the proposed projects and infrastructure development.

10. COMPLEMENTARY INITIATIVES

Complementary initiatives will include: (i) complemented cohesive working of relationships between the MoA, NEA, the private sector and other relevant ministries and, other key stakeholders in agricultural production; (ii) capacity building of community members and farmers focusing on good agricultural production systems and practices; (iii) mainstreaming public health and HIV/AIDS in the overall operations of the agricultural sector and other economic activities; (iv) engagement and support for some local interventions that will ensure good environmental management in agricultural production; (v) Other complementary initiatives could include: (i) agro-processing and agro-processing by product; (ii) supplementary livestock feed production.

11. CONCLUSION AND RECOMMENDATION

This assessment report has been conducted to equip the AfDB and relevant Government of The Gambian authorities with relevant and sufficient information about the proposed Agriculture Value Chain Development Project. The negative environmental impacts that have been identified and are associated with the implementation of this project are minimal and could be addressed by implementing the mitigation measures proposed. This is a multi-sectoral and a multi-disciplinary project hence engagement of all stakeholders is very important during its implementation.