

REPUBLIC OF RWANDA



MINISTRY OF ENVIRONMENT

**DEVELOPMENT OF AGROFORESTRY AND SUSTAINABLE AGRICULTURE
PROJECT**



**ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK
(ESMF)**

November 2022

ACKNOWLEDGEMENT

We, the undersigned, hereby declare that this ESMF Report represents the facts pertaining to the Proposed “Development of agroforestry and sustainable agriculture” under Forest Investment Program (FIP).

ON BEHALF OF MINISTRY OF ENVIRONMENT

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ABBREVIATED TERMS

ADF	African Development Fund
CGIAR	Consultative Group on International Agricultural Research
CIFOR	Centre for International Forestry Research
CPP	Country programming paper
CSA	Climate smart agriculture
CSP	Country Strategy Paper
CSS	Climate Safeguard System
DFMP	District Forest Management Plan
DDP	District Development Plan
EICV	Integrated Household Living Conditions Survey
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESIA	Environmental and Social Impact Assessment Study
FAO	Food and Agricultural Organization
FIP	Forestry Investments Programme
FONERWA	Rwanda Green Fund
GMO	Gender Monitoring Office
GCF	Green Climate Fund
GEF	Global Environment Facility
GGCRS	Green Growth and Climate Resilience Strategy
GHG	Greenhouse Gas
GoR	Government of Rwanda
ICRAF	World Agroforestry Center
ISS	Integrated Safeguards System
IFMIS	Integrated Financial Management Information System
IGAD	Intergovernmental Authority on Development
IUCN	International Union for Conservation of Nature
GIZ	German International Cooperation
LDCF	Least Developed Countries Fund
MoE	Ministry of Environment
NDC	Nationally determined contributions
NGO	Non-Government Organization
PCN	Project Concept Note
PFS	Public Financial System
RSB	Rwanda Standards Board
SPIU	single Project Implementation Unit
PRSP	Poverty Reduction Strategy Paper
RAB	Rwanda Agricultural Board
RAPEP	Rwanda Association of Professional Environmental Practitioners

Final Environmental and Social Management Framework for Development of agroforestry and sustainable agriculture project under forestry investment programme (FIP) in Rwanda (ESMF) November, 2022

RDB	Rwanda Development Board
REDD+	Reducing Emissions from Deforestation & Forest Degradation +Conservation, sustainable forest management, and enhancement of forest carbon stocks
REMA	Rwanda Environmental Management Agency
RFA	Rwanda Forestry Authority
RICA	Rwanda Institute of Conservation Agriculture
R-PP	REDD+ Readiness Preparation Proposal
RFM	Results Frame Matrix
SLM	Sustainable land management
SMEs	Small and Medium-sized Enterprises
TAAT	Technologies for African Agricultural Transformation
TSC	Tree Seed Centre
UNFCCC	UN Framework Convention on Climate Change

EXECUTIVE SUMMARY

The fundamental challenge of Rwanda is a dense and rapidly increasing population on a fragile and rapidly eroding land resource, exacerbated by climate change. The Development of Agroforestry and Sustainable Agriculture project is expected to contribute to solving these challenges by advocating and supporting the restoration and rehabilitation of landscapes including degraded lands with agroforestry systems for sustainable agricultural development.

It is in this regard that the Ministry of Environment and the Ministry of agriculture and Livestock Resources (MINAGRI) are in an advanced stage of preparation of a Government of Rwanda (GoR) and the African Development Bank funded Development of Agroforestry and Sustainable Agriculture Project.

The specific objective of the project is to develop agroforestry for sustainable agriculture on 60,000 ha of land. The project is being developed within the framework of the Forest Investment Program (FIP) based on extensive consultations with all major stakeholders of Rwanda. This project is one of three projects developed through the Rwanda FIP consultation process. The others include the “Support for Sustainable Forest and Landscape Management” and the “Wood Supply Chain, Improved Efficiency and Added Value”.

In order to implement the project, the AfDB will provide a loan/grant to the Government of Rwanda (GoR). Therefore, the Ministry of Environment and the Ministry of Agriculture and Livestock Resources, and the Rwanda Forestry Authority (RFA) are considering the type and scale of the project, as well as the anticipated environmental and social risks and impacts during project implementation. The Ministry of Environment intends to conduct the Environment and Social Impact Assessment (ESIA), including social assessment and risk management measures in line with the national regulations and requirements laid out in the operational safeguards (OS) of the African Development Bank to facilitate implementation of the project.

Therefore, this Environment Management and Social Framework (ESMF) is a study to guide for Environment and Social Impact Assessment (ESIA) on the biophysical and socio-cultural systems of proposed subproject sites wherever activities of the project/subprojects will be implemented and to reveal where specific land-uses may best be practiced and to offer performance standards for maintaining appropriate use of the respective project sites.

In terms of Transformational Change, the Project will employ community members, cooperatives, civil society and the private sector to promote the use of soil improving tree species. The planting of Agroforestry species, including fodder trees, will eventually sequester around 540,000 tons of CO_{2e} annually at an average of 9 t CO_{2e}/ha/year for the target total area of 60,000 ha. This project will also have a considerable impact on poverty alleviation through increased crop yields (fertile and stabilized soils) and improved livestock productivity (fodder trees) for small-scale producers. An effort will be made through special monitoring frameworks within cooperatives or CSOs, for women and youth to be targeted.

The Project will be implemented through 4 components: (1) Land restoration and stabilization, (2) Rural community livelihood and Sustainable AF value chain development, (3) Institutional and Community adaptive skills and capacities for AF development, (4) Project management and coordination. Component 1 concerns land-based investments targeting specific districts and provinces of Rwanda, while Components 2 and 3 have a country-wide scope that includes; national policy, development and research institutions of the government departments of Agriculture and Forestry as well as the country's centers of excellence such as the University of Rwanda.

The legal and regulatory framework of this ESMF considers both national and international legal and regulatory instruments. At national level among others; emphasis was put on the Constitution of the Republic of Rwanda as amended to date, key national strategies like Rwanda's Vision 5050 & NST1, sector specific like environment policy and agriculture policy, laws like the forestry law, law on environment and law on land, etc. At international level, international conventions and treaties relevant to agroforestry like the UNCBD and UNCCD and the UNFCCC are considered among others. Also, the AfDB's integrated safeguards systems (ISS) was also considered.

Key institutions that are or might be interested and involved in the project range from ministries down to local governance entities like cells. These include Ministry of Environment (MoE), Rwanda Forestry Authority (RFA), Rwanda Environment Management Authority (REMA), National Land Authority (NLA), Ministry of Local Government (MINALOC), Rwanda Land Authority (RLA), Ministry of Agriculture and Livestock Development (MINAGRI), Rwanda Agriculture Board (RAB), Rwanda Development Board (RDB), Rwanda Standards Board (RSB), Ministry of Finance and Economic Planning (MINECOFIN), University of Rwanda, Local Administration, Private sector, donors and ¹funding organizations (AfDB, World Bank, GEF, GCF, SIDA), NGOs and Civil society organizations (IUCN, ARCOS Network, World Vision, ICRAF, Vi Agroforestry, One Acre Fund, RENGOF members).

Accordingly the project was required to prepare the Environmental and Social Management Framework (ESMF) to examine the risks and impacts and provide guidance on the principles, rules, guidelines and procedures to assess and manage of environmental and social impacts and risks, it contains measures and plans to reduce, mitigate and/or offset adverse risks and impacts, provision for estimating and budgeting the costs of such measures, provide the institutional arrangements and environmental and social safeguards instruments to be prepared as part of the implementation of the project's activities in full compliance with Rwanda regulations and AfDB's Environmental and Social Safeguards Standards. This instrument was prepared by the Government of Rwanda (GoR) through the Ministry of Environment (MoE) and RFA / SPIU.

In the course of this ESMF, it was established that the project will trigger all the five AfDB's operational safeguards (OSs) namely: Operational safeguard 1 (OS1): Environmental and Social Assessment, Operational Safeguard 2 (OS2): Involuntary Resettlement: Land Acquisition, Population Displacement, and

¹ Some might be already funding similar activities in different locations on the national territory.

Compensation, Operational Safeguards 3 (OS3): Biodiversity and Ecosystem Services, Operational Safeguards 4 (OS4) Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials, and Resource efficiency, Operational Safeguards 5 (OS5): Labor Conditions, Health, and Safety.

Among key points to be considered during the ESMF implementation are: first, the identification of the project specific sites so far unknown, the respective subprojects in the proposed districts. The subprojects are known as falling in Category 2 according to the Africa Development Bank Categorization, requiring that the selected priority subprojects be environmentally screened for ESIA development.

Consultations sessions at national level, with local leaders and community representatives on the project, its environmental and social implications for awareness purpose were arranged and facilitated. Representatives of relevant key ministries (MoE and MINAGRI) and key government agencies (RFA, REMA, RAB) were consulted through individual interviews (between 15th September and 20th October 2022) while local leaders and community representatives (more than 120 participants) from all the 8 districts were engaged through a consultation workshop that took place on 20th October 2022 in Huye city.

Based on consultation findings, it was observed that this project has the following positive impacts: increased employment opportunity and income generation, capacity building, increased public revenues, increased productivity and farm income, flood control and reduction of weather hazards and increased access to financial services by farmers or investors. Some of the main anticipated adverse impacts include: Risk of unjustified preferences while selecting the site, potential conflict between communities who are claiming ownership on the state land, risk of discrimination or unjustified preferential treatment, gender-based exclusion, loss of vegetation and biodiversity, soil erosion etc depending on the phases of the project (preparation, implementation, operation and maintenance, risks associated with inadequate selection of agroforestry tree species/ seeds... Tentative measures to mitigate those impacts (ESMP) are proposed in section 5.3. Complementarily, it is proposed that a full environmental and social impact assessment (ESIA) will be prepared right after this ESMF as to provide clear recommendations on which sub-project will require a full or partial environmental and social impact assessment (ESIA) study.

Complaints resulting from the project's activities shall be handled as per designed grievance redress mechanism (GRM). In this regard, the GRM will be applied to all complaints from project affected parties. Lead Implementing agency (RFA) will maintain a Complaints Database, which will contain all information on complaints or grievances received from the communities or other stakeholders. This would include: the type of complaint, location, time, actions to address these complaints, and final outcome. The implementing agency (RFA), in coordination with districts' forestry-agroforestry specialists and in collaboration with local leaders, shall set-up a grievance redress committee that will address any complaints during project implementation and GRC operations should be financed by RFA. Grievances should be resolved within 15 working days.

As to enhance ownership and better implementation, the ESMF provides information on key capacity building and awareness creation activities that should be undertaken and why. In fact, training and awareness creation activities shall be undertaken at different levels of ESMF implementation. These levels will entail the central Government (MoE, MINAGRI), RFA-SPIU, RAB, Districts, local authorities, private sector, NGOs, and GRM committees. The exercise will be customized according to each level's needs to ensure adequacy in implementation of the ESMF. Here a capacity development plan was developed in the form of a table under chapter 10 showing specific training interventions under the proposed project, their target audience, timeline and budget.

Regarding the Implementation arrangements, Rwanda's Ministry of Environment (MoE) is responsible for the implementation of the Project through the Rwanda Forestry Authority (RFA) whose mission is to ensure the growth of forest resources, their management and protection for sustainable development purposes. The Implementing Agency for the Rwanda FIP Project will, therefore, be the RFA as responsible for monitoring and supervising the project. The multi-sectoral nature of the Project means that many other government ministerial departments and agencies will be involved to varying degrees. A Rwanda FIP Project Steering Committee and a National Technical Advisory Committee will be created to provide strategic and technical direction for the Project and general coordination and oversight. Fiduciary and procurement functions will be implemented by a Project Implementation Team (PIT) under the Single Project Implementation Unit (SPIU) within the RFA

This ESMF will clarify both Rwandan and African Development Bank requirements for and principles on ESIA development processes, implementation arrangements for the ESMPs, monitoring of the implementation of the ESMPs for the respective subprojects by the GoR and the Bank during the Development of Agroforestry and Sustainable Agriculture Project.

Upon the clearance of the project's ESMF by the AfDB, the Government of Rwanda, through RFA and MoE, will locally disclose the ESMF and will authorize the Bank to disclose it through its external website. The estimated budget for ESMF for SAIP is US \$ 690,800.

1. INTRODUCTION

1.1 PURPOSE AND OBJECTIVES OF THE ESMF

The purpose of the ESMF is to seek the establishment of a process for environmental and social screening which will permit the institution in charge of the implementation of the project/sub projects to identify, assess and mitigate the environmental and social impacts of project/sub project activities. The ESMF also determines the institutional measures to be taken during the program implementation, including those relating to capacity building. The Environmental Assessment (EA) Regulations - Legislative Instrument provides the general framework for the assessment and management of environmental and social safeguards of developments/projects in Rwanda.

However, since the African Development Bank is providing the funds, the project is additionally obliged to comply with the AfDB Operational safeguards (OS). The ESMF spells out the Environmental and Social (E&S) safeguards requirements under the project, institutional arrangements and capacity required to implement the framework. This ensures that subproject under the Project meet the national and local E&S requirements, and also consistent with Environmental and Social Assessment (OS1), Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation (OS2), Biodiversity and Ecosystem Services Indigenous Peoples (OS3), Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency (OS4), Labor Conditions, Health, and Safety (OS5) (AfDB Operational Safeguards).

The ESMF sets out principles and processes within which the projects are implemented agreeable to all parties. The other objectives of the ESMF include:

- Assessment of potential adverse E&S impacts commonly associated with the various components of the projects and the way to avoid, minimize or mitigate them;
- Establishment of clear procedures and methodologies for the E&S planning, review, approval and implementation of sub-components;
- Development of an Environmental Assessment (EA) screening procedure /initial assessment to be used for sub-components;
- Specification of roles and responsibilities and the necessary reporting procedures for managing and monitoring sub-component E&S concerns, and;
- Provide budget estimates and resources required for the implementation of the ESMF.

1.2 RATIONALE OF THE ESMF

The ESMF provides guidance, procedure and implementation arrangement for forestry investment plan's activities, in order to anticipate address adverse environmental and social impacts. Specific information on country-wide project locations, land requirements, bio- physical features etc. when known at a later stage will trigger the preparation of Environmental and Social Impact Assessment (ESIA). However, the proposed locations for project/sub projects activities to be implemented under the Forestry Investment Plan Project (FIP) include locations identified by Rwanda Forestry Authority (RFA) to develop agroforestry on 60,000 ha and also other unknown locations that may be identified in the course of the project implementation.

1.3 SCOPE AND PRINCIPLES OF THE ESMF

This ESMF has been developed on the basis of the project risk categorization and to outline the processes that will be undertaken during the project inception/implementation phases for the additional assessment of potential impacts, and identification and development of appropriate risk management measures.

This ESMF identifies the steps for detailed screening and assessment of the project's potential social and environmental risks, and for preparing and approving the required management plans for avoiding, and where avoidance is not possible, reducing, mitigating and managing these potential adverse impacts. These include an Environmental and Social Impact Assessment (ESIA), Environment and Social Management Plan (ESMP), Stakeholder Engagement Plan and Indigenous Peoples Plan (IPP), and an effective project-level Grievance Redress Mechanism (GRM). The ESMF also details the roles and responsibilities for its implementation and includes a detailed budget and monitoring and evaluation plan, and guidelines for Terms of Reference to be used to guide the development of the required assessments and management plans.

1.4 ESMF APPROACH AND METHODOLOGY

The preparation of the ESMF was undertaken by the consultant using the following approach and methodology.

1.4.1 ESMF Approach

The ESMF preparation started in April 2022 in Rwanda with the support of the African Development Bank (AfDB) team. It has been prepared in accordance with applicable AfDB's safeguards policies relevant to the project and the Rwanda Environmental Impact Assessment laws, regulations and guidelines.

1.4.2 ESMF Methodology

The study methodology comprised the collection and review of primary and secondary baseline data, identification and consultations with key institutional stakeholders and potential project area community members and land users. The study methodology comprised collection and review of

primary and secondary baseline data; preliminary identification and appropriate levels of consultation with key stakeholders. The ESMF preparation team used different methods and techniques with a focus on the potential environmental and social impact of the planned project's activities and recommend a mitigation guidance for avoiding or minimizing the potential negative impacts.

1.4.2.1 Detailed and in-depth literature review

A review on the existing baseline information and literature material was undertaken and helped in gaining a further and deeper understanding of the project. The consultant undertook detailed review and analysis of the national relevant legislations, policies and guidelines including the African Development Bank Safeguards Policies that should be considered during project implementation. Among the documents that were reviewed in order to familiarize and further understand the project included:

AFDB Related Documents

- AFDB Safeguards Policies
- Project Concept Note (PCN)
- Project's Aide memoire

Rwanda's Legislative Documents

- Constitution of Rwanda
- Law on environment
- Labor Code
- Expropriation law

1.4.2.2 Stakeholder consultations

Various discussions/consultations have been held with the Forest Investment Plan project focal person, the PIU management, different other relevant staff of key implementing partners of the project (MOE, MINAGRI, RFA, REMA, PSF, RLMUA, AFDB, EDCL etc).

1.4.2.3 Preparation of ESMF

The preparation of the ESMF involved:

- Collation of baseline data on the environmental conditions of the project areas;
- Identification of positive and negative environmental and social impacts;
- Identification of environmental and social mitigation measures;
- Preparation of screening procedures to be used while screening subproject proposals; and
- Formulation of environmental and social monitoring plan.

2. PROJECT DESCRIPTION

2.1 Country Context

The fundamental challenge of Rwanda is a rapidly increasing population on a fragile and rapidly eroding land resource. Agroforestry is, therefore, a priority investment noting its contribution to the productivity and sustainability of agricultural landscapes of Rwanda. The project will develop agroforestry on 60,000 ha of land within the framework of the Forest Investment Plan (FIP). Rwanda's Nationally Determined Contribution identifies Development of Agroforestry and Sustainable Agriculture (control of soil erosion and improved soil fertility) as one of the ways to reduce greenhouse gas (GHG) emissions.

The Project is aligned to Rwanda's National Strategy for Transformation - NST1 (2017 to 2024), notably its Economic Transformation Pillar: Increase agriculture and livestock quality, productivity and production; sustainably exploit natural resources and protect the environment. It is also aligned to the NST1's Social Transformation Pillar: Move towards a poverty free Rwanda, as well as the Objectives of its Transformational Governance Pillar: Strengthen partnerships between Government, private sector, citizens, NGOs, CSOs and FBOs. The Project is also aligned to the National Agroforestry and Action Plan of Rwanda (2018 – 2027) as well as Rwanda's commitment to restore 2 million hectares of degraded landscapes (around 76% of the national territory) under the African Forest Landscape Restoration Initiative (AFR100) and the Bonn Challenge by 2030.

The project will contribute, by intensive practice of agroforestry on agricultural land to improve crop production, reduce soil erosion and reduce pressure on existing natural and planted forests to supply fuel-wood and other tree products. Farmer practicing agroforestry will receive an enhanced benefit stream from tree products and improved soil fertility and stability. Developed agroforestry systems in the course of the project will also provide wider downstream benefits through reduced soil loss and siltation, regularized water flows and improved water quality. The project will be implemented on the land belonging to local farmers on one hand and to the government on the other hand. The project employ local communities, cooperatives, and the private sector. It is anticipated that this project will have a considerable impact on poverty alleviation through increased crop and livestock (fodder trees) production for smallholder farmers. The country also may benefit from the carbon credit due to the quantity of carbon which will be sequestered from intensification of agroforestry planted trees.

2.2 Project Intervention Areas

Planned activities will be implemented on landscapes agreed with the MoE and MINAGRI, District Administrative Officials and the Lead District Officers responsible for forestry and agriculture. The specific sites and direct beneficiaries/farmers for intervention still have to be geographically determined through community consultations. The districts/sectors that were

selected for interventions to improve soils and stabilize landscapes and build climate resilience in communities. The major criteria for the selection of districts/sectors were the distinctly high level of social and landscape vulnerability, ongoing and planned interventions by the government and development partners, and low adaptive capacity of local communities. Each specific site should have its particularity, hence the selection of species of trees will be made through the workshop that will include sector agronomist, Lead District Officers responsible for forestry and agriculture, RFA agroforestry/forestry specialists.

2.3 Project Development Objectives (PDO)

The Project Development Objective (PDO) is to contribute to the improvement of landscapes with agroforestry systems to support sustainable agriculture towards green growth development in Rwanda.

The Strategic Objectives are:

(a) Enhance landscape restoration and stabilization, (b) Improve rural community livelihoods through sustainable agroforestry value chain development, and (c) Strengthen institutional and community adaptive skills and capacities for agroforestry development.

2.4 Project Components

The Project will be implemented through 4 components: (1) Land restoration and stabilization, (2) Rural community livelihood and Sustainable AF value chain development, (3) Institutional and Community adaptive skills and capacities for AF development, (4) Project management and coordination. The Components are presented in Table 1 below. Component 1 concerns land-based investments targeting specific districts and provinces of Rwanda, while Components 2 and 3 have a country-wide scope that includes; national policy, development and research institutions of the government departments of Agriculture and Forestry as well as the country's centers of excellence such as the University of Rwanda.

Table 1: Project components and sub-components

<i>Components</i>	<i>Sub-components</i>	<i>Key activities</i>	<i>Scale of intervention</i>
Component 1: Landscape restoration and stabilization.	(i) Supporting plantation of Agroforestry tree species in exposed degraded agricultural lands, watersheds and riverbanks	Production, planting and maintenance of 8,943,750 seedlings of agroforestry, watersheds and riverbanks protection	59,625 ha
		Production and supply of 750,000 Fruit trees	375 ha
	(ii) Supporting diversification of tree species in Agroforestry systems	Diversification of 9,693,750 of Agroforestry tree species	60,000 ha
	(iii) Supporting the dissemination of improved cooking stoves in targeted households to decrease pressure on trees.	Distribution of improved cooking stoves in the area of intervention (service providers will follow EDCL requirements and will present certificates of EDCL)	120,000 households
Component 2: Rural community livelihood and sustainable AF value chain development.	(i) Strengthening research in the Agroforestry value chain from seeds to end products	-Development of technical guidelines for the trees nursery (fruit trees and other agroforestry trees Production). -Establishment of model tree nursery in 71 Sectors of the intervention and their management.	For 8 districts
	(ii) Supporting the development and enhancement of agroforestry value chains	-Strengthen existing champion cooperatives in agroforestry and agriculture value chain; -Train project beneficiaries on timber and non-timber products,	8 Cooperatives will be supported

Components	Sub-components	Key activities	Scale of intervention
		- Support cooperatives initiatives under timber and non-timber value chain development	
	(iii) Supporting Alternative livelihoods.	Supporting livelihoods through livestock to improve soil fertility and income generation in the community	50,000 household
Component 3: Institutional and Community adaptive skills and capacities for AF development.	(i) AF priority skills development and technology transfer	- Training of different stakeholders on agroforestry technology and GIS application in Landscape Restoration, - Organize study tours	- District staff related to the project and Sector staff - Private operator in tree nursery management
	(ii) Establishing incentive mechanisms for the adoption of AF practices by producers	-Consultancy service on establishment of incentive mechanisms for the adoption of Agroforestry practices by producers -Organize farmers competition and awarding the best performers in adoption of Agroforestry practices	RFA and District
	(iii) Jointly coordinating AF interventions with a focus on degraded land to improve services and production.	-Coordination meetings, -Stakeholder working group meetings; -Consultative meetings	RFA, District level and Community level
Component 4:	(i) MoE oversight and quality assurance role	-MoE oversight and quality assurance role;	MoE

<i>Components</i>	<i>Sub-components</i>	<i>Key activities</i>	<i>Scale of intervention</i>
Project management and coordination.	(ii) Project audits (annually carried out), mid-term review, completion, accounting and financial management reports, field verifications and M&E reports	-Program Mid-term review; -Program completion report; -Field Verifications and M&E Reports;	RFA
	(iii) Production of knowledge management products	-Production Knowledge Management on agroforestry promotion	RFA
	(iv) PIU (personnel and operations)	-PMU staff + District Officers' salaries; -12 laptops; -3 vehicles pick up 4X4; -Vehicles running costs (3*5 years); -4 motorcycles -motorcycles running costs (3*5 years); -Telecommunications; -Office suppliers; -Printer (all in one) [2-3 in 5years]	RFA

2.5 Project Beneficiaries

Direct Project beneficiaries in terms of land-based investments are the populations of the Northern and Southern provinces of Rwanda. For the Northern Province – Gakenke district; and for the Southern Province – Muhanga, Ruhango, Nyanza, Nyaruguru, Gisagara, Kamonyi and Huye districts. Populations of these districts find it difficult to cope with the challenges of climate change, land degradation, deforestation, food insecurity and low income. They also find it difficult to cater for basic needs such as fuel for cooking and access to finance for investment. The majority of these populations are poor (especially women, youth, and smallholder farmers) and mainly rely on forest resources for their livelihoods. The **major challenge however is the high rate of land degradation and soil nutrient loss through water erosion**. The Project is expected to rehabilitate

60,000 Ha of agroforestry lands and improve living conditions for at least 250,000 beneficiaries in the target districts.

This will be achieved by improving communities' access to climate-smart technologies, including; stabilized landscapes, improved tree reproductive materials, perennial fodder for cattle, markets, and value-adding agroforestry and silvo-pastoral products sustainably, resulting in improved livelihoods.

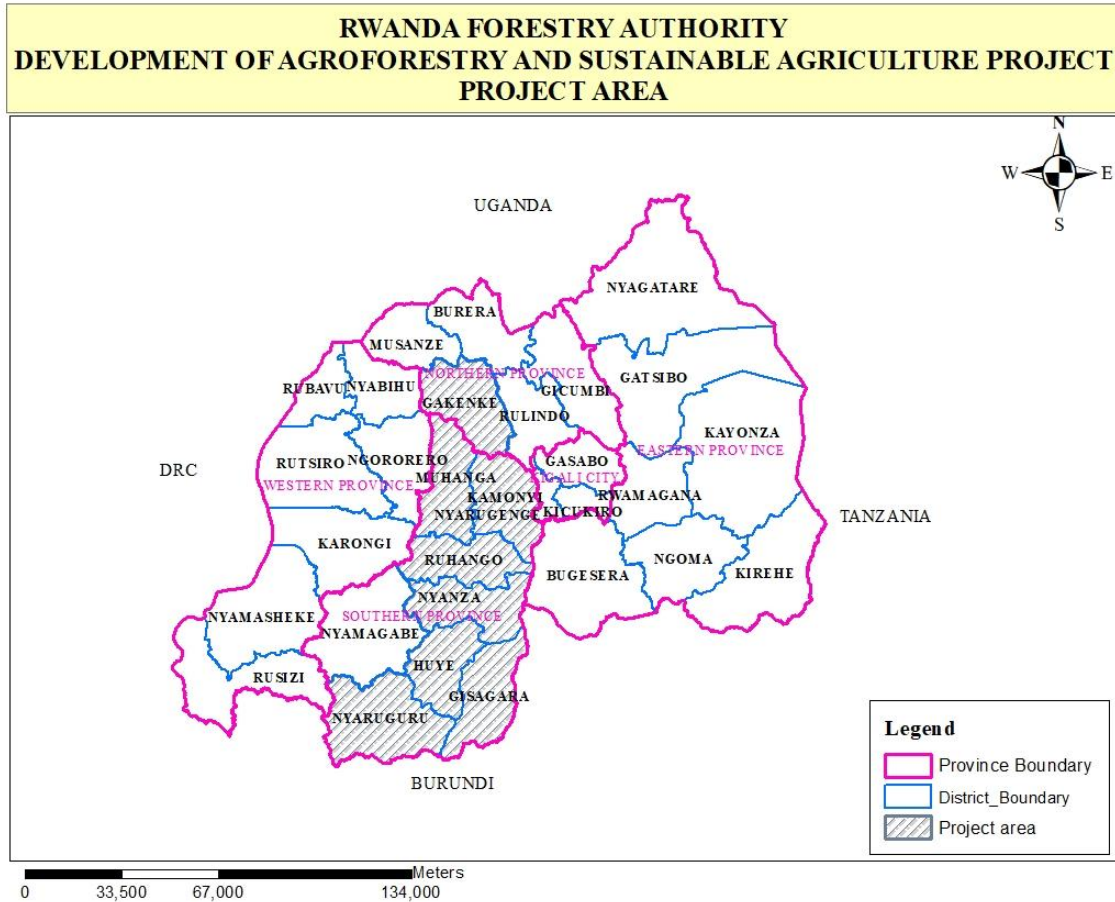


Figure 1: map of Rwanda showing FIP project area (source: RFA)

The project will intervene in seven districts and selected sectors within the southern province plus one district in the Northern Province.

Table 2: List of districts and sectors for project intervention

Districts	Sectors
Gakenke	Kivuruga, Coko, Rushahsi, Busengo, Mugunga, Rusasa, Janja, Muhondo, Ruli, Minazi, Gashenyi, Gakenke, Kamubuga
Ruhango	Ruhango, Bweramana, Kabagari, Kinihira, Mwendu
Nyanza	Nyagisozi, mukingo, busasamana, rwabicuma
Huye	Kinazi, Ruhashya, Rwaniro, Rusatira, Huye, Mukura
Gisagara	Gikonko, Gishubi, Kansi, Kibilizi, Kigembe, Mamba, Mukindo, Muganza, Mugombwa, Musha, Ndora, Nyanza, Save
Nyaruguru	Busanze, Ruheru, Nyabimata, Kivu, Muganza, Kibeho, Ruramba, Munini, Kibeho, Cyahinda, Rusenge
Muhanga	Nyabinoni, kibangu, kabacuzi, kiyumba, muhanga, mushishiro, nyarusange, rugendabari, rongi, cyeza, shyogwe
Kamonyi	Kayenzi, Ngamba, Kayumbu, Rukoma, Runda, Musambira, Karama Nyarubaka

3. POLICY, LEGAL, REGULATORY, STRATEGIES AND INSTITUTIONAL FRAMEWORK

3.1. THE CONSTITUTION OF THE REPUBLIC OF RWANDA 2003 REVISED IN 2015

As the supreme law of the country, the constitution of the Republic of Rwanda stipulates that the state shall protect important natural resources, including land, water, air, wetlands, minerals, oil, fauna and flora on behalf of the people of Rwanda. This constitution entrusts the government with the duty of ensuring that Rwandese enjoy a clean and healthy environment. Among other articles related to environments are:

- Article 22: Right to a clean environment: Everyone has the right to live in a clean and healthy environment.
- Article 53: states that everyone has the duty to protect safeguard and promote the environment. The State ensures the protection of the environment. A law determines modalities for protecting, conserving and promoting the environment.
- Article 34: Right to private property: Everyone has the right to private property, whether individually or collectively owned. Private property, whether owned individually or collectively, is inviolable. The right to property shall not be encroached upon except in public interest and in accordance with the provisions of the law.
- Article 35: Private ownership of land and other rights related to land are granted by the State. A law determines modalities of concession, transfer and use of land.

3.2. LEGAL AND POLICY FRAMEWORK AND STRATEGIES

This section of the ESMF outlines the agroforestry context in Rwanda based on the existing policies, legislations and institutions and identifies requirements as well as gaps of the relevant legal and institutional arrangements that would impede or guide the development of the project in line with the applicable national and international laws and, more concretely, with the Government of Rwanda environmental and social safeguards policies and standards, as well as the AfDB Integrated Safeguards System (ISS) and Environmental and Social Assessment Procedure (ESAP) applicable to the project.

3.2.1. National Strategies

The Republic of Rwanda has developed a series of policy and strategies, legal instruments and institutional framework for environmental and social protection. The strategies and action plans that reflect the national priorities for Environmental Natural Resources (ENR) sector that are in line with the Rwanda's National Transformation (NST1), a medium-term framework for achieving the country's long term development aspirations as embodied in Rwanda Vision 2050, and the Sustainable Development Goals (SDGs) priorities.

The policy documents that directly impact agroforestry include National Agroforestry Strategy (2018-2027) and policy documents on Forestry, Agroforestry, Agriculture & PST4, Biodiversity, Environment, and Sustainable Land Use, Green Growth and Climate Resilience Strategy along with their national laws to implement those policies.

3.2.1.1 Vision 2050

Vision 2050 aspires to take Rwanda beyond high income to high living standards. Its income targets are to attain upper middle-income country status by 2035 and high-income status by 2050 with an objective of providing high-quality livelihoods and living standards. Agroforestry is fitting well in its first pillar entitled “Sustained food security and quality nutrition” where agriculture plays a prominent role in both economic growth and poverty reduction through food security, nutrition, exports, industry and services sectors. Agroforestry is one the key interventions to ensure environmentally friendly and climate resilient agriculture with the main goal to ensure that trees are managed together with crops or animal production to enhance their productivity.

3.2.1.2 National Strategy for Transformation (NST1)

NST1/Seven Years Government Program (2017-2024) sets the priorities to meet economic and social transformation to meet economic growth and healthy living standards. In that regard, Agroforestry can contribute to the following priorities: Modernize and increase the productivity of agriculture and livestock, promote sustainable management of the environment and natural resources to transition Rwanda towards a Green Economy and Eradication of poverty and malnutrition. The agroforestry is recognized to contribute to (1) sustaining the development of an intensified and productive agriculture, through the provision of ecosystem services and the diversification of the production, and (2) the private sector based rural economy through boosted value chain of agroforestry products (fuel wood, charcoal, fruits, etc.) by orienting tree species planted towards commercially viability.

3.2.1.3 Green Growth and Climate Resilience Strategy (GGCRS)

Agroforestry is among major components of the vision of the Green Growth and Climate Resilience Strategy (2011) to achieve a climate-resilient, low-carbon economy by 2050. Given the limited capacity to expand forests plantations, while the majority of the population depends on wood for cooking and will continue to do so until electricity is available and affordable for all, Agroforestry provide opportunity for wood for fuel and social protection while avoiding deforestation and other multiples environmental benefits reduced soil erosion and increased resilience to heavy rains through improved slope stability; water management and nutrient recycling which improve agricultural production; and carbon sequestration.

3.2.1.4 Forestry Policy 2018 and Forest Sector Strategic Plan (2018-2024)

Forestry policy has a vision to manage forest resources to play an integral role in supporting Rwanda's development goals for sustainable, low-carbon and climate resilient to improve livelihoods of present and future generations. The adoption of Agroforestry and Trees Outside Forest (TOFo) techniques will be enhanced to contribute to overall forest resources and agriculture productivity.

Moreover, agroforestry has gained importance in the new Forest Sector Strategic Plan (FSSP) 2018-2024. The plan recognizes that, in order to address the issue of imbalance between forestry demand and supply, one solution is to increase tree resources on agricultural land through support and dissemination of adequate agroforestry practices. Consistently, it recognizes the management of the land scarcity for agricultural development, which is conflicting with the need of lands for settlement and forest establishment. Therefore, the FSSP 2018-2024 emphasizes the increased number of scattered trees on cropland and agroforestry areas up to 50 trees/ha by developing and intensifying agroforestry techniques on all suitable lands.

3.2.1.5 Forestry Research strategy and guidelines for Rwanda (2018-2024)

The Forestry Research Strategy is an integral part of the overall forestry sector strategic plan (FSSP, 2018 – 2024) and its goal of strengthening forest institutions through research and education in order to sustainably manage Rwanda's forests for the current and future needs. It is a strategic component at the heart of sustainable forest production, utilization and biodiversity conservation. Knowledge and evidences produced by forestry research are critically needed to sustain forest management and to efficiently use of the national forestry resources. The research strategy generates solutions for how greater resilience to climate change can be achieved, establishes how the benefits from forests will be sustained for future generations, and how wood and timber products can play their role in a sustainable, low carbon and resource-efficient economy. The strategy stems to the expected outcome of the forestry sector strategic plan, and establishes researchable areas that produces needed information that addresses Rwanda's forest challenges.

3.2.1.6 National Agroforestry Strategy (2018-2027)

Agroforestry Strategy and Action Plan (2018- 2027)" was developed to support the development of agroforestry in Rwanda. The strategy created a roadmap for promoting leadership and synergies in agroforestry and engaging coordinated actions to increase the adoption of agroforestry technologies at Rwanda's agricultural landscapes and watersheds in order to balance agricultural production with natural resources management. Agroforestry practices are on the forefront to increase agricultural production, reduce soil erosion and nutrient depletion, and provide suitable wood fuel while preserving natural forests and enhanced protection of watersheds on several hectares of sloping lands. These practices are key components of landscape management.

Agroforestry presents an opportunity to address agricultural and natural resources conservation challenges and improve livelihoods of smallholder farmers. Priority actions are formulated in six interconnected thematic areas formulated as follow:

- Creating Policy and Institutional Framework for Agroforestry,

- Innovative Research and Knowledge for Agroforestry Development,
- Strengthening Communication and Extension for Agroforestry Adoption and Scaling-Up,
- Promotion of priority Agroforestry Practices,
- Marketing of Agroforestry Products and Development of their Value Chains, and
- Empowering Women and Youth through Agroforestry Development

3.2.1.7 National Tree Reproductive Materials Strategy 2018 – 2024

The National Tree Reproductive Materials Strategy aims at boosting the sustainable production and supply of genetically adapted tree reproductive materials (TRMs) for the establishment of healthy and productive forest and agroforestry plantations that secure goods and services for enhanced socio-economic development and environmental protection in Rwanda. The Strategy recognizes the need for adapted high quality tree planting materials and comprehensive quality assurance mechanisms to increase availability of quality planting materials suited to different agro ecological regions of the country. Through the implementation of this Strategy, outstanding regulatory and institutional reforms will be carried out in order to create public-private partnerships in the production, processing, storage, certification and distribution. At the same time, capacity of both public and private actors and stakeholders will be built to ensure efficient and effective fulfilment of functions and mandates in TRM value/supply chain. The public research shall remain an important source of adapted, secure and productive TRMs addressing local needs and a repository of plant genetic resources. As the strategic actions are implemented, the TRMs sector is expected to become an attractive business that is responsive to afforestation, reforestation and forest landscape restoration needs in the country. The Government of Rwanda shall provide an enabling environment to promote private sector investments in TRM production, distribution and research.

3.2.2 National policy framework

3.2.2.1 Agriculture policy 2017 and Strategic Plan for the Transformation of Agricultural in Rwanda (PSTA) (2018-2024)

Agriculture policy: The agriculture sector holds a key role in sustaining efforts to improve agricultural productivity and addresses the challenge of soil degradation through promotion of agroforestry practices as highlighted in its policy action 3 regarding “Restore, preserve and enhance landscapes and natural resources by, promoting sustainable farming practices and livelihoods” where Agroforestry is key to achieve that action.

In addition, (PSTA II, III and PSTA IV) considers agroforestry as a tool for soil conservation and land husbandry. It recognizes that agroforestry is important for reducing soil erosion, increasing the economic returns from the land and providing fuelwood. In response to these objectives, MINAGRI develops and implements strategic plans that incorporate agroforestry as a component of agricultural strategy for soil and land protection.

3.2.2.2 The National Environment and Climate Change Policy 2018

The proposed goal of Environment and Climate Change Policy is: “Rwanda to be a nation that has a clean and healthy environment, resilient to climate variability and change that supports a high quality of life for its society.” It provides strategic direction and responses to the emerging issues and critical challenges in environmental management and climate change adaptation and mitigation. Where agroforestry plays a critical role in rehabilitation of degraded areas, carbon sequestration and climate change adaptation.

3.2.2.3 Biodiversity Policy 2011

Established in 2011 with the main goal of the Policy is: to conserve Rwanda’s biological diversity, to sustain the integrity, health and productivity of its ecosystems and ecological processes, whilst providing lasting development benefits to the nation through the ecologically sustainable, socially equitable, and economically efficient use of biological resources. Agroforestry has the potential to contribute to sustainable management of agro-biodiversity by increasing species diversification through the integration of biodiversity conservation into agricultural practices (agriculture, pastoralism and agroforestry) for its maintenance, and can contribute to multiple ecological and socio-economic benefits.

3.2.2.4 National Biodiversity Strategy and Action Plan 2016

The revised National Biodiversity Strategy and Action Plan (NBSAP) is a key tool for the implementation of the Convention on Biological Diversity (CBD) objectives and the Aichi Targets. It has been developed based on national needs and priorities for biodiversity conservation, in response to threats that are facing biological resources at country level. The major objectives of the NBSAP are: to improve environmental stability for natural ecosystems and their biodiversity; to restore degraded ecosystems and maintain equilibrium among biological communities; to establish an appropriate framework for access to genetic resources and equitable sharing of benefits arising from biodiversity use and ecosystems services; and to improve policy, legal and institutional framework for a better management and conservation of national biodiversity. to mainstream gender issues into biodiversity planning and capacity building activities.

3.2.2.5 Rwanda Social Protection policy (2020) and Social Protection policy Strategy 2018-2024

The overall objective of this policy is to strengthen the national social protection system with a view to ensuring that all Rwandan citizens have a dignified standard of living by enabling the government to tackle poverty and inequality across the country, especially challenges such as malnutrition, livelihood shocks, and the existence of extreme poverty. It is built on four pillars of social security, social care services, short term social assistance and livelihood and employment support. These four pillars are grounded in the four guiding principles of Protection, Promotion, Prevention and Transformation. This is critical for the achievement of national and international human welfare thresholds such as the guarantees provided by the Constitution, the United Nations Sustainable Development Goals (SDGs), and international agreements including the Universal Declaration of Human Rights (1948), which identify social protection as a fundamental human right for all citizens.

3.2.2.6 National Gender Policy 2021

The policy vision is a nation that enjoys gender equality and equity towards national and sustainable transformation through ensuring that gender gaps across sectors are addressed through accelerating effective gender mainstreaming, gender responsive interventions, and gender accountability mechanisms in order to positioning Rwanda as a global model in promoting gender equality. The project will work in the same framework by ensuring that gender equality is boosted in all activities.

3.2.2.7 National Land Policy 2019

The overall objective of the national land policy is to strengthen land administration and management to ensure optimal allocation and use of land focusing on addressing the existing gaps or deficiencies in land use planning and mapping, land utilization by various sectors, and land administration and management. The policy is further expected to guide, develop, and monitor the implementation of land use plans; ensure effective and efficient land utilization and management across various sectors such as agriculture, industry, forestry, livestock, human settlement, mining, and other public investment where agroforestry has its place specifically on agriculture land.

3.2.3 National regulatory framework

The National Constitution especially in its article 21,22,35 and 53 state that all Rwandans have the right to good health; Right to a clean environment, right to private ownership of land and lastly Protection of the environment as everyone has the duty to protect, safeguard and promote the environment, generally the State ensures the protection of the environment.

3.2.3.1 The National Forest Law (2013), determining the management and utilization of forests in Rwanda

The article 16 stipulate that the Authority shall establish guidelines for the implementation of the national afforestation and forest management program and make follow up on its implementation. Each District shall determine lands for afforestation and implement the national afforestation and forest management program. Agroforestry trees shall be planted on land reserved for crops and livestock. Instructions of the Minister shall set up the guidelines for the selection of agroforestry tree species and determine application modalities.

3.2.3.2 The Organic law (land) which ensure the implementation of land use

Article 3 of this law stipulates that land is part of the public domain of all Rwandans; ancestors, present and future generations. With exceptions of the rights given to people, the state has supreme powers to manage all the national land. This is done in the public interest aimed at sustainable, economic development and social welfare, in accordance with procedures provided for by law. In that regard, it is the state that guarantees the right to own and use the land.

The state also has rights to expropriation due to public interest, settlement and general land management through procedures provided by law and after appropriate compensation.

3.2.3.3 Law n°48/2018 of 13/08/2018 on Environment determining modalities for protecting, conserving and promoting the environment.

The law sets out the general legal framework for environment protection and management in Rwanda. The law determines the modalities of protecting, conserving and promoting the environment. Chapter V of the Organic Law Article 30 clearly calls for the need to subject projects to mandatory Environmental Impact Assessment (EIA). The list of projects that must undergo an environmental impact assessment before they obtain authorization for their implementation is established by an Order of the Minister (**order N° 003/2008**). An Order of the Minister also issues instructions and procedures for conducting environmental impact assessment.

3.2.3.4 Law n° 064/2021 of 14/10/2021 governing Biological Diversity with the purpose to conserve, manage, protect and promote biological diversity.

In its chapter IV, article 13, it stipulated that every person has the duty to defend, protect, conserve and promote the biological diversity. Therefore, activities which will be undertaken within the FIP project have the obligation of protection and management of biodiversity on site where they will be implemented.

3.2.3.5 Expropriation law

The law determines the modalities and the procedures relating to expropriation in the public interest. It states that only the Government shall carry out expropriation. Expropriation as provided for in this law shall be carried out only in the public interest and with prior and just compensation. Every project, at any level, which intends to carry out acts of expropriation in the public interest, shall provide funds for inventory of assets of the person to be expropriated and for just compensation on its budget.

Article 3 stipulates that expropriation can only be carried out by Government and only in the public interest and with prior fair and just compensation. Underground or surface activity may be carried out with a public interest aim, on land belonging to a person. No landowner is permitted to oppose such activity. In the event that the activity causes any loss to the landowner, he shall receive fair and just compensation for it.

3.2.3.6 Law no 66/2018 regulating labor in Rwanda stipulates several provisions for employment contract, Occupational Health and Safety (OHS) and general working conditions.

In its **article 6** state that it is prohibited to subject a child below the age of eighteen (18) years to any of the following forms of work:

- forms of work which are physically harmful to the child.
- work with dangerous machinery, equipment and tools, or which involves the manual handling or transport of heavy loads.
- work in an environment which exposes the child to temperatures, noise levels or vibrations damaging to his/her health

Article 8: state that Sexual harassment in any form against supervisee is prohibited.

3.2.3.7 Ministerial Order N°02 of 17/05/2012 determining conditions for occupational health and safety

Purpose of this Order

This Order determine the general and specific rules and regulations relating to health and safety at workplace in order to secure the safety, health and welfare of persons at work and protect them against risks to safety and health arising from work. It also determines the types of works prohibited for pregnant or breastfeeding women.

Scope

This Order shall apply to workers in formal and informal sectors and self-employed persons. Enterprises may request practical guidance from competent authority when they want to set up regulations on safety and health.

3.2.3.8 The Law No 59/2008 of 10/09/2008 on prevention and punishment of gender-based violence: This Law is aimed at preventing and suppressing the gender- based violence, defined as:

Gender Based Violence: any act that result in a bodily, psychological, sexual and economic harm to somebody just because they are female or male. Such act results in the deprivation of freedom and negative consequences. This violence may be exercised within or outside households them.

In its article 2, the law states that it is forbidden to use threat of depriving someone of certain rights for the purpose of having them indulge in any gender-based violence act.

3.2.3.9 EIA Guidelines for Rwanda, 2006

EIA guidelines serve as a protocol for use by various stakeholders involved in the conduct of environmental impact assessment. Guidance is needed of a more technical nature to streamline the conduct of EIA and appraisal of EIA reports. As such, the establishment of “*General Guidelines and Procedures for Environmental Impact Assessment*”, which unifies the legal requirements with the practical conduct of EIA, meets a need in the pursuit for sustainable development in Rwanda.

Final Environmental and Social Management Framework for Development of agroforestry and sustainable agriculture project under forestry investment programme (FIP) in Rwanda (ESMF) November, 2022

EIA is a tool for prevention and control of environmental impacts caused by socio-economic development. The “*General Guidelines and Procedures for Environmental Impact Assessment*” were prepared to contribute to improvement of EIA practice in Rwanda and they aim to serve agencies and individuals taking part in the EIA process. These guidelines were designed to ensure that participants in the EIA process understand their roles and that laws and regulations be interpreted correctly and consistently.

Two main principles underlie these general guidelines:

- they comply with the legal and institutional frameworks on environmental protection in Rwanda, and;
- They contribute to improvement of quality and efficiency of EIA process in the country, and as such merge, step by step, with general global trends and practice of conducting EIA.

These general guidelines were developed with the aim of providing necessary information when carrying out an environment impact assessment.

General EIA Guidelines for Rwanda, 2009: These guidelines were developed by REMA in August 2009 in order to assist projects developers, Contractors and EIA practitioners.

An EIA process in Rwanda includes 5 steps: (i) project application and registration, (ii) screening, coping and terms of reference, (iii) EIA study and report, (iv) submission of an EIA report and finally (v) decision making. Screening enables categorisation of projects according to their Impact Level (IL) as follows:

Category 1: (Impact level IL1): Full EIA/ESIA is required. For this category, the project has potential significant adverse environmental or social risks or impact that are diverse, irreversible, or unprecedented.

Category 2: (Impact level IL2): The proposed projects under this category are screened to determine whether or not a full EIA is needed.

In this connection, RDB provides the developer with clear indication of the additional information required. Once this information is received, RDB will determine whether or not a full EIA of the project is needed.

Category 1: (Impact level IL1): Full EIA not required. Rwanda Development Board (RDB) advises on the appropriate environmental and social management measures (plan). The Exercise may take 14 days from the day received the project brief; (days may be less or more depending on the nature of the project);

3.3 INTERNATIONAL TREATIES IN CONTEXT OF AGROFORESTRY

Rwanda is a signatory to a number of conventions on sustainable development and is a member of various bilateral and multilateral organizations. Some of the relevant development partners in this

project are the African Development Bank. Recognizing that Agroforestry provides a unique opportunity to address climate change, land degradation and loss of biodiversity while contributing to national and regional development aspirations, targets, and commitments.

The contribution of agroforestry to sustainable development has been recognized in international policy, including the Convention to Combat Desertification (UNCCD), Convention on Biological Diversity (CBD), and the United Nations Framework Convention on Climate Change (UNFCCC), African Agreement on the nature conservation and natural resources, African Agenda 63, Specifically Agroforestry is an important in:

- The Bonn Challenge (2011), the global aspiration to restore 150 million hectares of the world's deforested and degraded lands by 2020 and 350 million hectares by 2030. Rwanda pledged to restore 2 million countrywide by 2020 (Rwanda National Forest Policy, 2018); through forest landscape restoration approach, which aims to restore ecological integrity at the same time as improving human wellbeing through multifunctional landscapes. Agroforestry systems are considered as one of the restoration opportunities to explore in order to restore large contiguous tracts of degraded or fragmented forest land, while enhancing soils, meeting energy needs and improving food security.
- The UNCCD which calls for land degradation neutrality. To achieve it, degradation of productive land should be avoided and already degraded lands need to be restored, with these targets: zero net land degradation by 2030 for 190 million hectares and zero net forest degradation by 2030. Agroforestry has been proven as an excellent choice for reversing land degradation, which meets multiple goals.
- UNFCCC and Paris agreement through Rwanda's Nationally Determined Contributions (NDC) where it puts a strong emphasis on sustainable forestry, agroforestry and biomass energy as one of the programmes under which specific actions are implemented to achieve direct and indirect mitigation benefits. Agroforestry has been identified as one of the land uses with most potential to fulfill commitments set out in NDC and reduce emission from agriculture. In line with UNFCCC, agroforestry is expected to contribute directly to reducing emissions from deforestation and forest degradation. Agroforestry has the merit to indirectly contribute to REDD+ strategies by avoiding deforestation through sustainable intensification and diversification and by avoiding forest degradation as farm trees can relieve forests of the pressure arising from demand for fuel wood, charcoal, and timber that are some major causes of forest degradation.
- SDGs; Agroforestry can contribute to implementation of 9 out of the 17. Agroforestry has the strongest impact potential on poverty reduction (SDG 1) and hunger alleviation (SDG 2), as well as on climate action (SDG 13), and biodiversity conservation and sustainable land management (SDG 15). In addition, the report shows that agroforestry can contribute to other goals by improving gender equality (SDG 5) and health (SDG 3), as well as by increasing access to clean water (SDG 6), sustainable energy solutions (SDG 7), and responsible agricultural production (SDG 12).

- The African Landscape Restoration Initiative (AFR100) which seeks to bring 100 million hectares of deforested and degraded landscapes across Africa into restoration by 2030. Through this initiative, national governments, regional institutions, public and private sector partners and international development programs greatly recognize agroforestry systems as valuable options for restoring degraded landscapes in restoration plans and policies.
- African Agreement on the Nature Conservation and Natural Resources whose objectives are: to enhance environmental protection; to foster the conservation and sustainable use of natural resources; and to harmonize and coordinate policies in these fields with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programmes. Agroforestry is key to achieving the first two objectives.
- Agenda 2063: The Africa We Want where aspiration of a Prosperous Africa, based on Inclusive Growth and Sustainable Development; Agroforestry can play a potential role to achieve modern Agriculture for increased productivity and production and environmentally sustainable and climate resilient economies and communities.
- African Development Bank Environmental and Social Assessment Procedures (ESAP) the key purpose of the ESAP is to improve decision-making and project results by ensuring that Bank-financed operations conform to the requirements laid out in the OSs and are thus sustainable. ESAP requires that environmental, climate change and social considerations are assessed early in the Project Cycle and are reflected in project selection, site selection, planning and design. In this regard the ESMF is developed to integrate Environmental and Social Safeguards in Agroforestry implementation through this project.

3.4 INSTITUTIONAL FRAMEWORK

In Rwanda, the implementation of agroforestry strategy and related policies involves several stakeholders, including government state institutions, NGOs, civil society, the private sector, decentralized entities and donors. Specifically, the coordination is ensured by the Ministry of Environment (MoE) in conjunction with the Ministry of Agriculture (MINAGRI). The table 3 below provides a summary of key institutions and their roles / responsibilities.

Table 3: Key institutions and their roles / responsibilities in ESMF implementation

Institution	Role and/or Function
Ministry of Environment (MoE)	Overall responsibility for environment, climate change resilience and natural resources management by establishing legal and policy framework including Agroforestry tools
Rwanda Forestry Authority (RFA)	Ensure sustainable forest and agroforestry management, by availing planting materials, researches and management of planted trees to ensure they serve their purposes. RFA is the overall implanting agency, it means will liaise with district staff specialized in agroforestry and forestry, sector agronomists and local farmers for a close follow up of the project implementation.
Rwanda Environment Management Authority (REMA)	Regulatory authority for national environmental protection, conservation, promotion and overall management, including advising the government on all matters pertinent to the environment and climate change where Agroforestry play a key role in environment rehabilitation and climate mitigation and adaptation. REMA will also monitor the project implementation in a sense of execution of the mitigation measures that will be proposed in ESIA/ESMP
National Land Authority (NLA)	Land-use planning by setting aside land for agriculture and for conservation
Ministry of Local Government (MINALOC).	Formulating national policies and laws on decentralisation and local governance – Supervising District authorities which are responsible for the proposed project development. Assist the project implementing agency to execute the project planned activities (by availing district staff specialists in forest and agroforestry).
Rwanda Land Authority	Land registration and land use planning throughout the country. Compensation and resettlement will depend on legal ownership.
Ministry of Agriculture and Livestock Development (MINAGRI)	Overall responsibility to coordinate the planning and implementation of all projects and programmes in the agricultural sector. The key strategic thrusts of agricultural development include: (i) diversification and intensification of plant, animal and fish production and (ii) sustainable management of natural resources, particularly soil and water and conservation of agro-biodiversity.
Rwanda Agriculture Board (RAB)	Responsible for coordination of agricultural research and promotion of science-based technology for sustainable agriculture development, post-harvest management, land conservation and water management which involve agroforestry technologies.

Institution	Role and/or Function
Rwanda Development Board (RDB)	In order to facilitate the investors, RDB has been given the responsibility of reviewing the ESIA reports, providing environmental compliance certificates to development projects. Therefore RDB will clear the ESIA report that is under preparation and will issue the certificate with conditions to be followed.
Rwanda Standards Board (RSB)	RSB has a mission to provide standards-based solutions for consumer protection and trade promotion for socio-economic growth in a safe and stable environment in Rwanda. The species which will be selected for planting should be have examined and licensed.
Ministry of Finance and Economic Planning (MINECOFIN)	Mobilization of funds for the implementation of the Agroforestry strategies and related policies
University of Rwanda	Has two colleges that directly deal with biodiversity and agrobiodiversity: College of Agriculture, Animal Sciences and Veterinary Medicine and the College of Science and Technology. Offers programs and degrees in Agroforestry, forestry and soil management. They should be engaged in selection of tree species.
Local Administration	Involvement in Agroforestry through policy implementation, law enforcement and community awareness raising.
Private sector	Investment development and financial support through agroforestry value chain (i.e., Seeds harvesting, Nursery preparation, fruits, timber, supply of cooking stoves) to promote agroforestry.
Donors and funding organizations (AfDB, World Bank, GEF, SIDA...)	Provide funds and backstopping for agroforestry and research related projects, capacity building and education programs, etc.
NGOs and Civil society organizations (IUCN, ARCOS Network, World Vision, ICRAF, Vi Agroforestry, One Acre Fund, RENGOF members).	Provide support to Agroforestry through Research, training and awareness, research, monitoring, community incentives.

3.5 THE AFRICAN DEVELOPMENT BANK ENVIRONMENTAL AND SOCIAL POLICIES, PROCEDURES AND STANDARDS

The environmental and social safeguards of the African Development Bank (AfDB, or the Bank) are a cornerstone of the Bank's support for inclusive economic growth and environmental sustainability in Africa. As the Bank adapts to emerging environmental and social development challenges, safeguards can quickly become out of date. To this end, AfDB has developed an Integrated Safeguards System (ISS) based on the two previous safeguard policies namely; Involuntary Resettlement (2003) and Environment (2004) and other three cross-cutting policies and strategies: Gender (2001), the Climate Risk management and Adaptation Strategy (2009) and the Civil Society Engagement Framework (2012).

Bank's sector policies: Health (1996), Integrated Water Resources Management (2000), Agriculture and Rural Development (2000, 2010), and Poverty Reduction (2004). It brings these policies and strategies into a consolidated framework that is intended to enhance the effectiveness and relevance of the Bank's work. The ISS consists of four interrelated components;

- ***The Integrated Safeguards Policy Statement*** – Describes common objectives of the Bank's safeguards and lays out policy principles. It is designed to be applied to current and future lending modalities, and it takes into account the various capacities and needs of regional member countries in both the public and private sectors.
- ***Operational Safeguards (OSs)*** – are a set of five safeguard requirements that Bank clients are expected to meet when addressing social and environmental impacts and risks.
- ***Environmental and Social Assessment Procedures (ESAPs)*** – provide guidance on the specific procedures that the Bank and its borrowers or clients should follow to ensure that Bank operations meet the requirements of the OSs at each stage of the Bank's project cycle.
- ***Integrated Environmental and Social Impact Assessment (IESIA)*** – Guidance Notes provide technical guidance to the Bank's borrowers or clients on standards on sector issues, such as roads and railways, hydropower, or fisheries, or on methodological approaches, clients or borrowers are expected to adopt to meet OS standards.

The operational safeguards are the major components of the Bank's ISS intended for:

- Better integrate considerations of environmental and social impacts into Bank operations to promote sustainability and long-term development in Africa.
- Prevent projects from adversely affecting the environment and local communities or, where prevention is not possible, minimize, mitigate and/or compensate for adverse effects and maximize development benefits.
- Systematically consider the impact of climate change on the sustainability of investment projects and the contribution of projects to global greenhouse gas emissions.

- Delineate the roles and responsibilities of the Bank and its borrowers or clients in implementing projects, achieving sustainable outcomes, and promoting local participation.
- Assist regional member countries and borrowers/ clients in strengthening their own safeguards systems and their capacity to manage environmental and social risks.

3.5.1 The 2013 Integrated Safeguards Systems (ISS) of the AfDB

Environmental and Social sustainability is a key to economic growth and poverty reduction in Africa. The Bank’s Strategy for 2013-2022 emphasizes the need to assist regional member countries in their efforts to achieve inclusive growth and transition to green growth. In addition, the Bank is committed to ensuring the social and environmental sustainability of the projects it supports. The ISS is designed to promote the sustainability of project outcomes by protecting the environment and people from the potentially adverse impacts of projects. The safeguards aim to:

- To identify and assess the environmental and social impacts (including gender) and climate change vulnerability issues of Bank lending and grant-financed operations in their area of influence;
- Avoid adverse impacts of projects on the environment and affected people, while maximizing potential development benefits to the extent possible;
- Minimize, mitigate, and/ or compensate for adverse impacts on the environment and affected people when avoidance is not possible;
- Ensure that affected communities have timely access to information in suitable forms;
- About Bank operations and are consulted meaningfully about issues that may affect them;
- Help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks; and
- The Bank requires that borrowers/ clients comply with these safeguards’ requirements during project preparation and implementation. The Integrated Safeguards Policy Statement sets out the basic tenets that guide and underpin the Bank’s approach to environmental safeguards.

Operational Safeguard of the African Development Bank

The AfDB (the Bank) has adopted five OSs, limiting their number to just what is required to achieve the goals and optimal functioning of the ISS. **All the following OSs are triggered by the project.**

i) Operational safeguard 1 (OS1): Environmental and Social Assessment:

This OS1 is the overarching safeguard that governs the process of determining a project’s environmental and social category and the resulting environmental and social assessment requirements. The objective is to mainstream environmental and social considerations—including

those related to climate change vulnerability—into Bank operations and thereby contribute to sustainable development in the region. It also ensures that appropriate decisions are taken through a comprehensive analysis of various activities and their respective likely impacts.

The specific objectives are to:

- Mainstream environmental, climate change, and social considerations into Country Strategy Papers (CSPs) and Regional Integration Strategy Papers (RISPs);
- Identify and assess the environmental and social impacts and risks—including those related to gender, climate change, and vulnerability—of Bank lending and grant-financed operations in their areas of influence;
- Avoid or, if avoidance is not possible, minimize, mitigate and compensate for adverse impacts on the environment and affected communities;
- Provide for stakeholders’ participation during the consultation process so that affected communities and stakeholders have timely access to information in suitable forms about Bank operations, and are consulted meaningfully about issues that may affect them;
- Ensure the effective management of environmental and social risks in projects during and after implementation; and
- Contribute to strengthening regional member country (RMC) systems for environmental and social risk management by assessing and building their capacity to meet AfDB requirements set out in the Integrated Safeguards System (ISS).

This section covers areas related to the general environment i.e., physical (land, water, air, climate.), socio-economic and cultural (occupational, gender, human well-being, and safety; physical cultural resources) of the community, Trans boundary, global impacts including pollution control (greenhouse gas (GHG) emissions), and vulnerability to climate change effects. Environmental and Social Impact Assessment (ESIA) is conducted to identify the various hazards or risk assessments and recommended the respective mitigation measures to be included in the environmental and social management plan (ESMP).

The Borrowers or clients are responsible for conducting the environmental and social assessment (Strategic Environmental and Social Assessment, or SESA, or Environmental and Social Impact Assessment, or ESIA) and for developing, as an integral part of project documentation, an appropriate plan for managing possible impacts and additional actions and assessments. These are Environmental and Social Management Plans; climate change vulnerability assessment; public consultation; community impacts; appraisal and treatment of vulnerable groups; and grievance procedures.

ii) Operational Safeguard 2 (OS2): Involuntary Resettlement: Land Acquisition, Population Displacement, and Compensation

This safeguard consolidates the policy commitments and requirements set out in the Bank’s policy on involuntary resettlement, and it incorporates refinements designed to improve the operational effectiveness of those requirements. In particular, it embraces comprehensive and forward-looking notions of livelihood and assets, accounting for their social, cultural, and economic dimensions. It also adopts a definition of community and common property that emphasizes the need to maintain social cohesion, community structures, and the social inter-linkages that common property provides. The OS2 aims to facilitate the operationalization of the Bank’s 2003 Involuntary Resettlement Policy in the context of the requirements of OS1 and thereby mainstream resettlement considerations into Bank operations.

The specific objectives of this OS 2 are to:

- To avoid involuntary resettlement where feasible, or minimize resettlement impacts where involuntary resettlement is unavoidable, explore all viable project designs;
- To ensure that displaced people receive significant resettlement assistance, preferably under the project, so that their standards of living, income earning capacity, production levels, and overall means of livelihood are improved beyond pre-project levels; and
- To set up a mechanism for monitoring the performance of involuntary resettlement programs in Bank operations and remedying problems as they arise so as to safeguard against ill-prepared and poorly implemented resettlement plans.

The safeguard retains the requirement to provide compensation at full replacement cost; reiterates the importance of resettlement that improves standards of living, income-earning capacity, and overall means of livelihood; and emphasizes the need to ensure that social considerations, such as gender, age, and stakes in the project outcome, do not disenfranchise particular project-affected people

iii) Operational Safeguards 3: Biodiversity and Ecosystem Services

The overarching objective of this safeguard is to conserve biological diversity and promote the sustainable use of natural resources. It translates into OS requirements the Bank’s commitments in its policy on integrated water resources management and the UN Convention on Biological Diversity. The specific objectives of this OS 3 are:

- To preserve biological diversity by avoiding, or if not possible, reducing and minimizing impacts on biodiversity;
- In cases where some impacts are unavoidable, to endeavor to reinstate or restore biodiversity including, where required, the implementation of biodiversity offsets to achieve “not a net loss but net gain” of biodiversity;
- To protect natural, modified, and critical habitats; and

- To sustain the availability and productivity of priority ecosystem services to maintain benefits to the affected communities and to sustain project performance.

The safeguard reflects the importance of biodiversity on the African continent and the value of key ecosystems to the population, emphasizing the need to “respect, conserve and maintain the knowledge, innovations, and practices of indigenous and local communities to protect and encourage customary use of biological resources, in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.

iv) Operational Safeguards 4 _ Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials, and Resource efficiency

This operational safeguard 4 (OS4) outlines the main pollution prevention and control requirements for borrowers or clients to achieve high-quality environmental performance, and efficient and sustainable use of natural resources, over the life of a project (specifically to manage and reduce pollutants). It also covers the range of impacts of pollution, waste, and hazardous materials for which there are agreed-on international conventions and comprehensive industry-specific standards that other multilateral development banks follow. In addition, it introduces vulnerability analysis and monitoring of greenhouse gas emissions levels and provides a detailed analysis of the possible reduction or compensatory measures framework. The objectives of this OS4 are:

- To manage and reduce pollutants likely to be caused by a project so that they shall not pose harmful risks to human health and the environment, including hazardous, nonhazardous waste and GHG emissions; and
- To set a framework for efficiently utilizing all project’s raw materials and natural resources, especially focusing on energy and water.

v) Operational Safeguards 5: Labor Conditions, Health, and Safety

Labor is one of a country’s most important assets in the pursuit of poverty reduction and economic growth. Workers’ rights respect is one of the keystones for developing a strong and productive workforce. This OS 5 outlines the main requirements for borrowers or clients to protect the rights of workers and provide for their basic needs. The objectives of this OS5 are to:

- Protect the workers’ rights and establish, maintain, and improve the Employee/Employer’s relationship;
- Promote compliance with national legal requirements and provide due diligence in case national laws are silent or inconsistent with the OS5;
- Provide broad consistency with the relevant International Labor Organization (ILO) Conventions, ILO Core Labor Standards, and the UNICEF Convention on the Rights of the Child in cases where national laws do not provide equivalent protection;

- To protect the workforce from inequality, social exclusion, child labor, and forced labor; and
- To establish requirements to provide safe and healthy working conditions.

The OS 5 establishes the Bank's requirements for its borrowers or clients concerning workers' conditions, rights, and protection from abuse or exploitation. It covers working conditions, workers' organizations, occupational health and safety, and avoidance of child or forced labor. It also ensures greater harmonization with most other multilateral development banks.

3.5.2 AfDB-Environmental and Social Assessment Procedures

The Bank's existing Environmental and Social Assessment Procedures (ASAP) (approved in 2001) have been revised to reflect the updated information, upgraded processes, and cutting-edge knowledge embodied in the Integrated Safeguards System (ISS). It also addresses the limitations of the existing ESAP and provides a strong procedural basis for the operationalization of the Integrated Safeguards Systems (ISS). It details the specific procedures that the Bank and its borrowers or clients should follow to ensure that Bank operations meet the requirements of the operational safeguards (OSs) at each stage of the Bank's project cycle.

Its adoption and implementation enhance the environmental and social performance of the Bank's operations and improve project outcomes. The ESAP will help to improve decision-making and project results by ensuring that Bank-financed operations conform to the requirements laid out in the operational safeguards (OS) and are thus sustainable. Effective implementation of the ESAP will help to avoid incurring costs and implementation delays as a result of unanticipated problems. It will also reduce the need for project conditionality as remedial measures can be taken in advance and incorporated into project design or project alternatives can be considered.

The ESAP describes the various steps that shall be followed to mainstream cross-cutting issues along the project cycle, from country programming to post-evaluation. The first step consists in developing and updating baseline data on Regional Member Country's environmental and social components, policies, programs, and capacities to better integrate environmental and social dimensions into lending priorities during country programming. During the project identification phase, the screening exercise focuses on the environmental and social dimensions of a project to categorize it in one out of the four following categories.

Category 1: Projects likely to cause significant environmental and social impacts: Category 1 projects are likely to induce significant and/or irreversible adverse environmental and/or social impacts or to significantly affect environmental or social components that the Bank or the borrowing country considers sensitive. Some program-based operations or other regional and sector program loans have significant adverse environmental or social risks and are deemed to be Category 1. In some cases, projects are included in Category 1 because of their potential cumulative impacts or the potential impacts of associated facilities. Any project requiring a Full Resettlement Action Plan (FRAP) under the provisions of the Bank's policy on involuntary Resettlement is also deemed to be a Category 1.

Category 1 program-based operations or regional and sector loans require a SESA, and Category 1 investment projects require an ESIA, both leading to the preparation of an ESMP. For a project requiring a FRAP, the ESIA includes, and-if there are no other issues requiring assessment may be limited to, the social assessment needed to prepare the FRAP.

²Category 2: Projects that likely cause less adverse environmental and social impacts than Category 1: Category 2 projects are likely to have detrimental site-specific environmental and/or social impacts that are less adverse than those of Category 1 projects. Likely impacts are few in number, site-specific, largely reversible, and readily minimized by applying appropriate management and mitigation measures or incorporating internationally recognized design criteria and standards.

An operation that involves resettlement activity for which Resettlement Action Plan (RAP) is required under the ESAPs is **classified as Category 2**. Most programmed-based operations and regional or sector program loans designed to finance a set of subprojects approved and implemented by the borrower or client are included in this category unless the nature, scale, or sensitivity of the intended pipeline of subprojects involves either a high level of environmental and social risk or no such risk.

Category 2 projects require an appropriate level of environmental and social assessment (ESA) for program operations, investment plans, and some corporate loans, or ESIA for investment projects tailored to the expected environmental and social risk so that the borrower will prepare and implement an adequate ESMP (for an investment project) or ESMF (for a program operation), to manage the environmental and social risks of subprojects in compliance with the Bank's operational safeguards.

Category 3: Bank operations with negligible adverse environmental and social risks: Category 3 projects do not directly or indirectly affect the environment adversely and are unlikely to induce adverse social impacts. They do not require an environmental and social assessment. Beyond categorization, no action is required. Nonetheless, to design a Category 3 project properly, it may be necessary to carry out gender analyses, institutional analyses, or other studies on specific, critical social considerations to anticipate and manage unintended impacts on the affected communities.

Category 4: Bank operations involving lending to financial intermediaries: Category 4 projects involve Bank lending to financial intermediaries (FIs) that on-lend or invest in Subprojects that may produce adverse environmental and social impacts. Financial intermediaries include banks, insurance, reinsurance, and leasing companies, microfinance providers, private equity funds, and investment funds that use the Bank's funds to lend or provide equity finance to their clients.

² The proposed project is known as falling in Category 2 according to the Africa Development Bank Categorization because project's potential adverse impacts are reversible and can be mitigated.

Financial intermediaries also include private or public sector companies that receive corporate loans or loans for investment plans from the Bank that are used to finance a set of subprojects. Financial intermediary subprojects equivalent to Category 1 and Category 2 are subject to the relevant OS requirements as if they were directly financed Category 1 or Category 2 projects. However, if a client will use a Bank corporate loan to finance high-risk investment projects known at the time of loan approval, the loan can be considered Category 1 or 4 (1) requiring an ESMS as well as detailed ESA studies. In cases where a Bank corporate loan will be used by the client to finance low-risk investment projects known at the time of loan approval, the loan can be deemed to be Category 2 or 4 (2) requiring an ESMS as well as a detailed ESA study. In cases where a Bank corporate loan will be used by the client to finance no-risk investment projects known at the time of loan approval, the loan can be deemed to be Category 3 or 4 (3) for which no ESA studies are required.

FIs are required to apply the Bank's OSs and equivalent procedures to their subprojects and to comply with local environmental and social requirements. The FI must demonstrate to the Bank that it has developed and will maintain an Environmental and Social Management System (ESMS) that is in line with the Bank's OSs and appropriate for the scale and nature of its operations – recognizing that FIs' operations vary considerably and, in some cases, may pose a minimal environmental and social risk. The FI must also demonstrate that it has the management commitment, organizational capacity, resources, and expertise to implement its ESMS for its subprojects. The Bank shall carry out due diligence of the ESMS and the FI's organizational capacity before approving the loan. The FI shall make a summary of the ESMS available to the public locally, e.g. on its website, before the loan can be approved. In addition, for a category 1 project, if an OS is triggered, the requirements of this specific OS should be met by the project.

4. ENVIRONMENTAL AND SOCIAL BASELINES

4.1. GAKENKE DISTRICT

4.1.1 Biophysical Environment

4.1.1.1 Location

The District of Gakenke is one of the five districts of the Northern Province. It borders with Rulindo District at its Eastern side, Burera and Musanze Districts at its North, Nyabihu District at its West, at the South by Kamonyi and Muhanga Districts. This District is divided into 19 administrative Sectors made of 97 Cells, 617 Villages (Imidugudu) and 73 765 Households. The location of the district on the road Kigali-Musanze provides some opportunities related to some activities that may be attractive to passengers like that of Nyirangarama or other that may come from businesses' creativity.

4.1.1.2 Topography

Gakenke district is characterized, in general, by high inclined hills separated by rivers and marshlands. The relief seems to comprise two distinctive regions with the high altitude region with mountains attaining at least 2 648 m (Mont Kabuye) and another region characterized by lowly inclined hills of 1 700 m of altitude which in one way or another traduces soil-erosion. Marshlands occupy an area representing 361 Hectares. These marshlands are generally exploited during the dry season (May-September). The main crops planted in those marshlands are maize, beans, Irish potatoes, sweet potatoes, etc...

4.1.1.3 Hydrographic Description

The District of Gakenke is endowed with reserves that could provide enough water for both consumption and agricultural purposes. These include substantial rainfall (between 1 100 and 1 500 mm per year) and the abundance of streams and watercourses. The main rivers flowing in Gakenke district are Cyacika, Bahimba, Isumo, Busanane, Kiyebe, Senzare, Gaseke, Kinoni, Nyamuhanga, Base and Mugobore. The District of Gakenke enjoys parts of Ruhondo Lac on the side of Kamubuga and Kivuruga Sectors. Alongside Gakenke district, two main rivers go along which are Mukungwa River at the western side of the district, and Nyabarongo River at its South. The last two rivers pour their water in Akagera River, tributary of Nile River. Since most houses are situated on the summit and on the slopes of hills and due to the accidental relief in Gakenke district, the erosion takes what would be the fertile soil to Mukungwa and Nyabarongo Rivers then to be taken to Nile River. The district has to take precautions to contain its soil and to protect it against erosion.

4.1.1.4 Climate and Rainfall

The climate in Gakenke district is generally the type of humid climate with the average annual temperature varying between 160 C and 290 C. The humid wind comes from East to West. The rainfalls are relatively abundant with a scale between 1 100 and 1 500 mm per year. As it is the case in Northern Province, Gakenke district has four different seasons:

- The small dry season: January-February
- The high rain season: March- end Mai
- The high dry season: June- end August
- The small rain season: September- December

This climate makes Gakenke district to be a favorable region of agricultural activities.

Gakenke District has substantial annual rainfall ranging from 1100 to 1500 mm which sometimes lead to landslides that are associated with loss of lives, damage of infrastructure and crops. It has also abundant hydrological network ranging from part of Ruhondo Lake (Kivuruga and Kamubuga Sectors), to rivers Mukungwa and Nyabarongo (respectively making its borders to the West and the South); other rivers flowing in the District: Cyacika, Bahimba, Isumo, Busanane, Kiyebe, Sanzare, Gaseke, Kinoni, Nyamuhanga, Base, and Mugobore. These rivers pour their water to the Nile River through Mukungwa and Nyabarongo (Mukungwa being tributary to Nyabarongo) and due to the hilly topography, the District is always fighting against soil erosion and degradation as good soil is taken to the Nyabarongo towards Nile.

4.1.1.5 Geology and Soils

The vegetation in Gakenke district composes of eragrostis, a dominant grass (which is an evident sign or characteristic of the high level of deteriorated soil), whereas on different small and high mountains big planted trees are evident. Here and there on nice hills and valley, the vegetation is mainly constituted by green crops cultivated near or far houses in the framework of land use consolidation. On hillsides, the soil is from the granite origin whereas in marshlands and valley the soil is clay.

4.1.2 Biological Environment

4.1.2.1 Fauna and Flora

The flora is composed of planted trees, crops (passion fruits, pineapple, coffee, maize, wheat, beans). Forestry coverage is 20900 ha (29%) against 30% targeted. For the fauna, in addition to livestock, the district hosts a variety of bird species like eagle, sparrow hawk, cranes and ravens and that can be attractive to tourism.

4.1.3 Socio- Economic Environment

4.1.3.1 Population characteristics

According to Gakenke District Development Plan (DDP 2013-2018), the District spreads over 704.06 Km² , with 345 487 inhabitants (163,096 male and 182,391 female), let 473 inhabitants/Km² be a density of population in Gakenke district. If population continues to grow at a fertility rate of 4.7%, strategies of developing the district may be out weight by this high rate as far as GDP per capita is concerned and this may lead to spiral poverty in the district. In relation to population – youth composition- 39.1% makes up the total percentage youth in the district and which is also part of the working class.

4.1.3.2 Employment and income generation

The district’s economy is mainly led by agriculture with other sectors being mining (clay, coltan, cassiterite, and sand quarries), handcraft and commerce. According to the fourth Integrated Household Living Conditions Survey (EICV4), the poverty rate was 42% against 39.1% countrywide, while extreme poverty was 16.2% against 16.3 at national level.

4.2. KAMONYI DISTRICT

4.2.1 Biophysical Characteristics

4.2.1.1 Location

Kamonyi District is one of the eight Districts that make up the Southern Province. It is composed of 12 Sectors (Imirenge) Gacurabwenge, Karama, Kayenzi, Kayumbu, Mugina, Musambira, Ngamba, Nyamiyaga, Nyarubaka, Rugarika, Rukoma and Runda; 59 Cells (Utugari) and 317 Villages (Imidugudu). The District of Kamonyi shares its borders with Ruhango District in the South, Muhanga District in the West, Bugesera and Nyarugenge Districts in the East, Gakenke and Rulindo Districts in the North.

4.2.1.2 Topography

Kamonyi district is made of low-lying plateau. The district is between 1.500 and 2.000 m of altitude. The Eastern and Northern part of the District are occupied by the large valley of Nyabarongo. The high land peaks of the District are the following: Ijuru rya Kamonyi and “Cubi na Marenga” while Mukunguri and Kona ka Mashyuza are the lowest points.

4.2.1.3 Hydrographic Description

Kamonyi District is drained by river Nyabarongo along the east and north of the District and Akanyaru River which border the District in north and eastern part. There are also a number of small water sources, such as Kayumbu, Bakokwe, Gikoro, Mukunguri, Nyabuvomo, Bishenyi, Gatimbazi and Ruvubu. The District has approximately 843 water sources.

4.2.1.4 Climate and Rainfall

The District of Kamonyi enjoys a moderate climate. The frequency of rainfall is rather sufficient. Humidity varies between 1.200 and 1.400 mm and the average temperature is 20°C. Its relief is made of a low-lying plateau, except in the western part which is more mountainous. The altitude varies between 1500m and 2000 m.a.s.l. The highest points are known as “Ijuru rya Kamonyi” and Cubi na Marenga while the lowest points are “Mukunguri and Kona ka Mashyuza”.

4.2.1.5 Geology and Soils

The soil of Kamonyi District is largely humus, permeable and fertile. Agricultural productivity increases year by year due to modern techniques of land use management. However, the District is facing soil erosion caused by destruction of forests and steep topography and overexploitation due to demographic pressure. Parts of the District are occupied by a granite ridge and a sandy loam.

4.2.2 Biological Environment

4.2.2.1 Fauna and Flora

The fauna in the district has been progressively depleted following the clearing and destruction of natural forests due to demographic pressure. We have witnessed the disappearance of several animal species such as gazelle, jackal and hare. Despite this, there are still some amphibians, reptiles, butterflies and birds. The vegetation of Kamonyi District which was originally a shrub savanna has been endangered due to high population pressure which favored agriculture. Flora is characterized by natural and planted forestry and agroforestry species such as grevillea robusta, coffee, avocado, erythrina and pinus. In Kamonyi District, the area covered by forest is at 11.4 %, very low compared to national coverage of 30%. The households using firewood as a source of energy are also very high and evaluated at 94.6% as it is indicated in EICV 4. Therefore, increasing forest coverage for mitigating and adapting to climate change is a priority of the District.

4.2.3 Socio- Economic Environment

4.2.3.1 Population characteristics

The total population of the Kamonyi District is 377,257 inhabitants (where 179,475 are male and 197,782 are female) spread over 12 administrative sectors and surface area of 655.5 square kilometers with an average population density of 575.5 inhabitants/km². According to EICV 5, poverty incidence rate is 22.3% while it was 25.9 (EICV4) for Kamonyi district and extreme poverty is 8.7% (EICV 5) while it was 6% (EICV 4). This means that the poverty rate is still high and combined interventions are needed to eradicate poverty.

4.2.3.2 Employment and income generation

According to the Labour Force Survey (2017), employment to population ratio was 41.3%, unemployment rate was 24.4%, labor force participation rate was 54.6% and composite measure of labor underutilization was 57.3% in Kamonyi District. This means that more effort is needed in Kamonyi District in order to create productive jobs. The same survey indicates that the level of job opportunities in Kamonyi District is 49.7% while it is 52.1% at national level. The Economy in Kamonyi District is mainly based on agriculture and livestock done in a traditional way.

The main crops in Kamonyi District are maize, beans, cassava, rice, soybeans, vegetables and bananas and the total ha for land use consolidation is 46,268 ha. There are also some natural flora species and the natural forestry of Rukaragata in Muganza-Karama. In terms of livestock, Kamonyi District has 66,622 households with cows among them 8,148 cows were provided through the GIRINKA Program (Kamonyi DDS, 2017).

4.3. GISAGARA DISTRICT

4.3.1 Biophysical Characteristics

4.3.1.1 Location

Gisagara District is in Southern Province and covers an area of 678.9 km². It is subdivided into 13 sectors: Gikonko, Gishubi, Kansi, Kibilizi, Kigembe, Mamba, Muganza, Mugombwa, Mukindo, Musha, Ndora, Nyanza and Save, into 59 Cells and into 524 Villages. It is bordered in the South and East by the Republic of Burundi, in the North by Nyanza District, and in the West by Huye and Nyaruguru Districts.

4.3.1.2 Topography

The landscape is mountainous with small valleys containing wetlands, streams or rivers. Gisagara district is characterized by steep hills which show the land scape degradation due to overexploitation and demographic pressure. There are hills with an average altitude of 1700 meters which descend up to 1500 meters.

4.3.1.3 Hydrographic Description

The District hydrography is made up two rivers: Akanyaru rivers which surrounds Gisagara on 80km to boarder Rwanda and Republic of Burundi and Migina that boards District with Nyaruguru and Huye Districts on west side. In District, springs give stream that flow down to these rivers.

4.3.1.4 Climate and Rainfall

Regarding the District temperate climate, it has succession of irregular seasons which vary to rainy to dry seasons: Season A starts in September and ends in December, is characterized by many rains especially in December. Season B that starts in January and ends in June has many rains in April. Season C which is a dry season starts with July and ends with September. Average annual temperatures generally oscillate around 200 c with amplitudes changing between 150 c and 200 c and annual rainfalls of about 1200 mm

4.3.1.5 Geology and Soils

The geology in Gisagara is dominated by granitic, schistose and metamorphic rocks. The soil is mainly ferralitic and histosols. Soil depth differs from one site to another depending on topography, erosion factor and soil development.

4.3.2 Biological Environment

4.3.2.1 Fauna and Flora

The Natural vegetation in Gisagara is disappearing due to demographic pressure and is being replaced by man-made vegetation dominated by decorative plants and crops (bananas, beans, sorghum, Irish potatoes and cassava). Generally, Gisagara District lacks forest cover and a few forests which already exist require harvesting and reforestation. However, there are certain patches of forested land dominated in large part by Eucalyptus.

4.3.3 Socio- Economic Environment

4.3.3.1 Population characteristics

In 2012, Gisagara population was 322,506 (NISR, GRH 2012). By applying the population growth rate of 2.1% to that one identified in 2012, population in 2017 is estimated at 358,151 people: where 191,067 (53.35%) are female and 167,084 (46.65%) are male. These data are not far different from those one identified by ECIV5 in 2016/2017: District population (in 2017) was 348,558; where 162,809 (46.7%) were male and 185,749 (53.3%) were female nor data resulting from ubudehe survey in 2017 where population is 340,898 living in 81,451 households where 29,069 (35.7%) are female headed and 52,382 (64.3%) are male headed and that population is as follows, distributed according to sectors and ubudehe categories

4.3.3.2 Employment and income generation

The survey conducted in 2017 as mentioned above, indicated that the Gisagara District household's economy is driven by agriculture (84.6% of the active population, 24.5% being farm wage workers and 60.1% being independent farmers). Only 15.4% are non-farm wage workers with 10.7% with non-farm wages, 3.9% independent non farmers and 0.8% with unpaid non-farm wages (NSIR, ECIV5).

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In services, Gisagara District has only 2,693 establishments, which represents the lowest percentage of establishments in the Country (1.4%), grouped 2478 enterprises where 93 are formal and 2,385 are informal enterprises (respectively representing 0.7% and 1.4% of the Country formal enterprises). 88.8% of these enterprises are classified as micro, 9.5% (252) are small, 1.5% (41) are medium and 0.2% (4) large. They employ 9,019 workers (representing 1.5% of the total establishments workers in Country) where 5,234 (58%) are male and 3,785 (42%) are female. (NISR, Establishment census 2017). The majority Private Sector in District is not developed. Only small business operators in trading, bars and restaurants are main taxpayers in District and tourism activities are at a very low; only one guest house is operational in District.

4.4. MUHANGA DISTRICT

4.4.1 Biophysical Characteristics

4.4.1.1 Location

Muhanga is one of eight districts of Southern Province of Rwanda described as satellite city to Kigali City located in fifty Kilometers (50 km) from the City of Kigali (CoK). It comprises twelve (12) sectors, sixty-three (63) cells and three hundred and thirty-one (331) villages (Imidugudu). The District covers an area 647.7 km² and is neighboring the Districts of Gakenke in the North, Kamonyi in the East, Ruhango in the South and Ngororero in the West.

One part of Muhanga District is located in the "central plateau" of the country with topography of high and low hills which makes it constitute one of the best elements of the central "plateau" of the country. The District has the following large rivers: Nyabarongo which makes the District hydrographical belt (it crosses six sectors) and collects alone more than 90% of runoff/small rivers; Its tributaries are Miguramo, Nyakabanda, Bakokwe, Birikana, Ururumanza, Sagarara, Kiryango, Base, Akabebya, Mukunguri and pours into Akanyaru. In general, water is abundant in the district, especially in its Northern part.

4.4.1.2 Topography

One part of Muhanga District is located in the "central plateau" of the country with a hill-type topography. Muhanga is characterized with high and low peaks and constitutes one of the best landscapes of the central "plateau" of the country. The other part of the Muhanga District is on the high mountains of the Nil-Congo it has peaks prancing beyond 2000 meters (Saruheshyi, Kanyarira, Mukingi and Samba). It contains a few peaks belonging to the region of the Budaha-Ndiza-Buberuka.

4.4.1.3 Hydrographic Description

The District has the following large rivers: Nyabarongo which makes the District hydrographical belt (it crosses six sectors) and collects alone more than 90% of runoff/small rivers; its tributaries are Miguramo, Muhanga, Ururumanza, Sagarara, Kiryango, Base, Akabebya, Mukunguri and pours into Akanyaru. In general, water is abundant in the District, especially in its northern part (Muhanga 2007).

4.4.1.4 Climate and Rainfall

One part of Muhanga District is located in the "central plateau" of the country with a hill –type topography. This region enjoys a climate of four seasons of which two rainy seasons and two dry seasons: a short rainy season, which extends from October to December, a short dry season that runs from January to February, and a long rainy season from March to June and a long dry season from June to August or early September. The annual rainfall varies between 1100 mm and 1200 mm.

4.4.1.5 Geology and Soils

Muhanga soils are generally constituted by humic Kaoli soils derived from granitic rocks. However, the soil characteristics vary from one to another ecological type, which is observed from a variety of soils depending on the altitude (high and low hills or lower slopes). In addition, the district has lateritic and granite soils spread over most of the area of the District. Swamps and lowlands are characterized by clay soils rich in silt and covered in places by alluvium and colluviums.

The agricultural potential to the people of Muhanga depends mainly on the presence of the layer humifere. Currently the signs of exhaustion of soils are manifested due to the overexploitation of agricultural parcels and to the limited use of manure and mineral fertilizers. The erosion reached alarming proportions. It must absolutely revive the establishment of mechanisms antierosifs. The balance soil - plant is very fragile. This fragility is a consequence of erosion during the great rain season which corresponds to the period of torrential rain and which outweigh the fields and other

4.4.2 Biological Environment

4.4.2.1 Fauna and Flora

The district Natural plants or ecosystems have disappeared, leaving room for crops and artificial forests. The crops consist of large banana with the combination of avocado, sweet potatoes, cassava, etc. The majority of the current afforested consists of Eucalyptus, Pinus and few grevilleas especially on the lines conservation tillage.

The main use is the construction of houses, the firewood and the construction of bridges (Muhanga DDS 2018-2024). This imposes the rehabilitation of damaged forests and agroforestry. However, the District has a natural forest of 40 ha called Busaga in Ndiza Mountain. Wildlife no longer exists in the region for a long time except for some birds, small mammals and reptiles encountered in the less frequented places. Thus, from the wildlife point of view, only domestic animals i.e. cattle, goats, sheep, pigs, rabbits, chickens and cats exist in the District.

4.4.3 Socio- Economic Environment

4.4.3.1 Population characteristics

The 4th Rwanda Population and Housing Census (PHC4 2012) have enumerated **319,141** residents in Muhanga District, which represent 16.3% of the total population of the Southern Province (2,589,975 residents). The population of Muhanga District is predominantly female meaning that 166,358 are female corresponding to 52.1% of the total population. The Sectors of Shyogwe, Nyamabuye are the most populated sectors with over 44 thousand residents each. The less populated sectors are Rongi and Kabacuzi. Muhanga Secondary City approved by Muhanga District Council where 3 Sectors were selected as urban administrative boundaries of Cyeza, Nyamabuye and Shyogwe are sector with high population density (respectively: 1503 inhabitants/km², 1243 inhabitants/km² and 530 inhabitants/km²) (Muhanga DDS 2018 -2024).

4.4.3.2 Employment and income generation

The following are the key economic activities:

- Agriculture is by far the most common economic activity with 78 % of the workforce being involved in agricultural activities such as bananas, cassava and climbing beans.
- Industry and Services: Muhanga's value added activities includes rice processing, cassava processing, soybeans processing, mixed flour production and mining of coltan, wolfram and cassiterite.
- Muhanga has a strong service sector and is home to a number of banks and financial institutions.
- Environment and Natural Resources: Potential Source for green jobs

4.5. RUHANGO DISTRICT

4.5.1 Biophysical Characteristics

4.5.1.1 Location

Ruhango district is one of the districts in the Southern Province bordered by Muhanga district in the North, Kamonyi in the Northern East, Karongi in the North Western, Nyanza District in the South, Nyamagabe district in the South Western and Bugesera in the South Eastern. It is composed of 9 Sectors (Kinazi, Byimana, Bweramana, Mbuye, Ruhango, Mwendo, Kinihira, Ntongwe and Kabagari, 59 Cells and 533 villages (Imidugudu).

Ruhango district consists of three parts:

- The Mayaga section consists of the Stone Sectors, Kinazi and Ntongwe
- The Kabagali subdivision consists of the Divine, Kabagali and Kinihira Sectors.
- The central part consists of Ruhango Sectors; Byimana and Mwendo

4.5.1.2 Topography

The relief of Ruhango District is inclined from West to East. Its highest point is Mayuzwe hill in Mbuye Sector situated at 2,112 meters of altitude and the lowest point is located at 1,300 meters of altitude in the Akanyaru valley. More precisely, the Sectors of Kinazi, Ntongwe, Ruhango and Mbuye are located in the lowest altitudes whereas those of Bweramana, Kinihira, Byimana, Mwendo and Kabagari, lie on an altitude between 1,400 and 1,800 meters.

4.5.1.3 Hydrographic Description

The hydrography network comprises the most important running water of the country; Mwogo Kiryango and it is home to large swamps and touches the Nyabarongo and Akanyaru rivers. Several other streams, which are relatively less important, form the affluent of the latter. Apart from permanent rivers, Ruhango District has several intermittent running streams especially in the western part.

4.5.1.4 Climate and Rainfall

Ruhango District is situated within a tropical region and has humid climate. The region experiences alternate season of climate. The rainy season alternates with the dry season. The frequency of its rainfall is adequately compared to the Eastern part with a relief of low altitude and an average annual temperature of about 20°C, different to the Western part which is mountainous with relatively low temperatures.

4.5.1.5 Geology and Soils

The big part of Ruhango district soil characteristics is composed of sandy soil with less water retention capacity. The Soil structure differs from its relief and is dominated by humidified kaolisol resulting from granite, gneiss and schist rock. These soils generally vary and their principles are grouped into two zones.

Zone A: Western zone (Kinihira, Mwendo, Byimana, Bweramana, and Kabagali). This zone has a slightly deeply over granite, less deeply over granite, soil less deeply over Quartzsite and sand soil slightly deep.

Zone B: Eastern zone (sectors). This zone has deep soil with dark horizon, deep soil with plinth over schist and low land clay soil and is good for cultivation

4.5.2 Biological Environment

4.5.2.1 Fauna and Flora

The District's natural vegetation has over the years, progressively disappeared due to human activities. However there have been efforts to re-afforest the District especially with trees like Eucalyptus, Pinus, Cypress and Grevillea. There are a number of wild small animals and insect species including toads, frogs, several types of insects and reptiles.

4.5.3 Socio- Economic Environment

4.5.3.1 Population characteristics

Ruhango District has a population of 319, 885 including 152,075 male and 167,810 female. The population is housed in 86,803 households, including 178,353 males and 178,655 females. The area of Ruhango District is 626.8 km² i.e. 568 people per km². The highest population of the district

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depends on subsistence farming which yields are less compared to modern modes of farming. The land is also over exploited and some parts of the districts are of poor production.

4.5.3.2 Employment and income generation

The main crops are cassava, beans, corn, rice, and coffee, which are the main sources of livelihood. The district has different economic potentialities in agriculture, mining, tourism and other businesses. However, these opportunities are not used at maximum level due to the lack of required technologies and infrastructures. It has one town of Ruhango which is potential in business making and three centers namely Byimana in Byimana, Gitwe and Buhanda in Bweramana, and Kinazi in Kinazi sectors respectively which are showing the development signs by promoting urbanization and different types of businesses.

In order to present economic potentialities of the district, it was divided into three regions:

- The rural region commonly known as “*Amayaga*” is good for cassava, rice, beans and coffee cultivation and is made up of Kinazi, Ntogwe, Mbuye, part of both Byimana and Ruhango sectors. This region has potential for agriculture transformation which is considered as an important driver for Ruhango economic transformation.
- Rural region known as “*Akabagari*” is made up of Kabagari, part of Kinihira and Bweramana sectors. The soil in this region is acidic and needs special attention to improve its structure.
- Last region known as “*Central plateau*” comprises part of Byimana, Mwendo and a part of Kinihira Sectors and it is characterized by very acidic soil and needs to be improved in order to enhance the productivity.

4.6. HUYE DISTRICT

4.6.1 Biophysical Characteristics

4.6.1.1 Location

Huye District is one of the eight Districts of the southern province of Rwanda with a total area of 581.5 km². The District borders with Nyanza District in the North, Gisagara in the East and South, Nyaruguru in the South West and Nyamagabe in the North West. It has 14 administrative Sectors namely Mbazi, Kinazi, Simbi, Maraba, Rwaniro, Rusatira, Huye, Gishamvu, Mukura, Ruhashya, Tumba, Kigoma, Ngoma and Karama. The number of cells are 77, while the villages are 509 in total.

4.6.1.2 Topography

Huye District is situated in the central plateau with a hilly landscape that protrudes from East to West and develops into a steep hilly and mountainous area towards the West and North West, the

highest mountains being the Huye (Ibisi bya Huye) with an elevation of more than 2000 meters. The hills are with an average altitude of 1700m which decreases to 1450m towards Songa farm.

4.6.1.3 Hydrographic Description

Huye District water network comprises various streams including Kadahokwa in the West, flowing from the North to South; and in the central region is Rwamamba. There is also a big valley called Rwasave drained by Kihene which flows from North to South. All these streams flow towards Migina which is a tributary of Akanyaru River. In the North-West, there is a river of Mwogo which discharges into Nyabarongo River.

4.6.1.4 Climate and Rainfall

Huye District is characterized by sub equatorial temperate climate with an average temperature fluctuating around the 20°C. Like in the rest of the country, it has four climatic seasons; long rainy season (Mid-February –May), long dry season (June-Mid September), short rainy season (Mid-September- December) and short dry season (January- Mid February). The average annual rainfall is 1160 mm.

4.6.1.5 Geology and Soils

The best soils are found in the swamps where sand and humus are formed from erosion of the hills. Soils on the dorsal granite are not fertile as they are poor in humus content. Central plateau soils are better as they are composed of kaolisol type, fertile when the erosion has not impacted it and their humus layer has been conserved. As a consequence of topography in Rwanda, Huye District ranges in the region where erosion control is required.

4.6.2 Biological Environment

4.6.2.1 Fauna and Flora

Natural vegetation has disappeared due to agricultural pressure and has been replaced by man-made vegetation dominated by food plants. The largest part of the land is under cultivation for food crops such as rice, banana, beans, maize, cassava and coffee. The District has insufficient forest cover estimated at 10% of the district surface, while the arboretum forest around the University of Rwanda (UR) plays an important role. However, some of the existing forests require reforestation. Wild animals are found only in the RAB Songa Station zone.

4.6.3 Socio- Economic Environment

4.6.3.1 Population characteristics

According to the 4th Rwanda Population and Housing Census (PHC4, 2012), Huye District has **328,398** residents, which represent 12.7% of the total population of the Southern Province (2,589,975 residents). Out of the total population of Huye District, female residents make up to 51.9%. The Sectors of Mbazi and Tumba are the most populated sectors with over 44,000 residents each while the less populated sectors are Gishamvu and Karama.

4.6.3.2 Employment and income generation

According to the available statistics (EICV4, 2014), Huye District is still dominated by traditional agriculture where around 97% of the farmers still use traditional seeds and 84.1% of the agriculture land is on hillside. However, the trends show that modern agriculture is being adopted with the purpose of increasing production and productivity through agriculture mechanization, use of chemical fertilizers and improved seeds. On the other hand, 88.2% of the Households (HHs) rely on firewood as energy for cooking and 11.4% on charcoal while only 0.4 use biogas or gas (NISR, EICV 5).

Huye District scores among Districts with a considerable high rate of employment where 84.4% of the population are employed (mostly by the private sector). However, statistics reveal that the bigger number of the population is involved in the informal sector (56.2%) than formal (43.8%). On the other hand, the unemployment rate is lower (12.7%) than that of the national level (17.4%).

The employment sector in Huye District was also further found to be dominated by the informal sector (56.2%), these being some of the key reasons for the unemployment rate to increase, and District revenues to stay at a low level.

According to the National Road Map for Green Secondary Cities (NR, 2015), based on Huye City highest potentialities, the specific branding of Huye City was meant to be “*A Hub for Knowledge, Culture and Agribusiness*” and key economic clusters should be the key focus:

- Education and academic research
- Agribusiness (food and beverage, coffee culture and washing, dairy and livestock, seed production)
- Building fixtures and wood crafting
- Pharmaceutical research and drug manufacturing
- Tourism based on historic and natural attractions and academic tourism
- Handicraft (Leather, carpentry, metalwork, tailoring, ornamental items)

4.7. NYANZA DISTRICT

4.7.1 Biophysical Characteristics

4.7.1.1 Location

Nyanza District is one of the eight Districts which constitute the Southern Province. It is subdivided into 10 Sectors, 51 Cells and 420 villages (Imidugudu). The District shares borders with:

- District of Ruhango to the North
- District of Gisagara and the Republic of Burundi to the South
- Districts of Huye and Nyamagabe to the West
- District of Bugesera to the East.

4.7.1.2 Topography

The relief of Nyanza District is inclined from West to East. Its highest point is in Nyagisozi Sector on Shyunda hill situated at 2,112 meters of altitude and the lowest point is located at 1,300 metres of altitude in the Akanyaru valley. More precisely, the Sectors of Busoro, Muyira, Kigoma, Ntyazo and Kibirizi, are located in the lowest altitudes whereas those of Nyagisozi, Mukingo, Rwabicuma, 16 Cyabakamyi and Busasamana, lie on an altitude between 1,300 and 1,800 metres.

4.7.1.3 Hydrographic Description

The hydrography network comprises the most important running water of the country, that is, Akanyaru and Mwogo rivers. Several other streams which are relatively less important are the affluent of the latter. Apart from permanent rivers, Nyanza District has several intermittent running streams especially in the Eastern part.

4.7.1.4 Climate and Rainfall

Nyanza District is situated within a tropical region and has humid climate. This region experiences alternate seasons; the rainy season alternates with the dry season. There is no difference with other parts of the country, it has four climatic seasons; long rainy season (Mid-February –May), long dry season (June-Mid September), short rainy season (Mid-September- December) and short dry season (January- Mid February). The Western part which is mountainous registers relatively low temperatures and plenty of rainfall compared to the eastern part which has low altitude and an average annual temperature of about 20°C (Nyanza DDS 2018-2024).

4.7.1.5 Geology and Soils

According to the general geological map of the area, the Archaean basement of Rwanda shows occurrences on the south (including Nyanza District) and southwest of the country where dominate the pre-Burundian migmatites and gneisses accompanied by crystalline whitish quartzite. Some of these rocks have been retro-metamorphosed.

In Nyanza District, we mostly find Humic Acrisols and Dystric cambisols. However, due to the severity of soil erosion in Nyanza and due to its susceptibility nature to erosion, some of the Dystric Cambisols have less than 50 cm soil depth.

4.7.2 Biological Environment

4.7.2.1 Fauna and Flora

The District natural vegetation has over the years, progressively disappeared due to human activities. However there have been efforts to re-afforest the District especially with trees like Eucalyptus, Pinus, Cypress and Grevillea. As regards fauna, there are a number of wild small animals and insect species.

4.7.3 Socio- Economic Environment

4.7.3.1 Population characteristics

According to Ubudehe survey (2016), the population of Nyanza District is evaluated at 339,655 inhabitants grouped into 78,563 households. The majority of inhabitants (162,109) which represents 47.7% of the total population are classified in the category 3. The second category totalizes 119,448 inhabitants representing 35.1% of the total population. The category one which in the most fundamental needs is composed by 57,686 inhabitants representing 16.9% of the total population while the 4th category totalizes 415 inhabitants representing 0.1% of the total population. It can be reminded that the category 1 is the most vulnerable and in many cases are supported by the government through various social protection programmes.

4.7.3.2 Employment and income generation

As it is discussed above for the case of Huye District, Nyanza District is also dominated by traditional agriculture where it contributes with 46 % and other 25% is from wage. In Nyanza District: Agriculture remains the predominant activity and employs around 84% of Nyanza's population. The development of horticulture enables farmers to earn a regular income, whilst providing essential nutritional requirements. Currently, vegetables cover around 520 ha. The total area covered by coffee in Nyanza District is currently 1159.52 ha and produce around 250 MT of fully washed coffee per year. Nyanza District has constructed 12 drying grounds on different sites (Busoro, Mukingo, Muyira, Rwabicuma, Kibirizi, Cyabakamyi, Kigoma and Busasamana Sectors) for the Maize to reduce losses of production.

Beside Agriculture, the District is endowed with enormous mineral resources, tourism attractions, large tracts of fertile soil, warm tropical weather, highly educated human resource and friendly residents. The Nyanza District authorities is providing visionary leadership through the Nyanza District Development Plan which the district is using to elaborate on new investment strategy for mapping of investment opportunities.

4.8. NYARUGURU DISTRICT

4.8.1 Biophysical Characteristics

4.8.1.1 Location

Nyaruguru District is one among the 30 districts in Rwanda. It locates in the Southern Province. In the East, Nyaruguru District borders with the District of Huye and Gisagara District, in the North the District borders with Nyamagabe. In the West, it shares its borders with the Western Province and the Republic of Burundi in the South. The district of Nyaruguru has a surface area of 1,010 km² and it is composed of 14 (Busanze, Cyahinda, Kibeho, Kivu, Mata, Muganza, Munini, Ngera, Ngoma, Nyabimata, Nyagisozi, Ruheru, Ruramba and Rusenge) which are made of 72 cells and 332 villages.

4.8.1.2 Topography

The altitude of the Nyaruguru district is ranging between 1,500 - 1,900 m. The parameters involved in land environment are Physiography, geology and soils and land use pattern. The Nyaruguru District, is characterized generally by the Congo-Nile Crest Mountains in the west and west-northern parts of the District, with the peak at 2,767 m of altitude. These high mountains start from Nyungwe National Park in the Sectors of Ruheru, Nyabimata, Muganza and Kivu, and continue towards the volcanoes area in the north of the country, with some peaks branching towards the northeastern part of the District in the Sectors of Ruramba and Mata to form a mountainous ridge known as “IBISI” culminating at 2,300 m amsl. The coverage of forests in Nyaruguru District is about 27.7% of the total surface area, while agriculture is practiced on 49.5%. Nyaruguru District is a mountainous region characterized by steeper slopes, with an altitude of 1600-1900mt.

4.8.1.3 Hydrographic Description

Water environment consists of water resources such as streams, lakes, estuaries, water use, and quality. Water availability is essential in the project area for the construction and drinking. It is anticipated that water will be available for the above purposes in project area. The hydrographic network of Nyaruguru District is very rich and vast, with the main water bodies being Akanyaru River, a tributary of Akagera River and constituting the border of Rwanda and Burundi. Other main rivers in the District are Agatobwe, Akavuguto, Giswi, Simbuka, Nshili, Agatare, Migendo, Rwerere, Kaburantu and Mwogo. All those watercourses are tributaries of Akanyaruriver, except Mwogo, the Nyabarongo tributary.

As stated above in climate section, the abundant annual rainfall intensity varying between 1250mm to 1750mm; are good characteristics for rich and vast hydrographic network in Nyaruguru District. For this reason, there are many water springs where district counts over 832, tributaries and streams

flowing in the tales of this mountains' relief joining together to form important water flows in Nyaruguru District.

According to the Ramsar treaty, wetlands are defined as: "... areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters." Wetlands and marshlands are also important components of water environment. These marshlands are used for recession and dry season cultivation, including those found in low-lying area which used for seasonal grazing and farming. Presumably, these areas are better drained that allows dray season cultivation. Nyaruguru District has got different marshlands including Agatobwe, Akavuguto, Urwonja, Rwoganyoni, Akagera, Agatorove, Mazatukura, Uwarurimbi, Rutabu, Migina, Umumusizi, Giswi, Rutabo, Ubuyumbu, Kizikoga, Nyiramurongi, Mudasomwa, Urubaya. Marshlands in Nyaruguru District are narrow i.e. small in width due to hills and mountains relief. Most of these marshlands are under exploitation through agricultural practices where 203 ha are developed for this purpose. Through the Development Strategy of Nyaruguru District 2018-2014, it is also planned to develop other more 682 ha of marshlands for irrigation within an Integrated Water Resources Management Framework.

4.8.1.4 Climate and Rainfall

The District has annual average temperature is around 20°C while the annually rainfall varies between 1,000 and 1,250mm depending on the altitude. In general, the District climate is characterized by 4 seasons: (i)The great dry season (June to August) characterized by low agricultural activities (harvesting) and mostly by off-farm activities; (ii)The small rain season (September to Mid-January) considered as the main planting season; (iii) The small dry season (Mid-January to February) in which both planting and harvesting activities take place; and (iv)The great rain season (March to May) characterized by planting in agricultural and low off-farm activities.

4.8.1.5 Geology and Soils

In General, Rwanda has a complex geological history that falls itself in varied topographic profiles from the mountainous Northwest to the glassy and of Akagera in the East. The oldest rocks of Rwanda are the Paleoroterozoic migmatites, gneisses and mica schist overlain by the Mesoproterozoic Kibaran Belt. The folded and metamorphosed sediments of the Kibaran Belt are primarily schists and quartzites introduced by granites and cover most of Rwanda, including Nyaruguru District.

Nyaruguru District soils are generally clay and sandy with some aggregate of stones. The soils of Nyaruguru District are acidic soils as its pH ranges between 5 and 5.5; such type of soil is adapted to tea, coffee and sweet potato plantation. Given it acidity nature, for the crop type which needs alkaline sols are needs an amendment with lime. The use of lime in acidic soils in Nyaruguru District is also associated with development of radical terraces as measures of soils productivity

restoration. The staples crops that grow in Nyaruguru soils include Irish potatoes, sweet potatoes, climbing beans and cash crops mainly tea and coffee.

4.8.2 Biological Environment

4.8.2.1 Fauna and Flora

Eucalyptus spp, Agro forestry tree species like *Alnus* spp, *Grevillea* spp, *Cedrella* spp, etc, are found in the district.

However, overall the Nyaruguru district is covered with diverse ecosystems that include both natural and artificial ecosystems. The natural ecosystem consists of marshlands, which most the area is currently converted to agriculture. The forested areas and agro-ecosystems dominate the artificial ecosystems. All these ecosystems are very rich with flora. The coverage of forests in Nyaruguru district is about 27.7% of the total surface. These are dominated mainly by the private eucalyptus plantations. The survey revealed that within the Immediate Corridor of Impact (COI) about 1,954 (with at least 30 cm of girth size, which is the upper limit of semi-mature trees). The compensation value will be accounted under project RAP and compensation will be effected as per the national law.

Tea and coffee plantations also occupy vast parts of the land surface. The remaining area is covered with other crops (seasonal crops and coffee) and small pastures. The plant species under the Nyungwe forest include a vast diversity of species, with more than 1000 species, with 137 endemic species, including many rare/threatened species, such as *Entandophragma excelsa* (Umuyove), *Newtoniabuchananii* (Umukereko), *Pentadesmareyndersii* (Umwasa), *Prunusafricana* (Umwumba), *Symphonia globulifera* (Umushishi), etc. The forest also hosts more than 250 species endemics to the Albertine Rift. Seasonal crops include beans, maize, wheat, sweet potato, Irish potato and sorghum. Tea and coffee are the major cash crops. Forest plantations are dominated with Eucalyptus species but agro forestry trees such as *Grevillea* spp, *Calliandra* spp, *Leucaena* spp, etc are found in croplands.

The Nyungwe National park is found within the Nyaruguru district and is home to 14 species of primates, including large troops of colobus monkeys. Other main mammals include L’Hoest’s Monkey – *Cercopithecus lhoesti*, Owl-faced Monkey – *Cercopithecus hamlyni*, Golden Monkey – *Cercopithecus mitis kandti*, Vervet Mon-key – *Chlorocebus pygerythrus*, Olive Baboons – *Papio anubis* and Chimpanzees – *Pan troglodytes*. Other main mammals include squirrels, bush pigs, duikers and servals.

In the District, more than 280 avian species are known to be present. They include species such as turacos, hornbills, eagles, francolins, sunbirds, wagtails, etc (25 of those species are endemic to Albertine Rift). There are also 43 species of reptiles, 8 of which are endemic. Thirty-one species of amphibians are present, with 15 endemic species. There are innumerable invertebrate species present, and Nyungwe is especially known for its abundant butterfly populations. Eucalyptus plantations found in the area are habitat for a good number of birds.

4.8.3 Socio- Economic Environment

4.8.3.1 Population characteristics

Nyaruguru District is part of the Southern Province. The District has a population of 294,334 inhabitants, out of which 139,279 male and 155,055 female and extends over an area of 1,010 sq. km. The population density accounting for 291 inhab/sq.km ranks the District seventh from bottom countrywide; density is 30% lower than the national average (415 inhab/sq.km) and 33% lower than the Southern Province average (434 inhab/sq.km), whereas the population growth 2002-2012 has been 2.4%, slightly lower than the national average (2.6%). The District is prevalently rural, the urban population accounts for 2.1% of total District population.

The population is unevenly distributed over the District area. The most densely populated area is the sector of Nyagisozi while the least densely populated sector is Nyabimata in the western part of the District. The population density and demographic growth in decade 2002-2012 are contrasted among different Sectors. The growth rate ranges from 0.5% in Munini Sector to +6.4% in Ruheru, while the population density varies from 134 inhab/sq. km in Nyabimata Sector to 526 inhab/sq. km in Nyagisozi Sector. The average household size in Nyaruguru District is 4.6 persons/HH which is slightly above the national average household size of 4.3 persons/HH.

4.8.3.2 Employment and income generation

According to EICV 4 District Profile, Nyaruguru district is among the districts with a high percentage of extreme-poor and poor population categories. The poverty incidence is 47.9% of the population under poverty line while the poverty incidence at national level is 39.1% and 20.1% who are in extreme poverty which is also above 16.3%, the national figure. Compared to other districts in Rwanda, Nyaruguru district ranks fourth by percentage of population identified as poor or extremely poor. The population of Nyaruguru mostly rely on substance agriculture with 98 % out of the total population. Among this, 72% are independent farmers, wage non-farm is estimates to 11% while wage farm is 9% and the rest 6% are independent non-farmers.

5. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND GUIDANCE FOR MITIGATION MEASURES

This chapter identifies potential impacts that could arise from the activities of the project either during the preparatory/inception or implementation, monitoring and maintenance phases of the project. The identified impacts apply to the socio-economic environment, physical and biological environment. These impacts can be positive or negative and direct or indirect.

5.1 POTENTIAL POSITIVE ENVIRONMENTAL AND SOCIAL IMPACTS

5.1.1 Impacts during Inception Phase

a) **Employment opportunities:** During the planning and design period, new jobs will be created for consultancy services to conduct topographical investigations, site selection, and selection of agroforestry species. To ensure environmental and social safeguards of the project, Environmental and Social³Safeguard Specialists will be recruited, and one officer in charge of environmental and social safeguards per two districts (4 in total) will be put in place

b) **Skills transfer:** The consultant may be international or national and will closely work with national and local staff in charge of agroforestry and local partners. In the process of planning and design, the local technical manpower will work with the consultancy and share experience and expertise. This process of working together will transfer knowledge and skills while gender inclusion is being observed.

5.1.2 Impacts during Implementation Phase

a) **Job creation:** establishment of agroforestry will create jobs for local communities, cooperatives operating in the selected sectors of the project area as well as women and youth on a specific way from land preparation, providing seedling through nurseries to plantation and maintenance of raised trees.

b) **Capacity building of farmers:** during the project implementation, farmers will be sensitized and trained on best agroforestry practices, and operation and maintenance of cook stoves, etc., thus imparting skills to them for improved sustainable agricultural production.

c) **Improved Financial means for farmers:** Employed men and women will be able to improve their income using the gained salaries from implemented activities. Improved income will then lead to improved welfare of their family members with extension to the society in general.

5.1.3 Impacts during Post-Implementation Phase

- a) Stabilization of landscape and river banks:** agroforestry systems can control erosion and regulate water availability in degraded or less-productive lands.

Trees can help reduce and prevent soil erosion in various ways: windbreaks and shelterbelts are the most widely used forms of agroforestry for soil erosion control. These systems also provide timber and other tree products and help increase crop productivity by reducing crop damage due to abrasive winds; enhancing pollination; and reducing soil evaporation.

Trees can also be planted along contour lines and on erosion-control structures to help stabilize them. In alley-cropping systems, litter and mulch from pruning help protect soils and increase soil organic matter, increasing soil resistance to erosion. The presence of trees can lead to the progressive development of terraces through soil accumulation upslope of tree rows.

- b) Climate change mitigation through carbon sequestration:** Agroforestry has the potential to mitigate climate change by greenhouse gas sequestration ability. Agriculture is globally one of the largest emitters of greenhouse gasses and intercropping trees with crops can transform agriculture to become a net sink of GHGs.

Agroforestry establishment will enhance carbon sequestration through improved tree cover and soil conservation. Integrating agroforestry into cropping and livestock keeping systems can enhance carbon sequestration by significant amounts. Home gardening, boundary planting, fruit orchards, riverine, hedgerows, woodlots and firewood lots are major agroforestry practices that sequester CO₂. Agroforestry stores more carbon than pastures and fields with annual crops, but less than forested areas.

- d) Biodiversity conservation:** Agroforestry has been identified as important for reducing species loss in agricultural landscapes, but also for endangered species conservation. Agroforestry has the potential to contribute to biodiversity conservation in agricultural landscapes (and forest landscapes) by increasing structural complexity and enhancing habitat and landscape heterogeneity.

Agroforestry can reduce deforestation and pressure on protected forests by providing bioenergy, timber and other forest products from farmers' fields. Many of the species living in forest reserves are also better protected if agroforestry buffer zones are created around the forests. On a landscape level, agroforestry farms function as ecological corridors allowing species to move between different habitats.

- e) Soil health enrichment and increased food production:** Trees in agroforestry systems improve soil stability, limit soil crusting, increase ground litter and water infiltration. These processes prevent soil erosion and reduce runoff water that can otherwise carry nutrients and sediment from agricultural production into nearby bodies of water. By implementing

agroforestry in farmland in strategically designed layouts and orientations, agroforestry can become a key component in conservation measures.

Tree characteristics that help increase soil fertility include high biomass production, nitrogen fixation⁴, mycorrhizal associations, dense, deep networks of new roots, and a capacity to grow in poor soils. Trees can help rebuild soil organic matter by retrieving nutrients from deeper soil horizons and weathering rock and adding them to the surface layers of the soil through leaf litter. Many tree species can also prevent nutrient leaching because of their deep root systems, and trees can be used to combat soil salinization and acidification. The use of nitrogen-fixing trees can increase soil fertility by adding nitrogen to the agro-ecosystem, with the higher soil nitrogen content potentially increasing the productivity of agricultural crops.

Agroforestry trees and practices add organic material to the soil, which is important for many ecosystem services, contribute to reduced erosion levels and can provide nutrients that can increase yields significantly:

- Agroforestry with nitrogen fixing trees can increase crop yields with up to several hundred per cent and substantially improve food security.
- Nitrogen-fixing trees can reduce the requirements of inorganic nitrogen fertilizers by up to 75% and still achieve optimal yield.
- Vegetation-related conservation strategies such as hedgerows, can decrease the erosion rate by as much as 90% compared to croplands where no conservation strategies are practiced.

These benefits are essential for smallholder farmers, especially women who often cannot afford inorganic fertilizers, and where land competition and lack of time put a limit to the amount of organic material they can collect from forests and communal land.

f) **Air quality improvement:** agroforestry can reduce air pollution and enhance both warming and cooling of the atmosphere, creating a resilient microclimate for crops and livestock.

g) **Water quality improvement**

Sediment loading and deposition are one of the most serious water quality problems globally. Trees filter sediment from storm water runoff, reducing the amount of sediment entering streams and rivers. By slowing down the water, trees promote infiltration and reduce channel flow and gully formation. Trees along streams protect water quality by stabilizing stream banks.

⁴ Biological process in which the nitrogen gas is converted into a usable form for plants and other microbes
Final Environmental and Social Management Framework for Development of agroforestry and sustainable agriculture project under forestry investment programme (FIP) in Rwanda (ESMF) November, 2022

Agroforestry practices are a proven strategy for providing clean water. Trees protect water quality by intercepting non-point source pollutants, stabilizing stream banks, decreasing the frequency and intensity of flooding, and preventing sediment from entering waterways.

h) Soil quality improvement

Tree root systems improve the cycling of nutrients, especially nitrogen, and also trap phosphorus and sediments hence maintaining soil fertility. Agroforestry systems placed higher in the landscape can play this same role and thus reduce pressure on riparian forest buffers. The roots of woody plants retain the soil, reducing erosion and loss of soil nutrients.

i) Increased community resilience to floods: integration of trees on farms and within the agricultural landscape, is believed to diversify and sustain production for increased social, economic, and environmental benefits. Its practices involve combinations of trees, crops, and animals in various spatial arrangements or temporal sequences on the landscape.

The restoration of degraded landscapes using agroforestry can increase the resilience of communities to shocks, including drought and food shortages, and help mitigate climate change. Some of the ecological characteristics of agroforestry species make them resilient to floods and droughts, including deep root systems that are able to use a greater soil volume for water and nutrients. Shade trees can produce microclimates that buffer temperature fluctuations, which in turn can reduce evapotranspiration. Further, trees have the ability to buffer crops from storms.

Agroforestry systems slow down heavy rainfall and infiltrate it into the soil and by designing the systems with the proper species, layout and row orientation, the mitigation effects on extreme weather events can be even further increased. Agroforestry provides livelihood and environmental benefits during both flood and drought events. It helps directly and indirectly build livelihood resilience to floods and droughts.

j) Improved livelihood: Food insecurity and poverty have hampered the livelihoods of rural communities for decades. Agroforestry can enhance livelihoods in rural communities by providing a variety of food, fodder and tree products, which increase food and nutrition security, generate income and alleviate poverty. The adoption of agroforestry can save in the harvesting of fodder and wood fuel, a particularly important benefit for women.

k) Gender impacts:

The development of an agroforestry project is an opportunity where females are as actively involved as their males' counterparts; In this project women will get resources and equal benefits as men. This is expected to lead to poverty reduction through increased yields, improved value chains and employment. The project will also provide opportunities for males and females for accessing finance as cooperatives or as individuals.

- 1) **Access to improved and energy-efficient cook stoves:** One of the project's strategies to sustain adequate growth of newly planted trees will be a systematic distribution of improved and energy-efficient cook stoves. In addition to the first planned benefit of this strategy, it will enable women to save time and engage in other economic activities, thus reducing exposure to GBV affecting women and children while looking for firewood outside their homes.

5.2 POTENTIAL NEGATIVE ENVIRONMENTAL AND SOCIAL IMPACTS

5.2.1 Impacts during Inception Phase

- Risk of unjustified preferences when selecting sites and beneficiaries of project services
- Risk of gender discrimination or other unjustified preferences when choosing beneficiaries of agroforestry trees, cook stoves, trainings and other incentives.
- Risk of corruption during selection of beneficiaries and distribution of cook stoves
- Risk of social conflicts related to the acquisition of land for the nurseries
- Potential conflict between communities who are claiming ownership on the state land
- Risk of raising seedlings from unviable seeds and choosing climate incompatible tree species.

5.2.2 Impacts during Implementation Phase

- a) **Temporary destruction of natural vegetation and cropland:** Large-scale, fast-growing agroforestry trees can be expected to cause temporary destruction of natural vegetation and cropland, degrade, and erode soils, and together with the use of chemical fertilizer and herbicides, cause the release of large volumes of greenhouse gas and pollutants into the soil and water resources.
- b) **Restricted access to river/riverbanks:** during trees growing and planting, the access to water streams and some other activities performed alongside the riverbanks may be restricted for a short-time.
- c) **Re-introduction of new species in some regions may trigger competition species:**
- d) **Possible spread of crop diseases induced by movement of tree species from one region to another:** unintended introduction of minor pestivorous organisms because of movement of plant materials could happen and cause emergence of pests in the new habitat.
- e) **Introduction of invasive agroforestry species:** Transportation of plant species to areas far from their natural habitats can cause problems as invaders, spreading from sites of introduction and cultivation to invade natural or semi-natural ecosystems, where they sometimes cause widespread damage.
- f) Nonnative species can cause problems when these organisms spread from sites of introduction and cultivation to invade areas where their presence is, for various reasons, deemed inappropriate. Tree species selection must consider invasiveness criteria to avoid detrimental effects of new species on the existing ones in the region of new agroforestry establishment.

- g) **Land tenure issues:** Tree planting is looked upon as a move to demarcate and indicate that a certain piece of land belongs to the person planting the trees. This tradition further reinforces the unwillingness to plant trees in areas where sub-division of large farms is being carried out. It is not only that it is unattractive to invest in tree planting if you are not sure of getting the benefits of the investment, but it may also be unacceptable to plant trees on land which has not legally been confirmed as belonging to the user.

5.2.3 Impacts during Post-Implementation Phase

- a) **Resource Competition:** In general, trees are less demanding on nutrients than crops. It is generally desirable that trees growing with crops should have deep roots and few roots near the soil surface where most crop roots are found. In dry climates (rainfall below 800 mm) the introduction of alley cropping may increase moisture stress so much that the net effect on crop yield is negative.

Fast-growing trees normally consume more water than slow-growing ones. So, the severe competition that can be observed near fast-growing trees should be attributed to their fast growth not to their "inefficient" use of water.

- b) **Allelopathy:** Allelopathy is any direct or indirect inhibitory or stimulatory effect by one plant on another plant, both crop and weed species, through the production of chemical compounds that escape into the environment, by leaching, root exudation volatilization, residue decomposition and other processes in both natural and agricultural systems. It has been established through scientific investigations that many woody perennials used in agroforestry exhibit an allelopathic effect on the understory crops.

Some agroforestry species may suppress the growth of other plant species by release of toxic substances. The success of agroforestry lies in the exploitation of positive interactions and limiting the negative interactions. Numerous metabolic chemicals involved in plant interactions are released from the plants, primarily through leaching from above ground parts and play a significant role in plant interactions. The effects of these chemicals on other plants depends on the concentration of the chemical and the combination in which one or more of these substances are released into the environment. Since these species co-exist with agricultural crops, their allelopathic compatibility may be crucial to determine the success of an agroforestry system.

- c) **Harboring of harmful pathogens and pests:** Mixtures of trees and crops make a more diverse environment than monocropping. A diverse environment enables a greater variety of species of all kinds of organisms, both desirable and less desirable to thrive. With increased diversity, the risks of pests and diseases may also increase. On the other hand, a greater diversity of species also allows for better regulatory mechanisms which may reduce the seriousness of the pests and diseases.

Trees attract various kinds of birds as they are sources of food (fruit, nectar, and insects), shade, shelter and nesting sites. Some birds feed on grain and have long been a problem for cultivation of certain crops. Traditionally, both children and adults would spend much time guarding crops, but nowadays such labor is unavailable. A destructive bird species in this respect is the red-billed quelea, *Quelea quelea*, which may sometimes invade cultivated areas in very large numbers.

Pests and diseases can be attributed to the agroforestry technology in use only if an organism has been promoted by one component in the system and is harmful to the other component or components. The most obvious situation would be if trees planted in or near a farmer's field introduced a pest that wiped out or reduced his crop yields. Birds being attracted to nest in certain trees is another such example that can be factorized in Rwanda.

Beside these situations where both trees and crops are involved, there are of course numerous pests and diseases that affect only one component in the system.

- d) Shade:** Shade has positive effects on the soil due to lower temperatures and hence a reduced rate of decomposition of organic matter resulting in improved soil structure, better water-holding capacity and less erosion. Some trees, e.g., *Grevillea* were introduced in different regions of the country primarily as shade trees for coffee. This use of *Grevillea* is an example of shade from a particular species being well tolerated which may lead to an overall increase in production as compared to coffee grown without shade. The shade effect is, however, often negative on crops, and it becomes more significant the more light-demanding the crops are. The negative effects of shade can easily be reduced by managing the trees to reduce the degree of shade, e.g., by pruning or pollarding. Such management not only reduces shade but is also a way of harvesting useful products from the trees. Sometimes the negative effects of shade on crop yields can be tolerated. If the value of production from the trees is high enough, it may outweigh the value of the crop loss and thus the overall benefit increases in spite of lower crop yields.
- e) Risk of uncontrolled harvesting of agroforestry trees:** in the long run, planted agroforestry trees, timber trees for instance, may be harvested and leave bare landscapes again. If not managed effectively, there may be even pre-mature harvest of planted trees or damage of trees by animals.

5.3 INDICATIVE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

As part of this ESMF, this section presents key impacts and associated mitigation measures in the form of an indicative environmental and social management plan (ESMP). In addition, each mitigation measure is associated with the information about who is responsible for implementation, monitoring and how much it would cost to implement and monitor such measure.

Table 4: Environmental and social management plan (ESMP)

Activity	Potential adverse impacts	Proposed mitigation measures	Responsible for implementation	Responsible for monitoring	Estimated cost (US\$)
Preparation Phase					
Site selection	<ul style="list-style-type: none"> Risk of unjustified preferences while selecting the site 	<ul style="list-style-type: none"> Inclusive stakeholder consultation 	Local governance entities	MoE, RFA	40,000
	<ul style="list-style-type: none"> Potential conflict between communities who are claiming ownership on the state land 	<ul style="list-style-type: none"> Setting criteria forming the basis for site selection (vulnerability of the sites based on land exposure, sensitivity, state of ecosystem degradation as well as respective physical and socio-economic drivers for degradation). 	Local governance entities	MINAGRI, MoE, RAB, RFA	48,000

Activity	Potential adverse impacts	Proposed mitigation measures	Responsible for implementation	Responsible for monitoring	Estimated cost (US\$)
		<ul style="list-style-type: none"> Establishing Grievance redress mechanisms and electing grievance redress committees to handle conflicts. 	RFA	MoE, AfDB	71,000
Selection of beneficiaries (seedlings, cook stoves, trainings, incentives)	<ul style="list-style-type: none"> Risk of discrimination or unjustified preferential treatment 	<ul style="list-style-type: none"> Ensuring transparency during selection of beneficiaries through consultation with local communities. 	Local governance entities	MINALOC, MINAGRI, MoE, RFA	71,000
	<ul style="list-style-type: none"> Gender exclusion (e.g. timing of training, composition of groups etc.) 	<ul style="list-style-type: none"> Ensuring gender balance in representative committees and beneficiaries 	Local governance entities	MoE, RFA, ⁵ GMO	35,500
Implementation Phase					

⁵ Gender Monitoring Office

Activity	Potential adverse impacts	Proposed mitigation measures	Responsible for implementation	Responsible for monitoring	Estimated cost (US\$)
Land preparation (during nursery and plantation)	<ul style="list-style-type: none"> Loss of vegetation and biodiversity Soil erosion 	<ul style="list-style-type: none"> Clearing minimum area required for nursery establishment, Minimum or zero tillage where possible 	Service providers (contractors); Local community	Service provider (supervising company)	Included in service contract amount
		<ul style="list-style-type: none"> Erosion control measures / plan to be developed 	Expert in the field-consultant	MoE, RFA	40,000
Selection of agroforestry tree species/ seeds	<ul style="list-style-type: none"> Risk of rejection of selected species by farmers 	<ul style="list-style-type: none"> Local population shall be involved in the selection of tree species 	Local governance entities	MINAGRI, MoE, RAB, RFA	48,000
	<ul style="list-style-type: none"> Risk of selection low value species 	<ul style="list-style-type: none"> Encouraging the diversification of tree species 	Local governance entities	MINAGRI, MoE, RAB, RFA	200,000
	<ul style="list-style-type: none"> Impacts on biodiversity from non-native species with risk of developing 	<ul style="list-style-type: none"> Consideration of previous studies on the characteristics / behavior 	RAB, RFA, Local governance entities	MINAGRI, MoE, AfDB, Higher Learning	100,000

Activity	Potential adverse impacts	Proposed mitigation measures	Responsible for implementation	Responsible for monitoring	Estimated cost (US\$)
	invasive characteristics	of tree species		Institutions	
Maintenance of tree seedlings	<ul style="list-style-type: none"> Restricted access to nearest water source 	<ul style="list-style-type: none"> Provide alternative access to water source by leaving open corridor 	Service provider (Contractor)	Service provider (Supervising company)	Included in the service provider's (contractor) contract amount
	<ul style="list-style-type: none"> Shortage of water resources 	<ul style="list-style-type: none"> Setting nurseries nearby natural water resources and where impossible or difficult due to other considerations such as accessibility, ensure that nurseries are established nearby artificial water source 	Service provider (Contractor)	Service provider (Supervising company)	Included in the service provider's (contractor) contract amount

Activity	Potential adverse impacts	Proposed mitigation measures	Responsible for implementation	Responsible for monitoring	Estimated cost (US\$)
	<ul style="list-style-type: none"> Uncontrolled spread of plastic germination bags 	<ul style="list-style-type: none"> Putting in place a mechanism to control and manage the use of plastic germination bags 	Service provider (Contractor)	<ul style="list-style-type: none"> -Service provider (Supervising company) -Local government entities, MoE, RFA 	Included in the service provider's (contractor) contract amount
Transportation of seedlings	<ul style="list-style-type: none"> Damage of seedlings 	<ul style="list-style-type: none"> Use of appropriate tools and equipment 	Service provider (Contractor)	<ul style="list-style-type: none"> -Service provider (Supervising company) -Local government entities, MoE, RFA 	Included in the service provider's (contractor) contract amount
	<ul style="list-style-type: none"> Possible spread of crop diseases induced by movement of tree species from one region to another 	<ul style="list-style-type: none"> Minimize distance from nurseries to farmland. Preference of local nurseries for pests and diseases infestation. 	RFA, Local governance entities	MoE	28,000

Activity	Potential adverse impacts	Proposed mitigation measures	Responsible for implementation	Responsible for monitoring	Estimated cost (US\$)
Tree planting / growing	<ul style="list-style-type: none"> Temporary disturbance of natural vegetation and cropland 	<ul style="list-style-type: none"> Timing plantation period to match with farming season 	Service provider (Contractor) RFA, Local governance entities	MINAGRI, RAB	71,000
	<ul style="list-style-type: none"> Failing of seedlings after replantation in the field 	<ul style="list-style-type: none"> Ensure hardening-off for all seedlings five days before planting day 	Service provider (Contractor) RFA, Local governance entities	Service provider (Supervising company) MINAGRI, RAB	71,000
	<ul style="list-style-type: none"> Restricted access to the nearest water source 	<ul style="list-style-type: none"> Provide alternative access to local communities to the nearest water source 	Service provider (Contractor) RFA, Local governance entities	Service provider (Supervising company) MINAGRI, RAB	Included in the service provider's (contractor) contract amount

Activity	Potential adverse impacts	Proposed mitigation measures	Responsible for implementation	Responsible for monitoring	Estimated cost (US\$)
Fertilizer and pesticide application	<ul style="list-style-type: none"> Risk of soil, water and air pollution 	<ul style="list-style-type: none"> Systematically implement ⁶Rwanda Good Agricultural Practices (RGAP) as updated to date. 	Service provider (Contractor) RFA, Local governance entities	Service provider (Supervising company) MINAGRI, RAB	56,000
	<ul style="list-style-type: none"> Loss of biodiversity Risk of user intoxication 	<ul style="list-style-type: none"> Reducing as much as possible the use of agrochemicals and preference made to organic fertilizers Provide personal protective equipment in case using pesticides is the only solution. 	Service provider (Contractor) RFA, Local governance entities	Service provider (Supervising company) MINAGRI, RAB	Included in the service provider's (contractor) contract amount
Cook stoves distribution and operation	<ul style="list-style-type: none"> Risk of incidents 	<ul style="list-style-type: none"> Training beneficiaries on the use of provided cook stoves 	Service provider (Contractor) RFA, Local governance entities	Service provider (Supervising company)	Included in the service provider's (contractor) contract amount

⁶ A series of practices that promote sustainable agriculture practices covering the whole production cycle (land preparation, selection of seeds, planting, etc).

Activity	Potential adverse impacts	Proposed mitigation measures	Responsible for implementation	Responsible for monitoring	Estimated cost (US\$)
				MINAGRI, RAB	
	<ul style="list-style-type: none"> Substandard cook stoves 	<ul style="list-style-type: none"> Ensure cook stoves are tested and approved by ⁷RSB 	MoE, RFA	AfDB	142,000
Post-Implementation Phase					
Agroforestry Maintenance/sustainability	<ul style="list-style-type: none"> Risk of resource competition (soil nutrients and moisture) 	<ul style="list-style-type: none"> Ensure that selection of agroforestry tree species is evidence based 	MoE, RFA	MINAGRI, RAB	142,000
	<ul style="list-style-type: none"> Shade 	<ul style="list-style-type: none"> Managing the trees to reduce the degree of shade, e.g., by pruning or pollarding wherever necessary. 	Local community	MoE, RFA	N/A

⁷ Rwanda Standards Board

Activity	Potential adverse impacts	Proposed mitigation measures	Responsible for implementation	Responsible for monitoring	Estimated cost (US\$)
	<ul style="list-style-type: none"> Invasive behavior of some of the introduced species 	<ul style="list-style-type: none"> The project to have a proper design and approach before implementation that advises the beneficiaries or other parties to implement the agroforestry without compromising the interest of the user as well as other crops that has a unique value to them 	MoE, RFA, Higher learning institutions	AfDB	142,000
	<ul style="list-style-type: none"> Risk of uncontrolled harvesting and poor management of agroforestry trees Inappropriate agroforestry maintenance 	<ul style="list-style-type: none"> Capacity building related to agroforestry management practices and tools 	MoE, RFA, Higher learning institutions	AfDB	284,000

6. ENVIRONMENTAL & SOCIAL MANAGEMENT PROCEDURES & MONITORING PLAN

This section describes the process for ensuring that environmental and social concerns are adequately addressed through mitigation measures, institutional arrangements and procedures used by the Project for managing the identification, preparation, approval and implementation of site-specific subprojects. It sets out the environmental and social assessment procedures and guidelines to mitigation measures against potential adverse impacts with specific steps to be undertaken to ensure adherence to the ESMF.

The below subsection describes the steps and procedures to ensure the implementation of environmental and social risks and impacts are adequate and well addressed. This ESMF highlights the proposed project planning focus to ensure the implementation of proposed subproject activities are environmentally friendly and socially acceptable with no harm principle through applying best practices and implementation of sound mitigation measures, as stipulated in section 5 of this ESMF and the respective safeguards' instruments which will be prepared in the future, once the subproject implementation sites are identified. The implementation of the subproject environmental and social screening and management process will be attained through the procedures and steps described below in section 6.1.

6.1 ENVIRONMENT AND SOCIAL ASSESSMENT PROCESS

The project's intervention activities associated with environmental and social concerns can arise either during the preparatory/inception, implementation, and post-implementation phases of the project. Specific sites will be selected after stakeholder consultation and taking into account the most vulnerable locations and criteria including: vulnerability of the sites based on land exposure, sensitivity, state of ecosystem degradation as well as respective physical and socio-economic drivers for degradation.

The Rwanda FIP: Development of Agroforestry for Sustainable Agriculture project's components/subcomponents, activities and sub-activities will have moderate Intrinsic Environmental and Social risks and impacts. In compliance with in-country national legislation/policies/Ministerial Order and the Bank's Integrated Safeguards Systems' operational safeguards ISS OS, the Project is proposed as Category 2.

All subprojects to be funded under this project will be subjected to the environmental and social screening process and per the result of the screening process, an environmental assessment (EA) will be conducted based on Government of Rwanda Environmental legislation and AfDB OSs to ensure that the anticipated adverse impacts and risks are efficiently managed, and all applicable international best practices are applied. The screening process will be used to determine the appropriate environmental and social management measures, depending on the nature, scope, and significance of the expected environmental and social risks and impacts associated with each subproject activity. The screening will be done using the Environmental and Social Screening

Form (ESSF) annexed in this ESMF (Annex-1). The screening form is designed to provide the necessary information to the assessors and stakeholders, to determine whether or not activities of a sub-project would likely result in significant environmental or social risks and impacts during implementation.

According to AfDB Environmental & Social Assessment Procedures, projects that fall under Category 2 are likely to induce detrimental, site-specific environmental and/or social impacts that can be minimized by including mitigation measures in an ESMP. After site identification, RFA/SPIU through external consultants shall develop the environmental and social management plan (ESMP) per province (Northern and Southern Provinces) to lay out how project's environmental and social risks and impacts can be managed according to mitigation hierarchy.

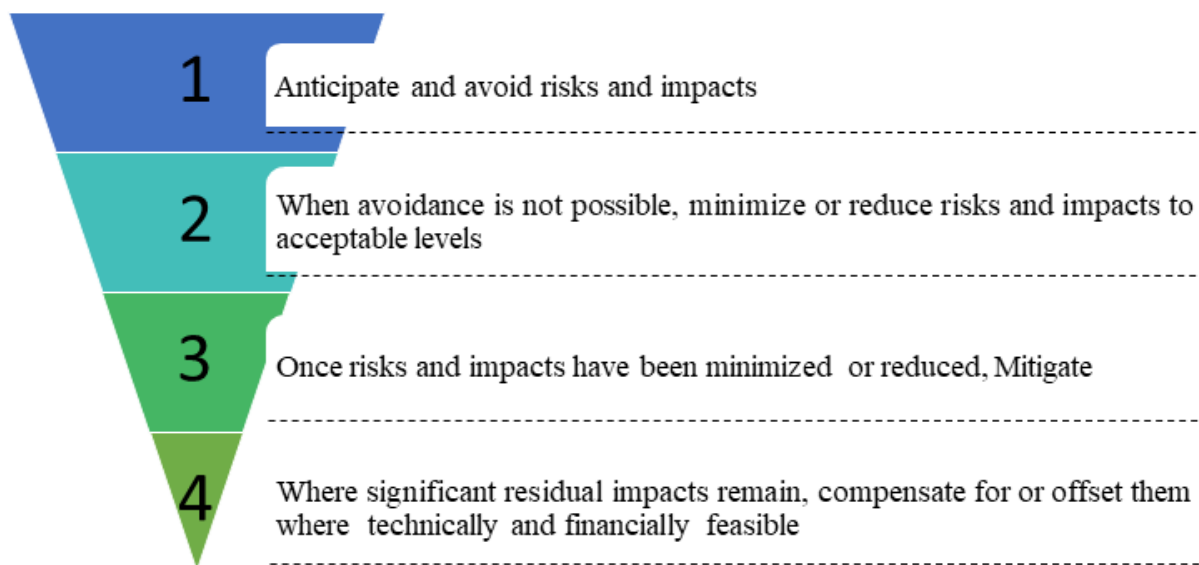


Figure 2: Impact mitigation hierarchy

The authority to approve ESIA in Rwanda lies with Rwanda Development Board (RDB) and the application process is made through an online portal. Here is the 7 main steps of ESIA approval process:

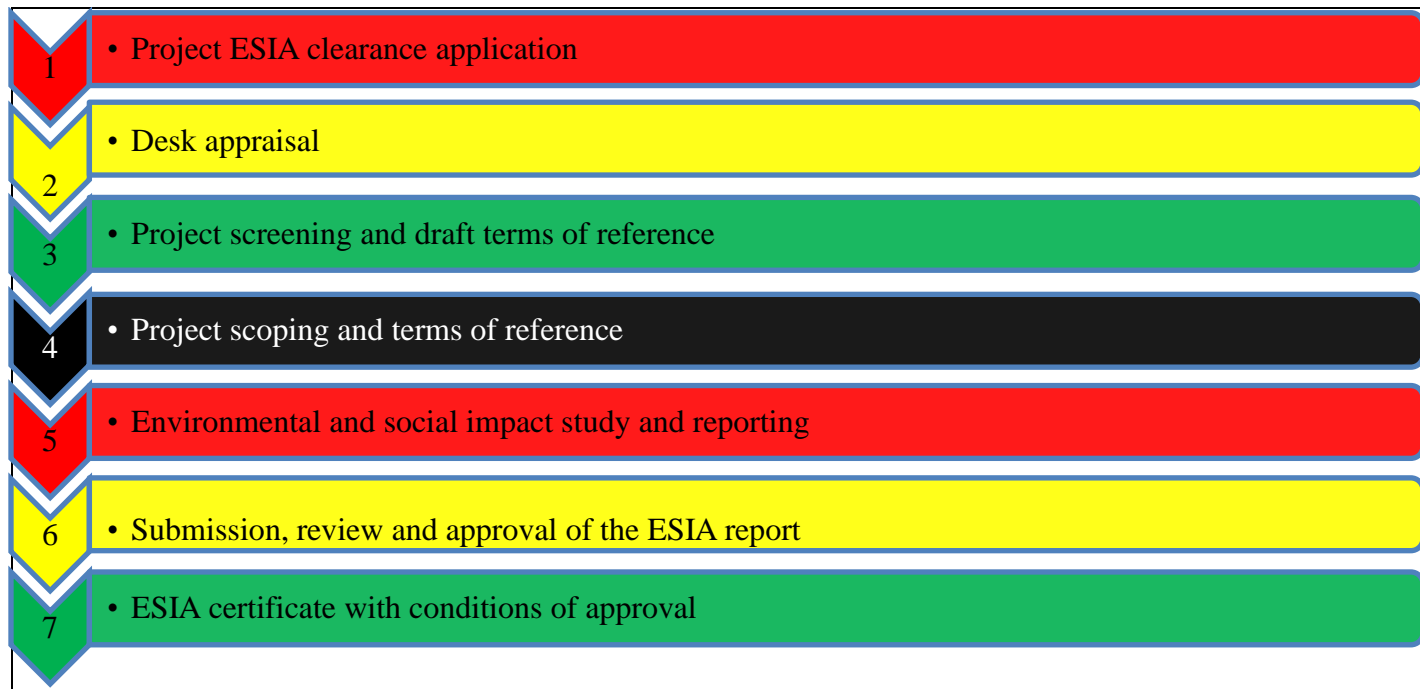


Figure 3: Project’s ESIA clearance process

6.1.1 Project’s ESIA clearance application

The first step of the ESIA process is a developer submitting an application for ESIA of a proposed project to Rwanda Development Board (RDB) in the form of a Project Brief. RDB registers the Project Brief as the developer’s formal application for an ESIA. The purpose of a Project Brief, prepared as prescribed by the EIA Regulations, is to provide sufficient information on the project to enable the Authority and Lead Agencies establish whether or not the proposed activities are likely to have significant environmental impacts, and also enable to determine the level of ESIA required (screening).

At a minimum, a Project Brief submitted to the Authority shall contain the following information:

- i) Name, title and address of developer.
- ii) Name, purpose, objectives and nature of project, including attributes such as size of project, design, activities that shall be undertaken during and after the establishment of the project, products and inputs, sources of inputs, etc.
- iii) Description of the proposed project site and its surroundings and alternative sites, if any, where the project is to be located.
- iv) Description of how the proposed project and its location conform to existing laws, regulations and policies governing such project and the use of the site/area proposed for its location.
- v) Any likely environmental impacts that may arise due to implementing various phases/stages of the project and proposed mitigation measures thereto.

vi) Description of any other alternatives, which are being considered (e.g. siting, technology, construction and operation procedures, sources of raw materials, handling of wastes etc., decommissioning/closure and site restoration).

vii) Any other information that may be useful in determining the level of EIA required.

6.1.2 Desk appraisal

Prior to field visit at proposed subproject sites, a desk appraisal of the proposed subproject activities will be carried out to confirm that all proposed subproject relevant documents contain the required information pertinent to the identification of environmental and social safeguards issues. Depending on the type of subprojects under each component, a desk appraisal will be conducted by the RDB to ensure that all relevant environmental and social issues are properly identified. In addition, subsequent to the desk appraisal, the initial screening of the proposed subproject activities will be carried out in the field, using the Environmental and Social Screening Form (Annex-1), by the project implementing entity (MoE/RFA).

6.1.3 Screening and draft terms of reference

Screening is a key environmental and social management process aiming at determining appropriate studies and follow-up that might be required for sub-project activities. The screening aims at categorizing the sub-projects into one of the environmental and social risk categories consistent with the National EIA Guidelines and the AfDB OSs. The screening will be carried out on specific subproject activities once they have been identified. This screening will be carried out by using the Environmental and Social Screening Form (Annex-1), as stated above.

In order to fulfill the requirements of AfDB ISS and ESAP as well as the national EIA guidelines, the environmental and social screening will follow both the national and AfDB OSs requirement. As per the AfDB Oss, screening of subprojects will be conducted to categorize the respective screened subprojects into one of the E&S categories “high, substantial, moderate or low risk”.

Screening, carried out by the MoE/RFA assisted by approved EIA expert, is a process of determining the impact level of a proposed project, which then determines the extent of the ESIA study. It enables early identification of environmental issues of major concern and incorporation of appropriate mitigation measures. It enables identification of potential impacts on natural resources (whether the project would result in direct or indirect negative or positive impacts to natural resources), excessive resource consumption and waste generation.

Screening enables categorization of projects according to their Impact Level (IL) as follows:

a) IL 1: Projects not requiring further environmental analysis

Projects in this category are believed to have minimal adverse impacts, which can easily be identified through a Project Brief. A Project Brief is a summary statement of the likely environmental effects of a proposed development and it includes description of the site and proposed development in sufficient detail to enable the Authority to determine whether an ESIA is required or not.

b) IL 2: Projects not requiring a full ESIA but necessitate further level of assessment.

This category represents projects believed to have adverse, but not irreversible environmental impacts and mitigation and management measures can be readily designed and incorporated into the project. The ESIA process for these projects is similar to that of IL3 projects.

c) IL 3: Projects requiring a full ESIA

This category involves projects for which it is evident that there will be significant and adverse environmental impacts whose mitigation measures cannot readily be prescribed, and thus, must undergo through a complete ESIA process. The above definitions notwithstanding, categorization of project impact levels and extent of ESIA studies (with respect to duration and detail of terms of reference) will be determined by RDB. If an ESIA is not required, the project is exempted from further compliance with the ESIA process in which case, RDB issues a certificate to that effect and advises the developer and relevant licensing authority of the exemption. Conversely, if an EIA is required, RDB informs the developer that a full impact study must be undertaken.

6.1.4. Scoping and Terms of Reference

Scoping is the initial step of the Environmental Impact Study phase and involves input from relevant Lead Agencies, stakeholders and the developer to obtain their comments on what should be included in the study and what alternatives should be considered. The purpose of scoping is:

- To consider the main environmental problems to be studied, alternatives and to ensure that the spatial and temporal scopes and extent of the environmental assessment is compatible with the size of the project.
- To determine appropriate ESIA methods relevant to the project's potential environmental and socio-economic impacts.
- To provide information to communities in areas affected by the project on environmental problems and alternatives so that they may take part in identification and assessment of the project's environmental and socio-economic impacts.
- Scoping is a necessary step in formulation of detailed ToR for impact assessment by the developer.

The Developer, in this case MoE/RFA, will prepare the Terms of Reference to be approved by both AfDB and RDB before conducting the study. ToR ensure that important issues are not overlooked by the ESIA Experts and developers during ESIA studies. ToR outline conditions and expected output of an impact study. ToR shall include:

- Issues to be assessed during the impact study, as identified during scoping,
- Sufficient description of the specific work tasks for the EIA Experts,
- Stakeholders to be consulted,
- Description of the experts required for the impact study.

6.1.5 Environmental Impact Study and Report

ESIA is instruments used to identify, predict and assess the likely environmental and social consequences of proposed development activities, in order to ascertain the means through which to avoid, minimize, mitigate, compensate / offset and / or monitor adverse impacts, and increase development benefits.

An ESIA assesses the direct, indirect and cumulative impacts of a project in its area of influence, examines project alternatives and determines the significance of each of the impacts identified. The ESIA should identify ways of improving project selection, design, siting and implementation in order to avoid or mitigate and manage adverse environmental and social impacts. An ESIA should address the natural environment, human health and safety, social impacts including the risks to vulnerable groups, involuntary resettlement, cultural resources and vulnerability to climate change.

After completion of the impact study, ESIA Experts hired by the PIU as consultants will produce an Environmental and Social Impact Assessment (ESIA) Report including an Environment and Social Management Plan (ESMP) for the whole project. In addition, each sub-project will have its own ESMP highlighting site specific related impacts and associated mitigation measures. The main objective of an ESMP is to streamline environmental issues into the business and operational plans of the project. An ⁸ESMP is incorporated into the ESIA Report and submitted to the client.

An ESMP is a plan which describes the actions that will be taken by the borrower / client to enhance positive impacts and to avoid, minimize, mitigate, compensate / offset negative impacts. The ESMP is also used to monitor identified environmental and social impacts of development activities. An ESMP should describe the mitigation and management measures, clarify responsibilities for implementation, provide an implementation plan with the necessary time schedule and costs and indicate how environmental and social monitoring measures are to be implemented. The format for an ESIA / ESMP report is provided in Annex2.

6.1.6 Submission, review and approval of ESIA Report

Upon completion of the ESIA, the ESIA Experts will submit ESIA Reports in required formats to RDB and client who will in turn share the report to the AfDB for review and approval. The RDB will issue EIA Certificate and approval conditions to be signed between the RDB and RFA as contract.

6.1.7 ESIA certificate with conditions of approval

This is the final stage of the process whereby the competent authority (RDB) provides a compliance certificate for ESIA. This is accompanied by a set of conditions of approval drafted in line with identified key impacts and associated mitigation measures. The same conditions are

agreed upon and signed by RDB and the project developer as to make sure that the developer keeps in mind its safeguards compliance responsibilities at each stage of its project cycle.

6.2 ENVIRONMENTAL AND SOCIAL MONITORING PLAN

To keep track of the requirements, responsibilities and costs for monitoring the implementation of environmental mitigation identified in the analysis included in an environmental review or assessment for Category 1 and 2 projects, a monitoring plan should be prepared too. The plan shall also include a row for baseline information that is needed to achieve reliable and credible monitoring. The key elements of the matrix are:

- What is being monitored?
- Where is monitoring done?
- How monitoring will be carried out? Type of equipment for monitoring?
- When or how frequently is monitoring necessary or most effective?
- Why is the parameter being monitored (what does it tell us about environmental impact)?

All sub-projects will require the implementation of mitigation measures as specified in the sub-project's Environmental and Social Management Plan (ESMP) to be prepared right after the approval of the project overall ESIA / ESMP. The executing entity, which is responsible for the implementation of the respective sub-project, is also in charge of implementing these mitigation measures. The ESMP Guidance Note will provide a template for reporting progress of implementing the mitigation measures – to be completed by the executing entity according to the frequency established in the ESMP, at least on an annual basis.

The executing entities' ESMP progress reports will be reviewed as part of the supervision mission by the MoE Project M&E / Safeguards officer. Aside from reviewing implementation progress this step will also involve checking the effectiveness of measures in mitigating risks and screening for additional risks that may have emerged since the sub-project start and whether it is responded with adaptive management. Depending on the risk issues and their significance, the supervision mission might also include consultation with stakeholders and affected groups to gather feedback on the effectiveness of measures. Based on the executing entity's ESMP progress reports and the findings of the supervision mission, the MoE's Project M&E officer will prepare the submission of the Annual Performance Report (APR) on the environmental and social performance of the project to the AfDB.

In addition, it is useful to identify the costs associated with monitoring (both investment and recurrent) and the institutional responsibilities. When a monitoring plan is developed and put in place in the context of project implementation, the SPIU should request reports from the contractors (service providers) at appropriate intervals (monthly) and include the findings in its periodic reporting to the AfDB and make the findings available to Bank staff in the course of supervision missions.

7. ESMF IMPLEMENTATION ARRANGEMENTS AND BUDGET

7.1 IMPLEMENTATION ARRANGEMENTS

The implementation of this FIP project will be consistent with the overall institutional structure for delivery of Forest Investment Program support based on existing institutions and processes. The primary responsibility for the implementation of this FIP Project lies with the Ministry of Environment (MoE). In 2020, the Government established within the MoE, the Rwanda Forest Authority (RFA) with the mission of ensuring the growth of forest resources, their management and protection for sustainable development purposes. The effective implementation agency for the Rwanda FIP Project will therefore be RFA. However, since the project is multi-sectoral in nature, RFA collaborate closely with other partners in the activities implementation but at varying degrees. Figure 1 presents an overview of the implementation structure of this FIP project.

The implementation of the FIP project will be under the supervision of the National Steering Committee (NSC) and technically be advised by National Technical Advisory Committee (NTAC) that will be created to provide strategic and technical direction and general coordination and oversight.

The National Steering Committee (NSC) will be composed of representatives of major partners including Ministries and their agencies, Research Institutions including University of Rwanda and other organizations such as ICRAF, NGOs, Private sector, farmers' cooperatives, FFS groups, wood processing cooperatives, etc. The composition of the NSC is expected to ensure a good gender balance among the representatives of these different institutions.

The NSC will be chaired by the Permanent Secretary in the Ministry of Environment (MoE). The RFA/SPIU Coordinator will serve as the Secretary to the NSC. The NSC will be convened by the Chair on a semi-annual basis. The NSC will be mainly responsible for the following aspects:

- Policy guidance on all issues relating to the project implementation;
- Approval of project investments;
- Approval and monitoring of project annual work plans and budgets;
- Resolving implementation bottlenecks and providing positive impetus to facilitate achievement of the project's development objectives (results/outcomes).

The National Technical Advisory Committee (NTAC) shall be composed of technically competent members in the key sectors relevant to the FIP project, and shall provide technical advice and guidance on the implementation approach for the project to achieve the expected outputs. This will include representatives from the key government ministries (MoE, MINAGRI, MINALOC, etc.) and their agencies (RFA, REMA, RAB, etc.), districts, Higher learning institutions (University of Rwanda, UNILAK, etc.), relevant members of the private sector, member of relevant professional body (RAPEP) and NGOs operating locally. The NTAC shall aim to build working level cooperation, at a technical level, through joint activities including technical planning, review and validation sessions, and stakeholder workshops. The Committee will ensure

quality outputs of the project components are achieved. It will also approve the ToRs for consultancies. The NTAC shall meet physically twice a year, and hold virtual coordination meetings every quarter.

District Advisory Committee (DAC) chaired by the vice mayor in charge of economic affairs, the secretariat will be assured by the district executive secretary. Other committee members' shall include the director of natural resources at district level and selected members of his team (forestry, environment and agronomist. There shall be also a representative of one stop center (the GIS specialist). The committee shall also have sectors' representatives. These will include the sector executive secretary and agronomist.

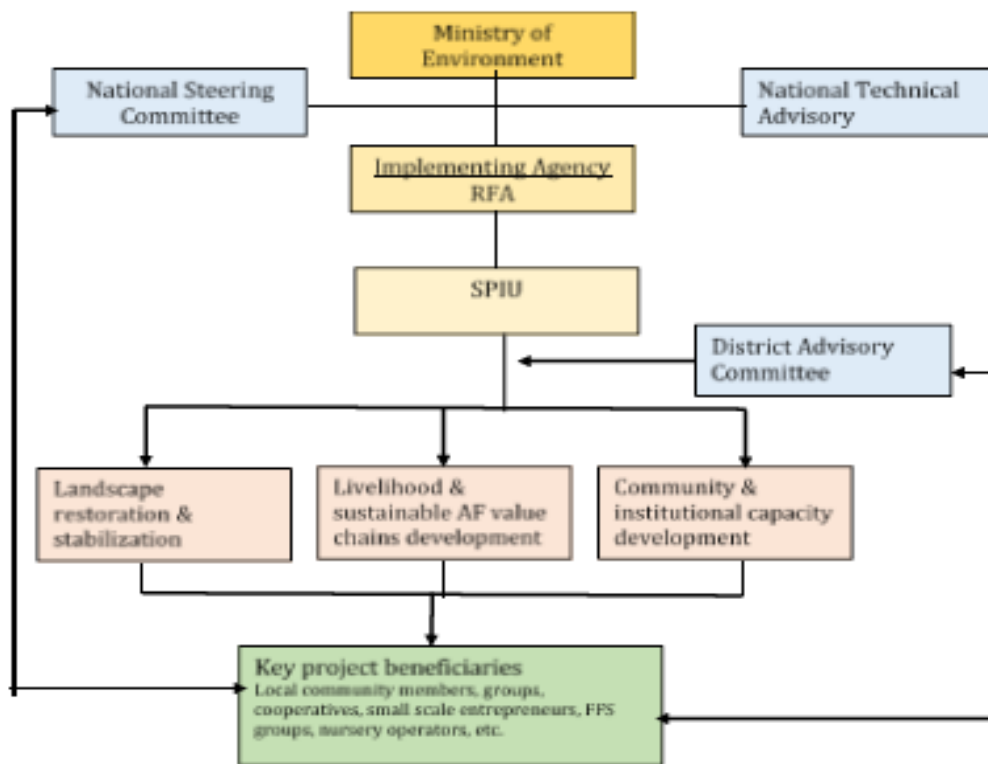


Figure 4: Implementation structure for the project

7.1.1 The Ministry of Environment (MoE)

The Ministry of the Environment (MoE) will be the main custodian of the project. Being at policy level, the ministry will appoint the project steering committee members and operationalize it. Mainly, the ministry will oversee the project implementation cycle through the result-based monitoring and evaluation (RBM&E) already established at the ministerial level.

7.1.2 Rwanda Forestry Authority (RFA)

Rwanda Forestry Authority (RFA) will be the lead institution to technically implement the project. Through its already established Single Project Implementation Unit (SPIU). RFA will undertake all the necessary steps and procedures that would allow a project to successfully achieve its expected results. These include but not limited to: Appointment of key staff for the project, hiring and supervision of contractors, consultants and other services necessary to the successful implementation of the project. The SPIU will implement the project with the technical support and inputs from other RFA structural chambers such as Forest Management Division, Forest Research Division and various units like Tree Seeds Unit among others.

7.1.3 Rwanda Land Authority (RLA)

As a national regulator for all land related matters, RLA will be involved all along the project duration as it will be facilitating the acquisition of some specific land space (needed for nursery development). Regarding the big space (need for agroforestry trees planting), RLA's district land office personnel might intervene wherever there is a need to solve land disputes that might arise among land owners.

7.1.4 Targeted districts

Through their Agricultural and Natural Resources Units, targeted districts will play a vital role of availing its trained staff and mobilizing the project beneficiaries (local community members, community-based organizations – CBOs like cooperatives or associations) on the ground and help to make sure that site-based activities of the project are smoothly implemented through awareness creation and capacity building sessions as necessary.

7.1.5 Other key partners

Other institutions like the Ministry of Agriculture and Animal Resources (MINAGRI) and its agency Rwanda Agriculture Board (RAB) and the Ministry of Gender Equality and Family Promotion (MIGEPROF) are key partners all along the project cycle. As the leading institution in the agriculture sector, MINAGRI and RAB are diamond partners in the project as the project will focus on sustainable agriculture and agroforestry which is implemented on agricultural land regularly operated with the support and technical assistance from MINAGRI/RAB. In addition, the project will build upon existing and similar initiatives which have been implemented by MINAGRI / RAB in most cases.

MIGEPROF through gender monitoring office (GMO) will play a key role of Gender and Community Mobilization Special to make ESM more gender responsive.

In general, partner and collaborating institutions are well equipped with environmental and social professionals who are conversant with environmental and social matters. In the context of this FIP project, the technical staff will be provided with refresher training in order to further enhance their capacity on environmental and in particular on social risks and safeguards during the inception *Final Environmental and Social Management Framework for Development of agroforestry and sustainable agriculture project under forestry investment programme (FIP) in Rwanda (ESMF) November, 2022*

phase of the project. These trainings will be extended to stakeholders at district and sector levels in the project intervention areas.

During the implementation of ESM safeguards, the roles of the Environmental and Social Safeguard (ESS) Specialist, and Gender & Community Mobilization Specialist will be predominant. In particular, the ESS Specialist will be responsible to:

- Prepare of Terms of References (ToR) for the recruitment of consultants to prepare the ESIA and independent mid-term and final reviews of the FIP project;
- Monitor the preparation of the reports as per the ToR;
- Supervise and monitor achievements against the Environmental and Social Management Plan;
- Build capacity in ESM implementation;
- Ensure allocation of adequate budget for the environmental and social activities execution based on approved plans.

The responsibilities of the Gender & Community Mobilization Specialist shall include:

- Coordination and supervision of the work of community mobilization, experts and consultants, including the preparation of the terms of reference, facilitation of recruitment and monitoring of work/results;
- Preparation and implementation of a coordinated response to the needs of the communities;
- Designing and planning out processes and systems to improve gender consideration and empowerment in the implementation of the project activities by ensuring community participation includes the most vulnerable and marginalized groups;
- Close and effective collaboration with district authorities and local stakeholders (private sector, NGOs, farmer groups, farmer cooperatives, tree nursery operators, FFS groups, etc.) in the target project locations to enhance their participation in the implementation of environmental and social measures;
- Leading needs assessments in target areas to inform the project management and implementation utilizing tools developed by ESS Specialist;

Since the FIP Project activities will be implemented on the ground in the landscapes of the eight districts, a District Advisory Committee (DAC) will be established to serve as a link between the FIP project implementation unit (SPIU) and the farming community and local government, in pursuit of the FIP project activities in the districts. The DAC's mandate shall be to coordinate participatory planning for agroforestry development and sustainable agriculture, improved livelihood through development of sustainable agroforestry value chains and capacity development. It will be composed of representatives of district agriculture, environment, forestry, mines, lands, and cooperatives. Some of the specific powers and duties of DAC will be as follows:

- Serve as the central point of information for the farming community regarding issues affecting agroforestry, sustainable agriculture, environmental and social measures;
- Advise SPIU regarding the effect of FIP project on environment and social considerations;

- Work to establish better communication and understanding between the agricultural industry and the community at large;
- Advise on the implementation of local initiatives pertaining to development of agroforestry, and sustainable agriculture practices and how these areas would contribute to better livelihoods and environmental management;
- Advise on initiatives to support agroforestry value chains development.

The Project beneficiaries will also be part of the District Advisory Committee while ensuring that organizations focusing on women, youth and other disadvantaged groups are brought into the committee appropriately, to ensure the needs of these groups are fully considered and included in delivery of the project activities and derive benefits from them. Overall, the farmers will represent their groups and cooperatives from specific sites within the project intervention areas. These farmers will participate in conflict resolutions as well as in proposing solutions to challenges and issues arising during implementation of the project, such as those related to land use options. The Mayors or Vice-Mayors, district agriculture, forestry and natural resources offices, civil society groups, and other stakeholder representatives will act as channels to bring issues forward during the meetings of the National Steering Committee.

7.2 ESMF IMPLEMENTATION BUDGET

The Budget for the implementation of this ESMF will be provided by the Government of Rwanda and will mainly consist on preparation of safeguards tools. The cost for mitigation measures will be included in the EIs, ESMPs and RAPs. The table below show the estimated cost for the implementation of the ESMF for the proposed project.

Table 5: Estimated budget for the implementation ESMF for FIP-Rwanda

Relevant project component	E&S Activities	Cost (US\$)	Remarks
Landscape restoration and stabilization, rural community livelihood through sustainable AF value chain development	Updating Environmental and Social Impact Assessment Study (ESIA study) or preparation of ESMP	268,000	Depending upon activities to be undertaken per site, there will be sites with full ESIA, ESMP and existing ESIA updating. The ESIA/ESMP reports under matching grant funding will be funded by the bank and the project will review prepared reports.
	Implementation/Monitoring of ESMPs	160,000	Annual E&S Audits and routine monitoring and reporting of ESMPs during the project period
	Conducting annual audits for safeguards implementation (Annual	100,000	In addition to routing monitoring of site-specific implementation of ESMPs, there should be an overall and systematic audit

Relevant project component	E&S Activities	Cost (US\$)	Remarks
	E&S Audit and Completion Audit of ES performance)		for safeguards implementation for the whole project.
Institutional and community adaptive skills and capacities for AF development	Capacity building	100,000	Trainings, workshops on safeguards implementation and climate resilience through ecosystem-based approaches (EbA) approaches with project staff, relevant district staff, contractors and supervisors, Community representatives and GRCs. Awareness and prevention of diseases, including Covid-19 pandemic and water bone diseases.
Total		628,000	
Contingency (10%)		62,800	
Grand Total		690,800	

7.3 ESMF IMPLEMENTATION SCHEDULE

A Schedule for the Implementation will guide all environmental and social related activities related activities in each subproject. A tentative schedule is provided in table 6. As the project starts, each subproject will present a specific schedule for its ESMF related activities with adaptations and modifications according to specific subproject requirements and conditions.

Table 6: Tentative Schedule for the Implementation of the ESMF

ESMF related activities	Year 1												Year 2											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Conduct overall project's Environmental and Social Impact Assessment study and Management Plan (ESIA / ESMP)	■	■																						
Preparation of ESMPs for relevant sub-projects				■	■	■																		
Monitor the implementation of ESMPs specific to sub-projects							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Capacity building							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

8. STAKEHOLDER ENGAGEMENT & INFORMATION DISCLOSURE

The Development of Agroforestry and Sustainable Agriculture Project will involve different stakeholders among others Ministry of Environment (MoE), Rwanda Land Authority (RLA), the Rwanda Environmental Management Agency (REMA), the Fund for Environment and Climate Change (FONERWA), the Rwanda Development Board (RDB), the Ministry of Agriculture and Animal Resources (MINAGRI) and its agency the Rwanda Agriculture and Animal Resources Development Board Board (RAB); and the University of Rwanda, College of Agriculture, Veterinary Medicine (UR-CAVM), School of Forestry, Biodiversity and Biological Sciences, civil society organizations i.e., the Rwanda Environment NGO Forum (RENGOF) etc.

MoE / RFA should ensure that there is no prejudice or discrimination toward project-affected individuals or communities. Particular consideration will be given to women, disadvantaged or vulnerable, especially where adverse impacts may arise, or development benefits are to be shared. Practical measures in terms of timing, location, language etc. should be put in place to ensure their adequate participation in consultations and in accessing potential benefit sharing.

Affected Parties being among the stakeholders will include local communities, community members and other parties that may be subject to direct impacts from the Project during project activities. Particularly, due to the project, the following individuals and groups fall within this category:

- Communities in the vicinity of the project's intervention sites;
- The local population and local leaders
- Residents and business entities

In terms of communication, the Stakeholder Engagement Plan (SEP) specifies the frequency and type of communications tools such as media, contact persons, telephone, meetings etc. and locations of communication events. It is prepared at the beginning of the project and updated frequently, as stakeholders' communication might require change. The SEP identifies actions required to promote productive involvement of stakeholders in decision-making and execution. It can be formal or informal and highly detailed or broadly framed, based on the needs of the project and the expectations of its stakeholders.

The SEP will describe the timing and methods of engaging with stakeholders and range of information to be communicated to them as well as information to be sought from them throughout the life cycle of the project, distinguishing between PAPs and other interested parties.

8.1 STAKEHOLDERS CONSULTATION AND PARTICIPATION

According to the AfDB's OS 1 on environmental and social assessment, the borrower or client is responsible for conducting and providing evidence of meaningful consultation (i.e., consultation that is free, prior and informed) with communities likely to be affected by environmental and social impacts, and with local stakeholders, and also for ensuring broad community support, especially for Category 1 projects and for projects affecting indigenous peoples. Consultation is undertaken with reference to the updated IESIA Guidance Notes on consultation, participation and broad community support, which also provide guidance on affected communities' involvement in the process of project planning, implementation and monitoring.

To ensure meaningful consultations, the project developer will provide relevant material in a timely manner prior to consultation. It is important for the project developer (MoE / RFA) to build good working relationships with different stakeholders in order to avoid conflicts that may arise, assess the level of stakeholder interests, support and concerns, take stakeholders views, concerns into account during project implementation. An ESMP shall not be limited to the project implementation period. It also covers the operational phase under each sub-project. It means that districts and developers should commit to adhere to all safeguard's provisions.

During the preparation of ESMP, it is important to undertake public consultations for groups that may be impacted by subproject. Accordingly, a series of key stakeholder's consultations meetings should be held at various levels; at the national, provincial, district, sector, and cell levels including Cooperatives, NGOs, Extension workers, Farmers, Youth Groups, and Community Leaders). Pertaining to the supervision and enforcement of Environmental and Social Guidelines; the Rwanda Environmental Management Authority (REMA) is responsible for providing guidelines and procedures for the preparation of the E&S instruments and the Rwanda Development Board (RDB) is responsible for application processes, services, quality review, approval and certification of the applicable safeguard's instruments.

These groups are usually represented by those who live near project's intervention sites, as well as by representatives of local NGOs, and other stakeholders. Public consultations should take place at any subproject to inform stakeholders on planned socioeconomic safety measures and to get their feedback (concerns & opinions). During public consultations, stakeholders will be given an opportunity to express their views on any environment and social-related issues that may arise in the course of project implementation.

All PAPs will be informed and meaningfully consulted on the project using accessible communication methods and language. Any reasonable issue raised at public consultation, will be included in specific ESMP. Views of the stakeholders will be taken

into account during subproject implementation. Public consultations usually take the form of meetings which enable the best information exchange: subproject initiators inform local communities on their activities and local communities are able to raise issues that are relevant for them. Household visits will be used to inform vulnerable and disadvantaged categories of people (people with disabilities, landless persons, and elderly).

8.2 DISCLOSURE

The ESMF serves as the Project's umbrella for the environmental and social management document, setting out the strategy to screening process that will ensure capturing all the project's environmental and social issues. Disclosure of ESMF should conform to the Public Communications Policy of the bank: Disclosure and Exchange of Information which requires that the ESMF document for AfDB's projects be accessible to the interested parties and the general public. As soon as the client (MoE/RFA) receives the ESMF, should initiate the process of public hearings which includes the disclosure of the ESMF document, arrangement of communication interaction with stakeholders and conduct public hearings.

At the same time, the bidding commission shall include draft check list for ESMPs in the bidding packages and add a provision specifying that if new information arises out of (may occur in parallel) public hearings for the ESMPs to be updated, without effect on the project's implementation budget (it is extremely rare occasion when changes in ESMPs/ESMP checklists on the basis of public hearings require a significant budget increase which can put bidders at risk). After the successful service provider (e.g: company contracted to avail seedlings) is selected, the last prepares site specific ESMPs / ESMP checklists with due account of his equipment, technology, status of the facility etc. This document shall be included in the first monitoring report on the sub-project.

8.3 GRIEVANCE REDRESS MECHANISM (GRM)

A Grievance Redress Mechanism will be implemented to ensure that all complaints from local communities are dealt with appropriately, with corrective actions being implemented, and the complainant being informed of the outcome.

It will be applied to all complaints from affected parties. Lead Implementing agency will (RFA) maintain a Complaints Database, which will contain all the information on complaints or grievances received from the communities or other stakeholders. This would include: the type of complaint, location, time, actions to address these complaints, and final outcome. The implementing agency (RFA), in coordination with district forestry-agroforestry specialists in collaboration with local leaders, shall set-up a grievance redress committee that will address any complaints during project implementation and the GRC operations should be financed by RFA. Grievances should be resolved within 15 working days.

In addition, for resettlement related complaints, the sub project ARAP/RAP team (comprised of Sociologist, a Land Surveyor and Valuation Experts) will facilitate the establishing of the grievance redress mechanisms in accordance to the guidelines outlined in the RPF under the District Executive Secretary on behalf of the District Council. The following levels of grievance resolution are provided for by Law.

However, the project’s RPF if it is required will provide details of the process and institutions involved:

- a) Resettlement and Compensation Committee
- b) Role of District Executive Committee, MoE / RFA resolution of contestations to the expropriation list and valuation for compensation and resettlement
- c) Approval and timeframe for payment of compensation
- d) Retraction of expropriation
- e) Cell Adjudication Committee (CAC)
- f) High Court

A grievance form is presented below and hard copies will be made available at community centers.

Table 7: Grievance form for FIP

PROJECT:	District	Sector	Cell	Village
Grievance number:			
Name of the recorder:.....			Title:.....	
Date: / /				
Complainant Names:		Signature of Complainant..... Date: / /		
Province	District	Sector	Cell	Village
Details of Complaint:				
.....				
.....				
.....				

Grievance Clouse Out

Grievance number::.....

Define immediate action required:

.....

Define Long term action required (If necessary):

.....

Corrective action plan taken	Due date
-------------------------------------	-----------------

Responsible party (Filled in and signed by the complainant when she/he receives compensation or file closed):.....

Complainant Name:Date: ../../.....

Signature.....

Responsible Grievance Redress Committee

Title

.....Name.....Date../../.....Signature.....

8.3.1 Grievance Redress Committee (GRC) at project level (RFA level)

It is highly recommendable that the client (RFA) establishes a grievance mechanism as early as possible in the project development phase. In this section, the Grievance Redress Committee (GRC) is elaborated in and recommends its composition at the project level.

The GRC at the project level shall be responsible for:

- Coordinating GRC activities at different sites;
- Redressing all complaints which at the level of the project;
- Redressing all complaints which are not resolved at site specific GRC;
- Carrying out field and complainants visits whenever necessary;
- Coordinate GRM activities at different sites;

The proposed GRC at the project level will be chaired by elected chairperson from representative institutions except RFA which will play role of secretariat. It would be composed by:

- RFA representative (as implementing agency – playing the role of Secretariat)
- SPIU representative
- E&S/ MoE
- MINAGRI representative
- E&S team of key involved institutions
- REMA representative
- PSF representative

The GRC after its establishment, it will elect its chairperson and the secretariat position will be occupied by the implementing agency (RFA) because it is having the mandate of keeping all reports on complaints that have been raised and solved.

8.3.2 Grievance Redress Committee (GRC) at site specific level

In accordance with the IFC Involuntary Resettlement and the Grievance Redress Mechanism (GRM), a Grievance Redress Committee (GRC) is recommended at site specific level.

The GRC at the site-specific level shall be responsible for:

- Receiving immediate grievances, complaints and concerns presented to them at site;
- Solving all grievances received at site or neighboring environment;
- Forwarding unresolved grievances to the GRC at Project level;
- Maintaining the grievance log and all records;
- Carrying out field and complainants visits whenever necessary;

The proposed GRC at the site-specific level will be chaired by village leader and will be composed by:

- Farmer promoter (village level),
- Worker's representative,
- Village leader (chairperson)
- Women representative
- Youth representative

The committee once established, elects its secretary and it is chaired by the lead of village (umudugudu).

9. ESMF MONITORING, ANNUAL AUDITING & REPORTING ARRANGEMENTS

This chapter sets out requirements for monitoring, and evaluation, annual audit, and reporting of this ESMF implementation.

9.1. MONITORING

Monitoring is a continuing process throughout the life of the proposed project from subproject design and implementation phases, up to post implementation phases. Its purpose is to establish benchmarks so that the nature and magnitude of anticipated environmental and social impacts emanated from subproject activities can be continually assessed ensuring the achievement of the ESMF objectives. Monitoring of ESMF as a continuous activity during the proposed project implementations and/or periodic review as annual monitoring/auditing is used to determine and guarantee the effectiveness of ESMF measures and procedures. This ESMF has planned for a monitoring and reporting framework that considers requirements of the Rwandan safeguards, gender responsive as well as those of development partners for the project accountability.

The objectives of ESMF monitoring are:

- To alert the project implementers and other relevant counterparts of the proposed project by providing timely information about the success or otherwise of the environmental and social impact management process outlined in this ESMF in such a manner that changes can be made as required to ensure continuous improvement to proposed project environmental and social management process (even beyond the project's life).
- To make a final evaluation that helps to determine whether the mitigation measures incorporated into the technical designs and the project ESMPs have been successfully annexed in the contract document and implemented. In addition to ensuring the pre-project environmental and social settings have been restored, improved upon, or if worse than before, to determine what level and type of further mitigation measures are required.

A number of indicators are presented below as part of the ESMF implementation which will be included in the overall project monitoring. In addition, an E&S Annual Audit will be conducted by a consultant to be hired by the implementing agency and submitted to AfDB after approval by relevant national Authorities. A budget for E&S annual audit should be planned for. Any High or substantial-Risk subproject financed by the proposed project that has been subject to an ESIA study will also be required to produce an annual audit report, for delivery to RDB, and the AfDB. Indicators which will be used during monitoring of the performance of ESMF implementation include:

- Number of field appraisals conducted;
- Number of ESIA/ESMPs, RAPs and other site-specific E&S plan developed;
- Number of written warnings of violations of ESMPs issued to subproject contractors in case of non-compliance;

- Number of recommendations from the AfDB missions, an annual audit/review that has been implemented at the beginning of the following year and Quarterly performance monitoring report;
- Number of staff at all levels trained in the implementation of this ESMF;
- Number of chances find procedures for physical cultural resources invoked, if applicable; and,
- Number of staff and other stakeholders at all levels attending a training course, raising awareness and sensitization program in environmental and social policies and safeguards instruments, ESMF, RAP, ESMP, ESIA, and other site-specific E&S plans.

The indicators are deliberately very simple. Despite their simplicity, the integration of these indicators into the proposed project planning and its subprojects M and E system provides a guarantee that the ESMF will be implemented in full.

9.2. ANNUAL AUDIT

The project E&S annual audit is an independently commissioned environmental and social audit that will be carried out on an annual basis, as required to ensure sound implementation of ESMF. The E&S annual audit will be undertaken by external consultants licensed for that purpose as applicable. E&S Audit report is approved by REMA. The E&S audit amongst other things will assess the performance of subprojects under the proposed project against the procedures described in this ESMF, the need for future training, awareness creation and sensitization, and the implementation of environmental and social impacts of the proposed project and its subprojects.

The E&S Annual Audit also provides a strong incentive for MoE, RFA, REMA, etc., and other relevant implementing parties to ensure that the ESMF is implemented and the subproject ESMPs and other required safeguards instruments are developed and implemented, as recommended. As applicable, the Audit Team will report to MoE/RFA as well as to the MINAGRI, RAB, REMA as required and the AfDB, to lead the implementation of any corrective measures, as required. An E&S Annual Audit Report will include a summary of the environmental and social safeguards performance of the subprojects under the proposed project, based on the subproject ESMPs and measures indicated in the ESMF; presentation of compliance and progress in the implementation of the subproject ESMPs; and a synopsis of the environmental and social monitoring results from individual project monitoring measures (as set out in the respective subproject ESMPs), at local/district level.

The main tasks of the audit study will be, but are not limited to:

- Description of the project, objective, scope, and criteria of the audit;
- Verify the level of compliance by the proponent (MoE/RFA) with the conditions of the environmental and social management plan and site-specific E&S plans, as applicable;
- Evaluate the proponent's knowledge and awareness of and responsibility for the application of relevant legislation;
- Review existing project documentation related to all project facilities and designs;

- Examine monitoring programs, parameters, equipment (if any) and procedures in place for control and corrective actions in case of emergencies;
- Examine records of incidents and accidents and the likelihood of future occurrence of the incidents and accidents;
- Inspect areas where project equipment and materials are stored and disposed of and give a record of all significant environmental and social risks associated with such activities;
- Examine and seek views on health and safety issues from the project staff, the local and other potentially affected communities; and
- Prepare a list of health, safety, and environmental and social concerns of past and ongoing activities.

The project implementer (MoE / RFA) must submit the annual audit report to REMA, and the AfDB on time.

9.3 ESMF REPORTING PROCEDURES AND REQUIREMENTS

Regular Quarterly Internal Environmental and Social performance monitoring reports on ESMF implementation will be prepared by the RFA -SPIU Environmental and Social Specialists and shall be delivered to the RFA, and then to AfDB. The coordination of the project at RFA level will define, from the beginning of each sub project, a focal point responsible of producing E&S Quarter reports (at sub project level) to ensure effectiveness in reporting. In addition, any “Substantial Risk” subproject financed by the proposed project that has been subject to an ESIA study will also be required to produce an E&S annual audit report, for delivery to REMA (for approval) and then to AfDB.

The principal output of the annual E&S Audit/reviews is a comprehensive report that documents the Audit/review methodology, summarizes the results, and provides practical recommendations and more specifically a section referring to the overall ESMF performance, and mitigation measures, etc. Annexes should provide the detailed results of the fieldwork and summarize the number of approved projects by the respective national and district teams and their characteristics.

During the implementation of the Project, reports mainly originate from the SPIU on the day-to-day progress of the works. The SPIU submits reports to the Project office for their follow-up and review and comments on the reports and subsequently, the project office will submit copies of reports to the MoE/RFA for action, as applicable. The feedback of reports from the Project office, MoE / RFA should be provided to the project manager / coordinator within the time stipulated in the contract document. MoE/RFA will also submit copies of reports to the AfDB and REMA, as required. To ensure early detection of critical environmental and social conditions and to provide information on the mitigation progress and results, reporting deadlines have been specified in the ESMF implementation schedule.

10. CAPACITY BUILDING AND TRAINING REQUIREMENTS

10.1 CAPACITY BUILDING

Effective implementation of Environment and Social Management Framework (ESMF) requires technical capacity in the human resource base of implementing institutions as well as logistical facilitation. Institutions involved in the implementation of the project (MoE, MINAGRI, RFA, RAB and targeted districts) need to understand inherent social and environmental issues and values and be able to clearly identify indicators of these.

Even with existence of policies and laws such as the Environment new Law (2018), evidence on the ground still indicates that there is significant shortcoming in the abilities of local and district level stakeholders to correctly monitor, mitigate and manage environmental performance of development projects.

It is important for the project in charge, E&S safeguard specialists from MoE, MINAGRI, RFA, RAB on one hand, and the environmentalist, forest specialist and agronomist from each district on the other hand, to get the appropriate trainings that help them ensuring that the project complies with the country's environmental and social laws, and that the project adheres to this ESMF. Sufficient understanding of the mechanisms for implementing the ESMF will need to be provided to the various stakeholders implementing the sub-projects. Focal points selected to do quarter reports will also need regular capacity building to ensure their adequacy in complying with afdb's E&S reporting template. This will be important to support the teams, appreciate their role in providing supervision, monitoring and evaluation including environmental reporting on the project's activities. RFA / SPIU should carefully analyze the project scope, their availability to the project activities and their capacity for the successful implementation of the project and its ESMF.

10.2 TRAINING REQUIREMENTS

Human capacity requirements for stakeholders of this ESMF are related to "low technical capacity", and "Inadequate staffing" in the area of safeguards. This means the implementation of this ESMF requires the right number of trained and dedicated staff for environmental and social management purposes at all levels (MoE, MINAGRI, RFA, RAB Districts and Local community). It is very important to build the capacity of staff that will be assigned duties related to environmental and social management.

The implementation of ESMF and related ESMPs requires dedicated staff with sufficient knowledge on environmental and social management principles, project screening, impact mitigation, monitoring and follow-up action. Training and awareness creation should be undertaken at different levels of ESMF implementation. These levels will entail the central Government (MoE, MINAGRI), RFA-SPIU, RAB, Districts, local authorities, private sector, NGOs, and GRM committees. The exercise will be customized according to each level's needs to ensure adequacy in implementation of the ESMF. The table below shows specific training interventions under proposed project, their target audience, timeline and budget.

Table 8: Proposed Training interventions

Planned trainings	Target audience	Timeline (phases of the implementation)			Estimated budget (USD)
		Pre-implementation	During implementation	Post-implementation	
<ul style="list-style-type: none"> -Need for ESMPs, -Content of ESMF, -ESMF requirements (roles& responsibilities and actions to be taken), -ESMF checklist documents -National and AfDB requirements for the content and quality of ESMPs. - E&S reporting 	E&S specialist of RFA-SPIU, District representatives, Supervising company, Contractor representative (E&S specialists).	X	X		30,000
National and AfDB E&S OS required to implement ESMF	SPIU – RFA, RAB, MoE, MINAGRI, district relevant staff		X		10,000
Wastes minimization and management	E&S Specialist of RFA-SPIU, E&S specialist of RFA, District representatives, Supervising company, Contractor representative (E&S specialists).		X		10,000

11. CONCLUSION AND RECOMMENDATIONS

This Environmental and Social Management Framework (ESMF) has been prepared in order to guide project planners, implementers and other stakeholders to identify and mitigate environmental and social impacts in the Context of the Development of agroforestry and Sustainable agriculture Project under Forestry Investment Program (FIP). The ESMF provides project implementers with an environmental and social screening process that will enable them to identify, assess and mitigate potential environmental and social sub-projects' impacts, in accordance with the Government of Rwanda and African Development Bank Environmental and Social Safeguard Policies.

The implementation of the project will have the environmental and social impacts that should be mitigated following the ESMF guidelines. Successful implementation of this ESMF will depend to a large extent on the active participation of different key stakeholders (Project SPIU, RFA, MoE, RAB, MINAGRI, Districts, and local communities). To be successful it is recommended that:

- Environmental and Social awareness and education for the key stakeholders and affected communities must be an integral part of the ESMF implementation.
- FIP Projects SPIU, RFA, District Environmentalist, District Agronomist, E&S Specialists of project implementers be adequately trained to implement the screening process, and where required to help develop and implement appropriate Environmental and Social Management and Monitoring Plans that will be prepared by each sub project. They should be empowered to adequately administer the ESMF and should be given the necessary support and resources to ensure effective implementation.
- This ESMF should be regularly updated to respond to changing local conditions and should go through the national approval processes, reviewed and approved. It should also incorporate lessons learned from implementation of the project activities.

Annexes

Annex 1: Environmental and Social screening checklist (form)

FIP Project:	Select relevant project
Project Investment name	[type here]
Location	[type here]
Estimated cost (RwF)	[type here]

TYPE OF PROJECT OR ACTIVITY:

Project Type

- Development of Agroforestry and Sustainable Agriculture

Project Component

- Landscape restoration and stabilization.
- Rural community livelihood and sustainable AF value chain development.
- Any other utility.

Please provide more details:

What are the activities that have been commenced:

Land acquisition Process

Has the Project already acquired the Land before applying for financing from FIP?

If Yes,

- Was public consultation conducted? Yes No
- Is there any grievance received so far Yes No
- If Yes, what was the complaint and how was it solved? (Provide proof if any)
- How was the Land Acquisition Process carried out?

Briefly describe this process of stakeholder engagement and key stakeholders and the results of the engagement exercise.

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Land Acquisition Audit

Feedback from the Land Acquisition Process Audit

.....

.....

Include if willing buyer and willing seller approach was applied.

.....

Attach supporting Documents (Land valuation report, land purchase agreement and proof transfer)

Likely project impact	Yes/No	Comments on extent or quantity of impact and proposed mitigation measures
○ Is the Project site affecting a gazetted forest? If yes, to what extent.		
○ Will this project affect vulnerable and marginalized groups? If yes, a Livelihood Restoration Plan will be required		

○ <i>Are there surface water resources or natural springs at the Project site? If yes, what type of resources and what are they used for?</i>		
○ <i>Do wetlands (lakes, rivers, swamp, seasonally inundated areas) exist at the Project site? If yes, what type of resources and what are they used for?</i>		
○ <i>Is there any habitat of endangered/vulnerable/ threatened species for which protection is required under Rwanda national law/local law and/or international agreements at the Project site?</i>		
○ <i>Is there any protected area, nationally or internationally (national park, national reserve, world heritage site etc.) at the Project site or in its immediate surrounding? If yes, give more explanation.</i>		
○ <i>Would the proposed project pose a risk of introducing invasive alien species? If yes, how?</i>		
○ <i>Does the project involve extraction, diversion or containment of surface or ground water that could cause depletion of water sources? If yes, what volumes will be extracted and what is the estimated reserve that exists?</i>		
○ <i>Does the project pose a risk of degrading soils? If yes, in what manner?</i>		
○ <i>Would the proposed project result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and trans boundary impacts? If yes, how?</i>		
○ <i>Is there a potential for the release to the environment of hazardous materials resulting from their production,</i>		

<i>transportation, handling, storage and use for project activities? If yes, how?</i>		
<i>○ Will the proposed project involve the application of pesticides and fertilizers that have a known negative effect on the environment or human health? If yes, in what quantities and for what purpose?</i>		
<i>○ Would the proposed project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, and erosion, flooding or extreme climatic conditions? If yes, explain?</i>		
<i>○ Is there a possibility that the project will adversely affect the aesthetic attractiveness of the local landscape? If yes, explain how</i>		
<i>○ Based on available sources, consultation with local authorities, local knowledge and/or observations, could the project alter any historical, archaeological, cultural heritage traditional (sacred, ritual area) site or require excavation near same? If yes, which ones?</i>		
<i>○ Is the project likely to significantly affect the cultural traditions of affected communities, including gender-based roles? If yes, explain how?</i>		
<i>○ Would the proposed project produce a physical “splintering or break up into small fragments” of a community? If yes, explain how?</i>		
<i>○ Indicate here if the project will require expropriations. If yes specify how many Households (HH) are concerned as well as the type of property (business, residence, land, crops and trees, etc), the number of the properties, area of land taken by the project (i.e. percentage % of each affected person) and that land left</i>		

<p><i>per affected person (percentage %). In case of expropriation specify what, the mitigation measures are (e.g. financial compensation, relocation etc.)</i></p>		
<p>○ <i>Is the project likely to result in influx of people into the affected community (ies)? If yes, explain how?</i></p>		
<p>○ <i>Is there any other project or potential project nearby likely to be affected or to affect this project? If yes, which one and explain how?</i></p>		

Annex 2: Proposed Format of ESIA/ESMP Report

1. Executive Summary: This section shall present in a non-technical language a concise summary of the ESIA Report including the baseline conditions; the alternatives considered; mitigation/enhancement measures; monitoring program; consultations with stakeholders; capabilities of environmental and social units and actions to strengthen those capacities; and cost implications.

2. General Introduction: The Introduction shall indicate the purpose of the ESIA, present an overview of the proposed project to be assessed, as well as the project's purpose and needs. It shall also briefly mention the contents of the ESIA Report and the methods adopted to complete the assessment.

3. Policy, legal and institutional framework: This chapter concerns the policy, legal and institutional framework within which the ESIA is carried out. It presents the relevant national environmental, climate change and social policies, multilateral environmental agreements (MEAs), and AfDB Safeguards operations (OS) relevant to the project.

4 Description of project and justification: The first part of this chapter shall describe the proposed project, its area of influence (including a map showing the project's location) and its geographic, ecological, social, economic and temporal context; various project components, capacity, plantation activities, facilities, staffing, working conditions, availability and source of seeds and seedlings, production methods, products, schedule of works, land tenure, potential beneficiaries, affected groups (directly and indirectly), and offsite investments that may be required. This section shall determine and characterize the anticipated impacts. It shall also indicate the need for any resettlement plan or vulnerable group's development plan. The project justification should be based on combined economic, environmental and social assessments. To this end, this chapter shall describe the current situation in the sector, explain the problems or the needs to be satisfied by the project and present the constraints associated with the project implementation.

5 Description of project environment: This chapter shall first determine the limits of the study area that shall be defined in order to encompass all project direct and indirect impacts. The description and analysis of the physical and biological shall address relevant environmental, social and climate change issues within this area, including any changes anticipated before project implementation. The description shall also integrate human conditions including population characteristics and trends, revenue disparities, gender differences, health problems, natural resource access and ownership, land use patterns and civil society organization level. It shall also address the interrelations between the environmental and social components and the importance (value) that the society and local populations attach to these components. A particular attention shall be given to the rare, threatened, sensitive or valorized environmental and social components. Maps, figures and tables shall be included in this chapter to better illustrate the various environmental and social components.

6 Presentation of the alternatives considered: This part of the ESIA Report consists in analyzing the various feasible alternatives of the project, including the “without project” option. It normally comprises two sections. The first section identifies and describes the potential feasible alternatives that would allow to reach the project objectives. The second section presents a comparison of the potential alternatives on the basis of technical, economic, environmental and social criteria, as well as of public views and concerns.

7 Results of the comparison of alternatives: The alternative comparison shall address the proposed project site, technology, design, and operation, in terms of their potential environmental and social impacts and the feasibility of mitigating these impacts. For each of the alternatives, the environmental and social impacts shall be quantified as possible, including their economic values where feasible. The selected alternative shall be the most environmentally and socially sustainable, taking into account the technical and economic feasibility.

8 Potential Environmental and Social Impacts: This chapter presents a detailed analysis of beneficial and adverse impacts of various components of the selected project alternative on the physical, biological and human (social, cultural and economic) environments. The methodology of assessment, based on a rigorous scientific method, shall be first presented. Then all environmental and social, direct and indirect, short and long-term, temporary and permanent impacts shall be described and assessed, indicating their importance level and their probability of occurrence. The importance level may be assessed on the basis of the nature, extent, intensity and duration of the impact, as well as on the sensitivity of the concerned environmental and social components and perceptions of the public. Irreversible or unavoidable impacts shall be clearly identified. Cumulative effects shall also be addressed taking into account other projects or actions planned in the study area.

9 Mitigation/Enhancement Measures and Complementary Initiatives: Appropriate mitigation measures shall be identified to prevent, minimize, mitigate or compensate for adverse environmental and/or social impacts. Moreover, enhancement measures shall be developed in order to improve project environmental and social performance. Roles and responsibilities to implement measures shall be clearly defined. The cost of each mitigation and enhancement measure shall be estimated, including the cost for environmental and social capacity building. This cost shall be estimated for each identified measure and integrated into the overall project cost. A clear budget line for the measures shall be provided in the detailed cost breakdown by category, component, foreign and local cost. The total cost of the mitigation/enhancement measures shall also be provided in Annex B8 of the Appraisal report. Whenever applicable this section shall present initiatives proposed to complement the enhancement and mitigation measures previously described. For example, resettlement plans shall be summarized in this section, briefly presenting the number of displaced people, compensation and re-insertion measures, legal status, public consultations, implementation schedule as well as monitoring and evaluation procedures.

10 Expected residual effects and environmental hazard management: Residual impacts shall be presented. Whenever relevant, this chapter shall also describe the security measures and propose

a preliminary contingency plan for the construction and operation phases of the project (possible contingency situations, major actions to properly react to accidents, responsibilities and means of communications). For projects that may cause major technological accidents whose consequences may exceed the project site, the ESIA shall include an analysis of the technological accident risk: identification of hazard and potential consequences, estimation of the consequences' magnitude and frequency, and risk estimation and evaluation.

11 Environmental and Social Management Plan: This section shall present mitigation measures including actions, roles and responsibilities, timeframes, monitoring and cost of implementation.

12 Environmental and Social Monitoring Plan: This section shall summarize the surveillance and monitoring activities proposed in the Environmental and Social Management Plan prepared for the project. It shall identify the roles and responsibilities of stakeholders in the implementation as well as the estimated cost of the activities.

13 Summary of public consultations and the opinions expressed: This chapter shall summarize the actions undertaken to consult the groups affected by the project, as well as other concerned key stakeholders including Civil Society Organizations. The detailed record of the consultation meetings shall be presented in annex to the ESIA Report. The consultation shall be free, prior and informed with communities likely to be affected by environmental and social impacts, and with local stakeholders. The results of such consultation shall be adequately reflected in the project design as well as in the preparation of project documentation. In all cases, consultation should be carried out in conjunction with the release of environmental and social information.

14 Conclusion and recommendations: The Conclusion shall specify the environmental and social acceptability of the project, taking into account the impacts and measures identified during the assessment process. It shall also identify any other condition or external requirement for ensuring the success of the project.

15 Annexes:

- List of the professionals and organizations having contributed to the preparation of the ESIA Report.
- List of consulted documents, including project-related reports.
- Baseline data referred to in the Report.
- Record of consultation meetings with primary and secondary stakeholders.

Annex 3: Guidance for ESMF implementation, monitoring and reporting

SN	Impact	Parameter to be monitored	Frequency (indicative)	Mitigation measures,	Indicator,	Responsible body,	Indicative budget.
Positive Impact							
1	Job creation	Number of direct jobs to project beneficiaries desegregated by sex	Quarterly				
2	Skills transfer	Number of trainings offered	Quarterly				
3	Carbon sequestration	CO2 captured or emitted as a result of project implementation	Yearly (consultancy service may be required)				
4	Biodiversity conservation	Biodiversity trend (richness and abundance)	Yearly				
5	Soil health enrichment (Increased productivity)	Productivity of selected crops	Seasonal surveys				

SN	Impact	Parameter to be monitored	Frequency (indicative)	Mitigation measures,	Indicator,	Responsible body,	Indicative budget.
6	Air and water quality	Water quality testing (siltation: TSS/turbidity,)	Seasonal (baseline report may be needed)				
7	Increased community resilience / poverty reduction	Improved livelihood (survey on quality of life in the project area)	Quarterly or early				
8	Improved sources of energy	Number of distributed cook stoves (this may be aligned/considered with the GHG emission reduction)	Quarterly				
9		Number of HH adopting alternatives cooking energy					

SN	Impact	Parameter to be monitored	Frequency (indicative)	Mitigation measures,	Indicator,	Responsible body,	Indicative budget.
10	Reduced malnutrition	Number of cases in the project intervention area	Yearly (statistical reports)				
Negative impact							
11	Grievances (incl. land ownership issues, species to be planted, etc.)	Number of cases received and solved	Monthly				
12	Impact on biodiversity/risk of invasive species	Biodiversity trend (richness and abundance)	Baseline, mid-term, end line				
13	Risk of diseases	Number of cases reported	Seasonal				
14	Risk of crop damages by birds attracted by trees & crops	Loss of production (estimates, based on field information)	Seasonal				

SN	Impact	Parameter to be monitored	Frequency (indicative)	Mitigation measures,	Indicator,	Responsible body,	Indicative budget.
15	Pollution (e.g. germination bags)	Percentage of waste collected and managed as per the relevant laws and guidelines (recycling, etc.)	Quarterly				

Annex 4: Public Participation and Stakeholder Involvement

It is a requirement that appropriate mechanisms for ensuring full involvement and participation of the public is accorded priority and should be a continuous process from screening, scoping, during EIA/EA Study report preparation, draft EIA/EA report, and during EIA/EA finalization and review. During and after implementation of the project, stakeholders are still actively involved as they are always consulted by REMA during its inspection and monitoring ESMP aspects.

Purpose and objectives of public consultation

The purpose of public consultation is to promote a two-way communication process, and helps to:

- i. Identify public concerns and values and inform the public about proposed actions and consequences;
- ii. Collect relevant social, economic and environmental information that will help improve the understanding of a proposed development, clarify issues and improve project design;
- iii. Allow the participation of affected people in decision making process and foster a sense of local ownership;
- iv. Develop and maintain transparent procedures for project implementation.

The specific objectives of people's participation are to:

- i. Ensure that local people participate fully and have a recognized role in decision-making during project planning;
- ii. Raise environmental awareness among the local stakeholders and the implementing agencies involved with management of energy and the associated resources;
- iii. Enable a dialogue between project planners and local people on all project-relevant topics, such as social conditions, land values, resources usage, informal and customary rights, environmental concerns etc. - so that local knowledge and ideas inform the technical design and development of the project;
- iv. Ensure early detection of possible social conflicts arising from the proposed interventions, and explore ways to minimize them - e.g. through negotiation and education;
- v. Ensure the establishment of organizations and procedures to enable local people to participate in the construction, operation, and maintenance – as well as non-structural elements – of energy related projects.

How to involve the public in ESIA process

There are several techniques and methods for consulting the public. Public meetings are often the principal form of consultation used in environmental assessment. However, there are other more interactive consultation and participation methods that may be applicable to water development projects. These include open houses, focus group meetings, persuasion, education, information

feedback, and delegation of authority to an affected community. The public may also be appropriately involved in the ESIA process through:

- i. Informing the public about the proposed project,
- ii. Participation in scoping exercises,
- iii. Open public meetings/hearings on the projects,
- iv. Inviting written comments on proposed projects from those who can put their comments in writing,
- v. Use of community representatives,
- vi. Review of Draft Environment Impact Statements,
- vii. Making relevant documents available to any interested members of the public.

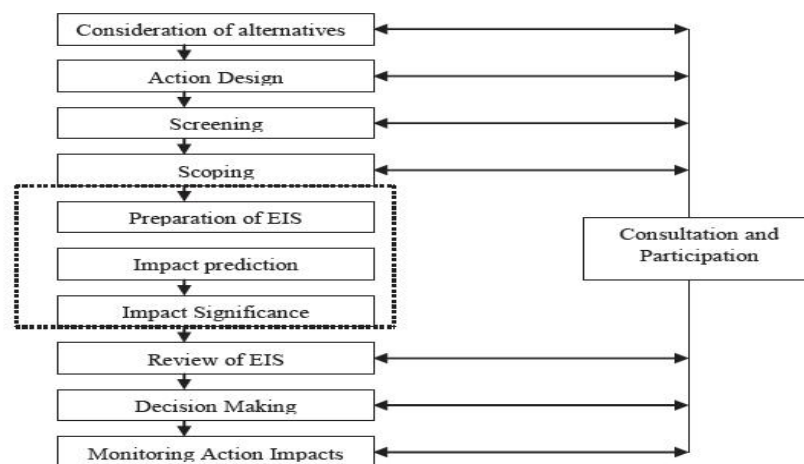
Figure below outlines the general systematic process of engaging the stakeholders, which should be adopted in assessments of the water resources related projects.

Responsibility for Ensuring Public Participation and Involvement

One of the responsibilities of the lead agency is to ensure that the public is fully involved in the ESIA process for agroforestry development projects through overseeing the ESIA process and reviewing the EIS. In turn, developers or project proponents are also obliged to effectively consult and involve the public throughout the ESIA process. It is therefore the responsibility of RFA to oversee and ensure public participation and its involvement in ESIA process for the agroforestry/forestry projects.

Planning for Consultation and Public Participation

Planning for consultation and public involvement requires skilled professional advice, usually provided by a social scientist who is usually a member of the ESIA consultancy team. The planning ought to start with informal consultations very early in the ESIA process. The three key tasks here are to identify **WHO** will be affected, **HOW** and **WHEN** they are to be involved in the consultation process. Such planning will involve:



- i. Clearly define objectives regarding the issues to be addressed, and the key decisions involved;
- ii. Integration of consultation and participation within the ESIA and project design process. The information and internal communication requirements of the ESIA team and project designers should be taken into account;
- iii. Allowing flexibility to adapt and change as new information comes up;
- iv. Allocating adequate resources and scheduling work.

It is notable that consultation and participation is continuous throughout the ESIA process.

Stages for public involvement in the ESIA Process

In its broadest sense, public involvement and participation is an on-going activity which takes place throughout the entire ESIA process. The relevant stakeholders in the ESIA process are:

- i. Beneficiaries of the project - target groups making use of the water resources;
- ii. Affected people – i.e. those people that experience, as a result of the project, intended or unintended changes in water resources that they value;
- iii. General stakeholders – i.e. formal or informal institutions and groups representing either affected people or biodiversity itself.
 - iv. Future generations - ‘absent stakeholders’, i.e. those stakeholders of future generations, who may rely on water resources around which decisions are presently taken.

Public Consultation before EI Study is Done.

If after receiving and screening/reviewing the developer’s project, REMA, in consultation with the Lead Agency, decides that it is necessary to consult and seek public comment, it shall, within 4 weeks from submission of the project brief and/or notice of intent to develop, publish the developers notification and other supporting documents in a public notice. When the notification is accompanied by voluminous documentation, it is permissible to publish a summary of it in a public notice, indicating the nature and location of the project, characteristics of site and specifying the places where the documents of the developer can be consulted. Objections and comments from the public and other stakeholders shall be submitted to the REMA and to the Lead Agency with 21 days from the publication of the notice.

Public Consultation during the EI Study

The team conducting the EI Study shall consult and seek public opinion/views on environmental aspects of the project. Such public involvement shall be during scoping and any other appropriate stages during the conduct of the study.

Public consultation after EI Study is done (EIS Review)

The Environment Impact Statement (EIS) shall be a public document and may be inspected at any reasonable hour by any person. Considering the scale and level of influences likely to result from the operation of the proposed energy project, the Lead Agency, in consultation with REMA, shall decide whether a public hearing shall be held and shall decide locations where it is necessary to make the contents of the draft EIS known to the public (EIA Manual 2002). Within 2 weeks from the date of receiving the developers' EIS, REMA shall, if it finds it necessary, publicise receipt of the EIS, identify the concerned region and concerned stakeholders, the places for inspection of the draft, and shall also make copies or summaries of the statement available for public inspection.

The public notice shall include a summary of assessment data indicating nature of the water resources related project, location, characteristics of site and the results of the assessment. It shall also specify the places where the draft EIS may be consulted, and a notification to copy /send any comments to the Authority and to Lead Agency. REMA shall also send copies of the developer's draft EIS within 14 days from the date on which it was received, to other relevant agencies and experts for comments on those aspects of the project impacts that fall under their jurisdiction. Public comments and/or objections shall be submitted to Lead Agency and to the REMA.

Presenting Opinions on the EIS

Those members of the public who may have opinions from points of view for environmental conservation on the draft EIS may present their written opinions to Lead Agency and to REMA within 21 days from the day of publicity as required under the EIA Regulation for Uganda. The Lead Agency, in cases where it is presented written opinions provided for in the preceding paragraph shall send copies of them to the developer soon after expiry of the 21 days. The developer shall take all necessary steps to address the issues raised.

Holding public hearings

Where the Lead Agency is of the opinion that it is necessary to hear views of the public in concerned areas regarding specific a specific energy project, shall hold public hearings on the days contained in a notice for public hearings. The public in the concerned areas may present their opinions at the public hearings from points of view for environmental conservation and socio-economic considerations. The developer may explain or present his (her) opinions at the public hearings. The developer, in case where public hearings are held, shall make a record of the opinions presented at the hearings, and shall take all necessary steps to address the issues raised.

Notification on Public Hearings

Where it is necessary to hold public hearings on a proposed water resources related project, a notice for the public hearings must be made at least 10 days to the meeting. Such a notice may be:

- i. posted in or near the affected community,
- ii. Published in a daily newspaper in an official language;
- iii. Published in a local newspaper in an appropriate local language,
- iv. Notified to the public through any other suitable media.

The notice shall contain full information about the location, time of the proposed meeting, and the items to be considered by the meeting; and shall also announce that no decisions are to be made on matters not so noticed.

Where to hold public hearings

- v. Project site.
- vi. Meeting place within Lead Agency/boardroom.
- vii. Any other facility with adequate capacity, and available for this purpose.
- viii. Social centers.
- ix. Any other convenient place identified for this purpose.

Annex 5: Consultation meeting outcome at national level

People Consulted:

S/N	NAMES	INSTITUTION	POSITION
1.	Beatrice Cyiza	MoE	DG - Environment & Climate Change
2.	Ntabana Alphonsine	MoE	Technical Advisor to the Minister
3.	Rwabuyonza Jean Paul	RFA	SPIU coordinator
4.	Yvan Gasangwa	RFA	Forest research division manager
5.	Nshimiyimana Spiridion	RFA	Ag. DG - RFA
6.	Nshimiyimana Octave	MINAGRI	DG - Planning
7.	Rutagengwa Alexis	RLMUA	Head of Department - SLUPM
8.	Karara Jean de Dieu	RDB	EIA Analyst
9.	Karekezi Wede Emmanuel	REMA	Social Risk management specialist

Objective of discussion:

The main objective of the discussion with different stakeholders in the Forest Investment Program Project was to better understand their views and ideas with regard to their roles and responsibilities in the project so that they can be captured in this ESMF which is the important document that guides the implementation of the project.

Outcome from discussion:

Different institutions play a big role in this project, starting by the lead implementing Agency (RFA) which will implement all the four components of the project. The Rwanda Agriculture Board (RAB) as supporting Agency in project, plays a big role especially by technically helping in the seeds multiplication, selection of species by district and the MoE should assist land acquisition (land belonging to the Government) in collaboration with Rwanda Land Management and Use Authority (RLMUA). The land is acquired and will serve as public interest that aims at sustainable, economic development and social welfare, in accordance with procedures provided for by the land organic law. The Rwanda Forestry Authority in collaboration with local authorities (Mayors, Executive Secretaries of Sectors/Cells) will sensitize the local population to accept agroforestry trees that they will plant in their own land for the implementation of FIP project.

The follow up of the implementation of this ESMF and reporting on safeguards policies are jointly done by both (1) sector agronomists that are monitoring how the recommendations suggested in ESMP are implemented and share reports with district staff in charge with forestry/agroforestry (2) RFA (review and approve reports from hired E&S safeguards specialists that will make several sites visits (at least once a quarter) and then will regularly produce those E&S reports. This reporting system will help in monitoring the implementation of safeguards by local leaders and implementing agency (RFA).

Other institutions like RDB and REMA will intervene as usual according to their mandates – review and approve ESIA and ESMPs for RDB - regular inspection from REMA to verify how the ESMF and ESMP are implemented.

This project of development agroforestry and sustainable agriculture under Forestry Investment Program will be supported also by **distribution of cooking stoves** to the local population, this will contribute to the reduction of pressure on the cutting trees in forests located close to population.

Annex 6: Consultation workshop proceedings for focus group discussion at district/local level

Introduction

Through Climate Investment Fund (CIF), AfDB approved a funding for the FORESTRY INVESTMENT PROGRAM (FIP) to implement the Development of Agroforestry and Sustainable Agriculture to meet funding requirements of consulting the beneficiaries of project, RFA in collaboration with Ministry of Environment (MoE) organized a One day workshop as consultative meeting at Mater Boni Consilii chaired by RFA SPIU Coordinator, where he started by thanking all participants for responding to the invitation to attend to the consultative workshop for the development of ESMF and ESIA for the Forest Investment Program (FIP Project) which will be implemented in 8 Districts **Gakenke, Kamonyi, Muhanga, Ruhango, Nyanza, Gisagara, Huye, Nyaruguru.**

1. Participants of the Consultative meeting

- Director of Economic Development at Province;
- RFA SPIU Coordinator;
- Forest Specialist;
- Agroforestry and NTFP DVT Specialist;
- Financial Management Specialist;
- AA to SPIU Coordinator;
- Directors of Agriculture and Natural Resources;
- District Agronomists;
- Civil Society Representatives;
- Land and GIS Officers;
- Environment Officers;
- Sector Agronomists of aforementioned District where the project is targeting for;
- And the Consultant.

2. Agenda of the workshop

- Arrival & Registration of participants;
- Rwanda FIP highlights and Opening remarks;
- Presentation on consultation process, topics, working groups and expected outcomes;
- Group presentation and discussion.

3. Opening remark of the SPIU Coordinator and The Director of ED at South Province

FIP intervention areas the RFA/SPIU Coordinator, said that based on soil characteristics and acidity of above District, Government of Rwanda got a funding from AfDB to enhance soil fertility through FIP in the concept of Development of Agroforestry and Sustainable Agriculture that will be implemented by Rwanda Forestry Authority with a fund of 18,000,000 USD. To progress with the project implementation, RFA organized a workshop for development of Environmental and Social Management Framework (ESMF) and Environmental and Social Impact Assessment *Final Environmental and Social Management Framework for Development of agroforestry and sustainable agriculture project under forestry investment programme (FIP) in Rwanda (ESMF) November, 2022*

(ESIA) for the aforementioned participants to provide information from the ground (grass root level) related to agriculture and environment.

In his opening remarks, BIKOMO Alfred the Director of Economic Development in Southern Province highlighted his thankful to Government of Rwanda toward the initiative of speed up economic of Rwandan people by through different approach as FIP project.

By ensuring full participation of local government, he showed the commitment of southern province to help the implementation of FIP project then he requested the participants to be active and provide all required information for now or any time.

By closing his opening remarks, he requests all participants to make the workshop productive and show active participatory in next steps of project implementation.

4. Photos



RFA/SPIU Coordinator (stood up) with BIKOMO Alfred Director of Economic Development of Southern Province sat down (left side) and audience (right side) listening FIP project interventions during workshop.



BIKOMO Alfred, the Director of Economic Development in Southern Province during Opening remarks.



Mugabo Charles -Member of the consulting team explaining what are expected during workshop where he engaged everyone to actively participate in group discussion and consolidate all related information which will help in ESMF and ESIA Development.



During group work and discussion every participants was very attentive (two left picture) and presentation of group work was full of discussion and appreciation of work done.

After a series of group discussions (based on a previously distributed reporting caneva-see annex 7), selected groups were given the opportunity to present in a plenary of more than 120 participants (see annex 8) coming from all the 8 districts where the project will intervene. The workshop started from 9h00 and ended at 15h00

Annex 7: ESMF / ESIA focus group discussion guidance

Group / district name:.....

Chair person:.....,

Contact:.....**Rapporteur:**.....**Contact:**.....

Topics	Key aspects	Baselines	Impacts from the proposed project		Mitigation measures for negative impacts
			Positive	Negative	
Socio-economy	Land requirements	-Current practices for agriculture land use (% of agri land with agroforestry) -Availability of land for seedlings production			
	Employment	-General employment figures -Contribution of the agriculture sector (agroforestry in particular)			
	Skills development	Skills status on agroforestry (value chain)			
	Income generation and livelihoods	-Income from agriculture & % from agroforestry -Current non-income benefits (nutrition-home consumption of fruits, folder, etc) -Others if any			

Topics	Key aspects	Baselines	Impacts from the proposed project		Mitigation measures for negative impacts
			Positive	Negative	
	Gender	Current gender balance situation (farm land production & management)			
	Other aspects (ex. Cultural heritage, ...)				
Environment	Physical environment	-Current status , % of land, water bodies with protection practices (agroforestry) -Existing impacts resulting from the absence of agroforestry -Others if any			
	Biological environment (flora & fauna)	-Current status of flora & fauna on farm land (birds, bees, non-invasive plant species) -Others if any			

Annex 8: List of participants during focus group discussion at district / local level

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 PROJECT UNDER FORESTRY INVESTMENT PROGRAM (FIP).

NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	Charles Mugabo	MOE / OEA	Director of Forest in District Consultant	72078248 80	[Signature]
2	Muhavimana J. Bares	Gashyamba / ISHWE	Agroforestry	078865777	[Signature]
3	Muhavimana Valens	Gashyamba / ISHWE	Agroforestry	078865553	[Signature]
4					
5					
6					
7					
8					
9					
10					

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NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	MUSETINKA Sabinne	Nyabihu District Business Sector	Director of F&NR at District Sector Agronomist	078822590	
2	USUNZU Jonathan	MUHANGA DISTRICT RUBENBURUKI Sector	Agronomie Responsable Sector	0788449882	
3	HATANGIMANA Juvénal	NYABURU Sector	Letter Agronomist	0789928390	
4	KAMUKIZA Tiphaine	NYABURU District	Land survey x GIS	0788558603	
5	UMUKATA Vincent	VIA	AF RNT + P Specialist	0788298084	
6	MURBYIMANA Innocent	RA	Forest specialist	0781167018	
7	Munyemana Pascal	RA	Ad. P. SPIC Coord	078200558	
8	Munyemana François	Rutana District	District Agronomist Office	0788619822	
9	USIBONZA Christian	RA	Finance M. Specialist	0783010858	
10	Egide Ndayiragaba	WE/RFA	Coord. Tech	0788308738	

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NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	MURAHANGA Gustave	MURAHANGA	Director of A&NR at District	0788051164	
2	ASHIMUKIZI Mellor	MURAHANGA / ^{SAVANA} SAVERE	Sector Agronomist	0788057050	
3	HAKIZIMANA Helenegitika	MURAHANGA / MURAHANGA	Sector Agronomist	0788655359	
4	BATIZIYIKA Céline	Umutanga / Umutanga	Sector Agronomist	0788428286	
5	MUKOZIMANA Brulwan	Gashyamba district	LS & GIS officer	07889150535	
6	MURAHANGA Fernand	Gashyamba district	BAFO	07880191601	
7	Rukundo J. Jean	MURAHANGA	Sector Agronomist	0788559785	
8	KARISORE Jean Louis	Huye Province	Soil Officer	0788557720	
9	Jean de Dieu KATANA	QJB	EIA Specialist	0788942884	
10	MURAHANGA Jean Baptiste	MURAHANGA	Project Agronomist	078800144	

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NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	Uyisheye Eugene	Secteur	Director of A&NR at District Sector Agromonit	0788820420	
2	NINDENAWA Jeanne	Secteur	Secteur Agromonit	0780888842	
3	NTINYI PAUL Jean Paul	Secteur	Secteur Agromonit	0781061090	
4	USHIMU Claude	Secteur	Agromonit	078352017	
5	NYOTWIZEYE Germaine	Secteur	Secteur Agromonit	0781295735	
6	MUKAMANA MUBENZI Honoré	Quartier Muhangy District	Acting Director of Agric	0788558930	
7	ASINYAIMYE Jeanne	Rekunge District	Local secretary	0158416642	
8	NSENGIYUMVA MAMBA Elie	Makungu District	D.F.N.R.O	0755809986	
9	SINDABUHOZA Flabbert	Secteur	Secteur Agromonit	0784282242	
10	KARAHIRWA Emmanuel	Kinigi Sector	Secteur Agromonit	0786278512	

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 PROJECT UNDER FORESTRY INVESTMENT PROGRAM (FIP).

NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1			Director of A&NR at District		
2	TWIZESHIMANA Froydenel HASSIN	MURURI/UMUNYI	Agroecology	0788290072	<i>(Signature)</i>
3	SHIMIRIHO Emmanuel	Rubinyi District	Dir. Agraria	0783010492	<i>(Signature)</i>
4	MURAKAZI DERE Eliona	NYUNYUNYI/RUBINYI	Agroecology	07885409192	<i>(Signature)</i>
5	MUKAKUTA GABURIA Beatrice	Nyanza/Busokoma	Secretary/Secretariat/Civil	0783009376	<i>(Signature)</i>
6	HABIZYAKARE Jean Claude	Nyanza/Busokoma	Agroecology	0783132077	<i>(Signature)</i>
7	USINDI MURHA Egede	NYUNYUNYI/KAVU	Agroecology	0788282255	<i>(Signature)</i>
8	NGASO Felix	Nyanza/Busokoma	Agroecology	0788744988	<i>(Signature)</i>
9	KANISIMAZA Florence	GISURU District	FIP officer	0788652410	<i>(Signature)</i>
10	Gatete Justus	KAMUNYI/RUBINYI	Agroecology	0788565579	<i>(Signature)</i>



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NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	MUTYAYISHA Sylvia	Gicanga District	Director of A&NR at District D97067675	0788715810	
2	MABAKUDA Claude	Gicanga District	Environment Officer	0733477159	
3	MUNIRUKYI Anne Uwige	Gicanga District	Section Administrator	0788150988	
4	MURHIGETA Germain	Gicanga District	District Foreman	0788 48164	
5	MUKISHABA Ernest	Gicanga District	Section Administrator	0799244932	
6	MUKENKUSI Fomwino	Gicanga District	Section Administrator	0788766845	
7	BAVUTURERA Renesse	Gicanga District	Acting Director Agricul	078269706	
8	NGENZI Eugene	Muhanga District	Acting Agronomist	0784560552	
9	MUTYAYISHA Vianney	Gicanga District	Environment Officer	0798049999	
10	UNYISE Justina	Gicanga District	District Agronomist	0799994925	



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NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	BIGIRIMANA Théophile	Nguye / Rubisa Sector	Director of A&NR at District	0788964913	
2	HAKUMANA Théophile	Ruha Sector	Sector Agriculture	0788543689	
3	HITIRISE Faustin	Nyundo / Rubirwa	Sector Agriculture	0788399220	
4	USHYURURURURU Félix	Gakonde / Rubirwa	Sector Agriculture	0788646332	
5	UMUNYIMYIMYI MURINDI	Ruhango / Rubirwa	Sector Agriculture	0788340765	
6	USHYURURURU Octave	Huye / Rubirwa	Sector Agriculture	078836368	
7	NSANYIRUKANA Phil	Ruhango / Rubirwa	Sector Agriculture	078863349	
8	PHOTOMURURU Abel	Ruhango / Rubirwa	Sector Agriculture	0788499999	
9	NSANYIRUKANA Jean	Ruhango / Rubirwa	Sector Agriculture	0788399999	
10	Bako BAKAMA S. Chyresse	Nyundo / Rubirwa	Sector Agriculture	0788469356	



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PROJECT UNDER FORESTRY INVESTMENT PROGRAM (FIP),

NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	UBUKIRAZA Jeanne Victoire	RUZIZIYA DISTRICT	Director of A&NR at District	078322424	
2	IRAKAZANA Inyongu	MUHANGA DISTRICT	Land surveyor GIS officer	0783892249	
3	INGABIZÉ Xiphonie	KAMENZI DISTRICT	Regional level	078093244	
4	MUHIMBU Jeanne	KAMENZI DISTRICT	Regional level	0788643744	
5	ADMINISTE for Xaviera	RUZIZIYA DISTRICT	Regional level	078867710	
6	Umuhoza Epiphane	KAMENZI DISTRICT	Regional level	078867710	
7	MUTAMBERE SILEAS	KAMENZI DISTRICT	Regional level	078867710	
8	HMZÉLIMANA Valens	GAKEMBA DISTRICT	Environmentalist	0789601950	
9	IMAGIRAHURU Veronique	KAMENZI DISTRICT	Environmentalist	0788498613	
10	UYOIKAKA F. Grace	KAMENZI DISTRICT	Environmentalist	0786299994	



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NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	SWAMU AZIMAZA Philipe	NYARUGUZU	Director of A&NR at District	0788641279	
2	VUGUZIGIHE Yves	NYAKUGUZU	Sector Agronomist	0783954855	
3	MUKABAKINDA Mwanuzur	MUKAMBA/INYAMUNU	Sector Agronomist	0783000857	
4	IZAKAHEHE Jean Biste	Muhanga	District Agronomist	0782594282	
5	UMIRINGIYE Marie Perrine	Ruhango/Musende	Sector Agronomist	0782822788	
6	KYUKUZEKURUKURU Rishalle	Ruhango/Kinshuha	Sector Agronomist	6783326824	
7	BIBIRAN Etienne	Muhanga/Muhanga	Sector Agronomist	078815746	
8	WITA TOLLOU Teogore	Gashyamba/Muhanga	Sector Agronomist	0782225215	
9	NYIRAMUNYIRAMUNYI Teogore	NYARUGUZU	Project Environment Officer	0789405454	
10	RUGIRIMWEZA Teogore	Gashyamba/Muhanga	Sector Agronomist	0783431943	



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 PROJECT UNDER FORESTRY INVESTMENT PROGRAM (FIP).

NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	KAYISE THERIKI 'Evariste	GAKESHA	Director of A&NR at District	078869210-1	
2	BIGAYIZA Jean Ndirumucame	GASENKE	Sector Agriculture	0788970636	
3	BIZIMUTSUNGURU Emmanuel	GASENKE	Sector Agriculture	0788979684	
4	NIZONKURU Severin	GASENKE	Sector Agriculture	0788555449	
5	KAMUKI Albert	GASENKE	Sector Agriculture	0793659456	
6	SABIMANA bobe Jules	GASENKE	Sector Forest official	0786883852	
7	BARIPAPURUSO J. Claude	GASENKE	Sector Agriculturist	0788649761	
8	MUSANZAMAHILE Georges	GASENKE	Sector Agriculturist	0788668661	
9	NISIBIZIMANA FREDERICK	GASENKE	Sector Agriculturist	0785611177	
10	MZAHIZAMANA IRENEA P. ASSIE	GASENKE	Sector Agriculturist	0788573784	



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PROJECT UNDER FORESTRY INVESTMENT PROGRAM (FIP).

NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	USENGIMANA Philibert	Nyanza/Rubashamba	Director of ANR at District Environment office	078882965	
2	UMURONZI Aimée Vanessa	Nyanza/Rubashamba	LS & GIS officer at District office	0788558258	
3	MURAKORANGE Théodore	Nyanza/Rubashamba	Director of Agriculture	078257842	
4	Ishungu Rujana Irigastirirwa	Nyanza/Rubashamba	Director of Agriculture	078257842	
5	Nyirahwa Vitoel	Nyanza/Rubashamba	Director of Agriculture	0788495029	
6	Cyiren Jean Claude	Muhanga/Kibungu	Sector Agronomist	0783408246	
7	ABAMWE Felix	Muhanga/GICZA	Sector Agronomist	0788803231	
8	NDATYARISTENGA Rafiki Bonaventura	Tuhungu/Kiyumba	Sector Agronomist	0788739867	
9	MUKARUGI Bernadette	Muhanga/Syamba	Sector Agronomist	078867518	
10	HAKEZIMANA Faustin	Muhanga/Kaburizi	Sector Agronomist	0783513001	



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NO	NAMES	DISTRICT/SECTOR	POSITION	TELEPHONE	SIGNATURE
1	MURONSANGE Thomas	MURKIGIDA	Director of A&ER at District District head office of Murkigida	0789409791	
2	Ahura Coirine	Candicariya	ONE of committee heads	0788381111	
3	MUNYIMUKANA Francis	Muhanga District	Director of Agriculture	0788640222	
4	Bwiza Eugene	Karukaga	Percevoir Ikor	0788593452	
5	Kwizamba Jean-Baptiste	Nyungu/Isheho	Percevoir	0788572041	
6	KIBIZIYA Yveline	Kigali city	CEO	0788286134	
7	MUYIZANA Justin	Kamonyi	Dir of ANSA	0788116153	
8	SABIGWA J. de Diei	Kamonyi	Finance	0785430417	
9	Therese SEMUKIZA	Candicariya	Dir of A&ER/Kamonyi	0789920161	
10	MURONSANGE Freddy	Murkigida	Dir of A&ER/Kamonyi	0783412402	

Annex 9: Social parameters for monitoring purposes

no:	Issues	Milestone	Situation at site	Remarks	Way forward
1	Number of affected Persons on site				
2	Compensation paid				
3	Number of Properties Affected				
4	Public Consultation				
5	Grievance redress Mechanism				
6	Gender Issues				
7	Compensation Eligibility and Entitlements				
8	Vulnerable groups				
9	Employment				
10	Recording Keeping				
11	HIV / AIDS Mitigation Measure				
12	COVID -19 Mitigation measure				
13	Any other incidence on site				

Annex 10: AfDB Investment Exclusion List

At all times, the Fund Manager shall ensure that the Fund does not provide funding or other support to any institution that provides loans, funding or other support to entities that engage in any of the following activities:

General ▪

- Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international bans or phase-out, including:
 - (i) pharmaceuticals, pesticides/herbicides, Polychlorinated Biphenyls (PCB's) and other toxic substances under the Rotterdam Convention, Stockholm Convention and WHO "Pharmaceuticals: Restrictions in Use and Availability",
 - (ii) ozone depleting substances (under the Montreal Protocol),
 - (iii) protected wildlife or wildlife products (under CITES / Washington Convention)
 - (iv) prohibited trans boundary trade in waste, excepting non-hazardous waste destined for recycling, but in all cases excluding trade of waste prohibited under the Basel Convention.
- Production or activities involving harmful or exploitative forms of forced labour²/harmful child labour³ ;
- All projects that pose potentially serious occupational or health risks;
- All projects with potentially major impacts on people or which pose serious socio-economic risk;
- Projects that require resettlement of 5000 or more persons;

Products and Processes

- Production or trade in weapons and munitions or critical components thereof ;
- Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products as well as ozone depleting substances;
- Prospection, exploration and mining of coal; land-based means of transport and related infrastructure essentially used for coal; power plants, heating stations and cogeneration facilities essentially fired with coal, as well as associated stub lines.
- Integrated works for the initial smelting of cast-iron and steel; installations for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes;
- Extraction, production or trade in unbounded or bonded asbestos fibers;
- Cement manufacturing with an annual production rate of greater than one million dry weight tons;
- Plants for the tanning of hides and skins where the treatment capacity exceeds 12 tons of finished products per day;

- Industrial plants for the (a) production of pulp from timber or similar fibrous materials; (b) production of paper and board with a production capacity exceeding 200 air-dried metric tons per day;
- Installations for the intensive rearing of poultry or pigs with more than: 40,000 places for poultry; 2,000 places for production pigs (over 30 kg); or 750 places for sows;
- Non-conventional prospection, exploration and extraction of oil from bituminous shale, tar sands or oil sands.
- Non-conventional prospection, exploration and extraction of natural gas;
- Peat extraction;
- Quarries, mining, or processing of metal ores or coal;
- Production or trade in alcoholic beverages (excluding beer and wine)⁶;
- Production or trade in tobacco⁷;
- Production, trade or storage of radioactive materials⁸;
- Gambling, casinos and equivalent enterprises⁹;
- Pornography and/or prostitution;
- Racist or anti/democratic media;
- Large-scale tourism and retail development;
- Large-scale industrial plants;
- Large-scale industrial estates;
- Housing developments that contain more than 2,500 residential units;

Resources

- Groundwater abstraction activities or artificial groundwater recharge schemes in cases where the annual volume of water to be abstracted or recharged amounts to 10 million cubic meters or more;
- Drift net fishing in the marine environment using nets in excess of 2.5 km in length;
- Production or trade in wood or other forestry products other than from companies/sites that are not either:
 - (i) compliant with recognized international certification systems (RSPO or FSC) or equivalent regulations to ensure sustainable cultivation conditions; or
 - (ii) in the process of achieving compliance
- Commercial logging operations for use in primary tropical moist forest;
- Investments in projects responsible for the direct emissions of more than 100,000 tons CO₂e per year of green-house gases;

Land Use

- Projects located in or sufficiently near and impacting vulnerable and/or protected locations unless it can be demonstrated through an environmental assessment that the project:
 - (i) (will not result in the degradation, destruction or significant impairment of the protected area and
 - (ii) will produce positive environmental and social benefits.
- Vulnerable and/or protected locations include:
 - (i) Managed resource protected areas, and protected landscape/seascape (International Union for Conservation of Nature (IUCN) categories V and VI) as defined by IUCN's Guidelines for Protected Area Management Categories; o
 - (ii) World Heritage Sites (Areas of significant ecological value that have been internationally recognized as necessary for strict protection by members of the World Heritage Convention) unless it can be demonstrated through an environmental assessment that the project
 - ❖ Protected area Categories I, II, III, and IV (Strict Nature Reserve/Wilderness Areas and National Parks)
 - ❖ Natural Monuments and Habitat/ Species Management Areas, as defined by the International Union for the Conservation of Nature.
 - ❖ Projects in or impacting areas on the United Nations List of National Parks and Protected Areas
- Project in or sufficiently near sensitive locations of national or regional importance that will have perceptible environmental impacts on:
 - (i) Wetlands;
 - (ii) Areas of archaeological significance;
 - (iii) Areas prone to erosion and/or desertification;
 - (iv) Areas of importance to ethnic groups/indigenous peoples;
 - (v) Primary temperate/boreal forests;
 - (vi) Coral reefs;
 - (vii) Mangrove swamps; Nationally-designated seashore areas;
- Projects that involve conversion or degradation of Critical Forest Areas¹⁰ or related Critical Natural Habitats¹¹;
- Production or activities that impinge on the lands owned, or claimed under adjudication, by Indigenous Peoples, without full documented consent of such peoples;
- Projects involving the construction of large dams that significantly and irreversibly
 - (i) disrupt natural ecosystems upstream or downstream of the dam, or
 - (ii) alter natural hydrology, or
 - (iii) inundate large land areas, or
 - (iv) impact biodiversity, or
 - (v) displace large numbers of inhabitants (5,000 persons or more) or

- (vi) impact local inhabitants' ability to earn a livelihood;
- Large-scale land reclamation;
- Large-scale primary agriculture/silviculture involving intensification or conversion of previously undisturbed land;

Infrastructure

- Thermal power stations and other combustion installations essentially fired with coal, as well as associated sub lines¹³;
- Nuclear power plants (apart from measures that reduce environmental hazards of existing assets) and mines with uranium as an essential source of extraction
- Construction of motorways, express roads and lines for long-distance railway traffic 10 km or more in a continuous length; airports or airport expansions with a basic runway length of 2,100 meters or more;
- Sea ports and also inland waterways and ports for inland-waterway traffic that permit the passage of vessels of over 1,350 tons; trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) that can take vessels of over 1,350 tons;
- Construction or significant expansion of dams and reservoirs not otherwise prohibited;
- Large-scale power transmission;
- Municipal wastewater treatment plants servicing more than 150,000 people;
- Municipal solid waste-processing and disposal facilities