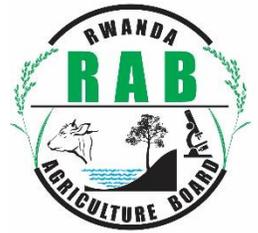




REPUBLIC OF RWANDA
RWANDA AGRICULTURE BOARD



**EAST AND CENTRAL AFRICA AGRICULTURE TRANSFORMATION
PROJECT(ECAATP)**

FINAL REPORT

**ENVIRONMENTAL AND SOCIAL MANAGEMENT
FRAMEWORK**

April, 2018

EXECUTIVE SUMMARY

Agriculture is the backbone of Rwanda's economy, accounting for about 33 percent of GDP, 72% employment, and 25% of all exports. The total arable land in Rwanda is slightly above 1.5 million ha, 90% of which is found on hillsides. The agriculture sector faces several challenges: (i) a binding land constraint that rules out intensification (bringing more and more land under cultivation); (ii) small average land holdings (more than 60% of household cultivate less than 0.6 ha and 15% of rural farms less than 0.1 ha); (iii) poor water management (uneven rainfall and ensuing variability in production); (iv) the need for greater (public and private) capacity from the district to the national levels and insufficient extension services for farmers; and (v) limited commercial orientation constrained by poor access to output and financial markets. Without the option of continuous intensification, agricultural intensification must take place in the context of a potentially fertile, but challenging physical environment.

Steep terrains and the highest population density in sub-Saharan Africa (355 inhabitants per km²) make good land husbandry practices a strict necessity (to curtail erosion and otherwise maintain the quality of the soil), as well as an environmental prerogative. Arable land on hillsides constitutes the vast majority of the total agricultural land in the country, but erosion costs the country 421 tons /ha of fertile soils per year.

The Ministry of Agriculture and Animal resources (MINAGRI) is in an advanced stage of preparation of the Eastern and Central Agricultural Transformation project (ECAATP). ECAATP seeks to focus on transformation of Agriculture in the region. The aim of agriculture transformation is to improve the effectiveness of the sector in raising incomes, reducing poverty, improving nutrition outcomes, addressing the challenges of changing climate, fostering regional integration of markets for food commodities and products, and providing better jobs – including to skilled youth and women. This is a strategic shift from previous regional agricultural projects that had focused primarily on productivity.

Rwanda in particular, seeks to improve agriculture transformation by addressing soil fertility loss and through effective Land Husbandry practices on approximately 6300ha of land within an integrated landscape management approach; hence boosting production in target project areas. The Ministry of Agriculture and Animal Resources (MINAGRI) through the Single Project implementation Unit (SPIU) in Rwanda Agriculture Board (RAB) will support the implementation of ECAATP. The project has four components:

Component 1: Regional commodity programs

Component 2: Enabling policies and markets

Component 3: Contingent Emergency Response

Component 4: Regional coordination and project management

ECAATP is expected to perform a number of activities that include (i) conducting baseline studies of landscape management and production system across the country on socio-economic & market, landscape management & production systems, policy frameworks; (ii) modeling landscape based land husbandry practices, mapping climate risk of collaborative TIMPs in correlation to land units maps, (iii) designing climate smart ISFM and IPM TIMPs for enhanced production, (iv) developing decision support tool for monitoring and forecasting sedimentation and soil nutrients loss, (v) Building a regional reference

laboratory for rapid landscape diagnostic (drying areas, soil chemical & physical analysis, Remote sensing, GIS, and modeling laboratories), satellite laboratory, greenhouse and physiology & phenomic facilities for agroforestry and agrostology, (vi) establishment of land husbandry regional training and communication center, (vii) Applying integrated soil erosion and fertility control measures, (viii) Afforestation and forest restoration as well as adapting forage species suitable to different agro-ecologies, (ix) adapting cassava TIMPs developed under EAAPP and CGIARs, (x) enabling policies and agricultural markets, (xi) promoting effective models for service delivery through awareness creation on agriculture business models, identification and profiling of business model case studies, training of stakeholders, establishing agribusiness incubation network, etc as well as (xii) contingent emergency response. The total project cost amounts to USD 30,000,000.

The ECAATP is expected to trigger the six (6) World Bank operational policies including Environmental Assessment (OP/BP4.01), Natural habitats (OP/BP4.04), Physical Cultural Resources (OP/BP4.11), Involuntary Resettlement (OP/BP4.12), Pest Management (OP/BP 4.09) and Forests (OP/BP4.36). The investments to be financed by ECAATP will need consideration of environmental and social issues. The ECAATP activities associated with environmental and social risks/ impacts include implementation of land husbandry technologies in three sites across the country (including the construction of terraces and drainage systems, application of fertilizers, application of pesticides) and construction of reference laboratories.

This ESMF will identify, assess and evaluate environmental risks/ impacts and has appropriate mitigation, management and monitoring measures. It will be complemented by ESMPs that will be prepared on subproject basis before the start of civil works. The Project will be implemented by Rwanda Agriculture Board (RAB), under the Ministry of Agriculture and Animal Resources (MINAGRI) in close collaboration with other stakeholders including Ministry of Environment, Ministry of land and forestry, Ministry of Health, participating Districts, local communities, etc. Grievance redress committees will be created in the project sites to help in the resolution of complaints.

RAB does not have social and environmental staff to manage safeguards matter. However, with the new institutional arrangement, the WB funded SPIU will move together with its experienced safeguards team to Rwanda Agriculture Board (RAB) to undertake the ECAATP Project since the ECAATP components are very similar to those of LWH and RSSP. This team, composed of 3 staff, one Environmentalist and 2 social safeguards staff, will need to be strengthened through capacity building to be able to manage the tasks planned for ECAATP implementation.

Following its preparation by the Ministry of Agriculture and Animal Resource (MINAGRI) and clearance by the World Bank, the ECAATP ESMF will be disclosed by making copies available at the RAB/SPIU head office, MINAGRI and Project website and to the local government agencies and other stakeholders. The Government of Rwanda will also authorize the World Bank to disclose this ESMF and ECAATP ESMPs to be prepared electronically through its external website. The total cost for the ESMF implementation is estimated at US \$ 111,800.

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GLOSSARY OF TERMS

Cumulative impacts/effects: This is the impact on the environment which results from the incremental impact of the action when added to other past, current and reasonably foreseeable future actions.

Developer/Proponent/Sponsor: the entity – person/ company/agency – proposing to develop/implement/install a new project/sub- project or expand an existing project under a given project.

Direct impacts: These are effects which occur through direct interaction of an activity with an environmental, social, or economic component.

Disclosure: Information availability to all stakeholders at all stages of the development of projects.

Environment: this is a diversity of things made up of natural and artificial environment. It includes chemical substances, biodiversity as well as socio-economic activities, cultural, aesthetic, and scientific factors likely to have direct or indirect, immediate or long term effects on the development of an area, biodiversity and on human activities.

Environmental Impact Assessment (EIA): It is an instrument to identify and assess the potential environmental impacts of a proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures.

Environmental Monitoring: This is an instrument which provides, during project implementation, information about key environmental aspects of the project that enables the borrower and the bank to evaluate the success of mitigation as part of project supervision, and allows corrective action to be taken when needed.

Grievance: An issue, concern, problem, or claim (perceived or actual) that an individual or community group wants a company or contractor to address or resolve.

Impact: A positive or negative effect caused by a project or an activity in the environment.

Indirect impacts: are effects which are not a direct result of the project, often produced away from or as a result of a complex impact pathway. They are also known as secondary or even third level impacts.

Involuntary resettlement: This is a policy triggered in situations involving (a) involuntary taking of land resulting in (i) relocation or loss of shelter, (ii) loss of assets or access to assets, or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons. The policy aims at avoiding involuntary resettlement to the extent feasible, or minimizing and mitigating its adverse social and economic impacts.

Mitigation measures: feasible and cost effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels.

Pollution: is the contamination caused by waste, harmful biochemical products derived from human activities that may alter man's habitat and cause adverse effects on the environment like man's social well being, animals, flora and fauna and the world he or she lives in.

Project and sub-project: a set of planned activities designed to achieve specific objectives within a given area and time frame.

Scoping: Scoping is the process of determining the content and extent of matters that should be covered in the environmental information to be submitted to a competent authority or other decision making body.

Screening: this is the determination of whether or not an EIA is needed and is a formal requirement under the EIA Regulations.

Stakeholder: Any person or group that has an interest in the project; can either affect or be affected by the project and the environmental effects that the project may bring about.

ACRONYMS AND ABBREVIATIONS

BP	: Bank Procedures
CSA	: Climate Smart Agriculture
DEO	: District Environment Officer
DRC	: Democratic Republic of Congo
EA	: Environmental Assessment
ECAATP	: East and Central Africa Agricultural Transformation Project
EDPRS	: Economic Development and Poverty Reduction Strategy
EMP	: Environmental Management Plans
ESIA	: Environmental and Social Impact Assessment
ESMF	: Environment and Social Management Framework
FAO	: Food and Agricultural Organization
GDP	: Gross Domestic Product
GoR	: Government of Rwanda
HIV/AIDS	: Human Immune Deficiency Syndrome
IPM	: Integrated Pest Management
MINAGRI	: Ministry of Agriculture and Animal Resources
MINALOC	: Ministry of Local Government
MINILAF	: Ministry of Land and Forest
OP	: Operational Policy
PDO	: Project Development Objective
PMP	: Pest Management Plan
RAP	: Resettlement Action Plan
REMA	: Rwanda Environmental Management Authority
RPF	: Resettlement Policy Framework
SPAT	: Strategic Plan for Agricultural Transformation
SWAp	: Sector Wide Approach
TIMPs	: Technologies, Innovations and Management Practices
WBG	: World Bank Group

CHAPTER ONE: INTRODUCTION AND PROJECT DESCRIPTION

1.1 General Context

Economic progress and poverty reduction has been uneven across the Eastern and Central Africa region, and ongoing challenges related to rising oil prices, drought, and instability will impact near-term growth prospects. The region has experienced uneven growth for decades such that some countries like Kenya and Republic of Congo have reached middle-income status while others, including Uganda, Tanzania, DRC, Rwanda, and Burundi, are still low-income countries. Growth patterns in recent years have also been uneven. For example, while Tanzania and Rwanda have posted remarkable GDP growth of more than 7 percent in 2014 and 2015, growth in Burundi was negative (-3.9 percent) in 2015, mainly due to conflict and instability. Growth in Uganda improved in 2014 and 2015 with annual GDP growth rate staying above 5 percent and expected to rise to 5.6 percent in FY19. But in neighboring DRC, the GDP growth rate has decelerated from an average of 9 percent in 2013 and 2014 to 6.9 percent in 2015, with further deceleration projected in the near-term. Kenya's growth in recent years has surpassed regional peers and other lower-middle-income countries, but growth is expected to decelerate to 5.5 percent in 2017 – a 0.5 percentage point mark down from the 2016 forecast. This is primarily because of: (i) drought; (ii) slowdown in credit growth; and (iii) rise in global oil prices. On the other hand, the rise in oil prices bodes quite well for growth in the Republic of Congo (RoC) where oil accounts for more than half of GDP and more than 80 percent of total exports. Higher oil prices would enable the RoC to continue posting the steady GDP growth of more than 5 percent, which has been ongoing for the past 10 years.

Poverty remains a major concern not just in RoC but across the entire region, despite significant gains in poverty reduction in recent years. Overall, the incidence of poverty ranges from 19.5 percent in Uganda (2012), 28 percent in Tanzania (2012), 39 percent in Kenya (2012), 45 percent in Rwanda (2010), 46.5 percent in RoC (2011), 63.6 percent in DRC (2012), and 70 percent in Burundi (2016). Poverty rates are relatively higher in rural areas where majority of the population live, relying on agriculture and non-farm rural income. Growth in agriculture and rural sectors therefore continue to provide the best prospects for poverty reduction than growth in non-agriculture. For example, in Rwanda, the agriculture sector's growth of over 7 percent annually between 2000 and 2015 contributed about 35 percent to national poverty reduction.

The Government of Rwanda (GoR) has been implementing land husbandry practices throughout the country to address some of the fundamental constraints to its agricultural growth. To date, much of the technology transfer is taking place on an ad-hoc basis and is too reliant on the knowledge and experience of individuals. The GoR has received funding from IDA for the establishment of a center of leadership in land husbandry in order to provide a central repository of knowledge and expertise. The center would institutionalize this knowledge and harness it more efficiently and effectively to improve and roll out best practice and technologies across the region.

The Center of Leadership will be implemented through Rwanda East and Central Africa Agriculture Transformation Project (ECAATP) and will cover three main topographic regions of Rwanda, namely highland, middle land and lowland region. The ECAATP is expected to trigger the following World Bank operational policies: Environmental Assessment (OP/BP4.01), Natural habitats (OP/BP4.04), Physical Cultural Resources (OP/BP4.11), Involuntary Resettlement (OP/BP4.12), Pest Management (OP/BP 4.09) and Forests (OP/BP4.36).

The investments to be financed by ECAATP will need consideration of environmental and social issues. However, activities to be performed which could give rise to environmental concerns have not been confirmed during project preparation and the exact location of the investments has not yet been finalized. Therefore, in compliance with the World Bank's Safeguards Policies and Rwanda regulations, the Government of Rwanda (GoR), through MINAGRI, has prepared the Environmental and Social Management Framework (ESMF) to guide ECAATP to identify, assess and evaluate environmental and social impacts on site level, and develop adequate mitigation and monitoring measures in order to comply with relevant national and World Bank safeguards policies requirements for project in a sustainable manner. The ESMF provides the guiding principles and institutional arrangements as well as environmental and social safeguards instruments to be prepared as part of the implementation of ECAATP activities.

The objectives of the present ESMF are:

- To establish clear procedures and methodologies for environmental and social planning, review, approval and implementation of subprojects to be financed by ECAATP;
- To prescribe project arrangements for the preparation and implementation of subprojects in order to adequately address World Bank safeguards issues;
- To assess the potential environmental and social impacts of envisaged subprojects;
- To propose mitigation measures which will effectively address identified negative impacts, and to outline a simple Environmental and Social Management Plan (ESMP);
- To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to subprojects;
- To define a public consultation and disclosure process;
- To determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF; and
- To establish the project funding required to implement the ESMF requirements

ECAATP investments with associated environmental and social concerns include hillside development with land husbandry technologies and constructions (laboratories and equipments) of the center. Potential sites for land husbandry implementation and laboratories' constructions have not yet been confirmed. Once identified, an Environmental Assessment for each site/ subproject will be prepared. Therefore, the ESMF refers to the Environmental and Social Impacts Assessment (ESIA) and Environmental and Social Management Plans (ESMP) when addressing their environmental management requirements.

1.2 Project Description

1.2.1 Project background

The Government of Rwanda (GoR) has requested for financial assistance from the World Bank for implementation of Eastern and Central Africa Agricultural Transformation Project (ECAATP).

This regional project involving Burundi, Kenya, Tanzania, Rwanda, Republic of Congo, Democratic Republic of Congo and Uganda will be coordinated by ASARECA whereas the project in Rwanda will be coordinated by National Project Coordination Unit.

The GoR will use this investment to scale up ongoing efforts to restore soil fertility as well as address the priority climate risks for agriculture in Rwanda. This investment specifically targets enhancing capacity to manage soil fertility, diversifying farming systems and effectively protecting and managing watersheds critical to rural livelihoods and the economy. It draws on existing investments and advances in controlling soil erosion and efforts to build resilience to current and future climate change as well as recent developments in nutrition sensitive agriculture to ensure food and nutrition security.

Soil erosion has compromised ecosystem integrity, eroded riverbanks and led to nutrient loading of water bodies. It has also led to reduced soil fertility in the acid-soil mountainous areas resulting in lowered agricultural yields. The impact of reduced productivity of arable land through the constant loss of top soil and nutrients is already evident at all levels in Rwanda. For instance up to 80 per cent of households in hilly areas such as Ruhengeri are already experiencing a decline in productivity related to soil erosion (Musahara, 2006). Overall the country is estimated to be losing 1.4 million tons of soil per year. This is equivalent to a decline in the country's capacity to feed 40,000 people per year (REMA, 2006).

Comprehensive Land husbandry infrastructures (terraces, drainage systems like waterways, cutoff drains and gullies, etc) are one of the most economically important infrastructures in Rwanda, given the fact that more than 80 % of the country's population welfare depends on Agriculture. Land Husbandry is the only way to boost national agriculture production as the production is mainly hindered by soil erosion on steep hills and most of the time ends in flooding in low lands.

The objective of Rwanda's participation in the ECAAT project is to address soil fertility and agricultural production through effective Land Husbandry practices on approximately 6,300 ha of land within an integrated landscape management approach; hence boosting production in 3 topographic zones of the country, namely highland, middle land and lowland region.

Developing a Regional Centre of Leadership on land husbandry, applying land husbandry technologies in three sites across the country, enabling policies and markets as well as contingent emergency response are the major activities planned under Rwanda ECAAT project.

The ECAATP activities associated with environmental and social risks/ impacts include implementation of land husbandry technologies in three sites across the country (including the construction of terraces and drainage systems, application of fertilizers, application of pesticides) and construction of reference laboratories.

1.2.2 Land husbandry implementation approaches and technologies

Land husbandry approach focuses on higher yields and improved vegetative cover, reduced raindrop impact and runoff, and improved soil architecture which reduce erosion, improve fertility, and enhance farm livelihoods

The phases of Land Husbandry implementation involve:

- **Preparatory discussions with farmers and local leaders:** this phase concerns identification of problems and assess their importance and causes and the factors that can be brought into play to reduce runoff and erosion. It also includes field visits to the village community to foster their sense of communal responsibility, learn how degradation problems influence them, and discover the strategies they already have for maintaining soil fertility and renewing plant cover. This step also involves identification of PAPs with land ownership related issues.
- **On-farm trials:** are set up to measure and compare the risks of runoff or erosion and the higher yields resulting from various types of development or improved cropping techniques. This procedure establishes a technical layout and determines the feasibility, profitability and effectiveness of the erosion control methods recommended.
- **Comprehensive land husbandry implementation plan:** this involves dialogues, with a view to rationally intensify farming on productive land, characterizing the terrain, controlling gullies and stabilizing soil. Nothing can be done without the prior agreement of the farmers, who have to be encouraged to manage their land as a unified whole.
- **Man power recruitment:** Announcements are made (churches, villages, markets, local radio, etc), meetings with interested workers are also conducted, and Group formation, Technicians recruitment and training and Capita assignment to workers' groups are done.

The table below summarizes land husbandry technologies based on soil depth and slope category.

Table 1: Different technologies according to slope categories:

Slope category	Soil depth	Proposed land-husbandry measures
slope 0-6 %	Above 50 cm	<ul style="list-style-type: none"> • Grass strip • Agroforestry interventions • Intercropping with crop cover and green manuring • Application of manure/ compost • Mulching (when needed)
slope 6-16 %	Above 50 cm	<ul style="list-style-type: none"> • Constructing soil bunds (level or graded as per agro climatic zone) or ditches construction • Planting trees/shrubs along the lower side supporting the bunds • Protection of the drainage systems with check dams and grasses • Liming with agricultural lime in the treated area • Application of manure/ compost
slope 16-40 %	Above 50 cm	<ul style="list-style-type: none"> • Constructing bench terraces (radical terraces) • Planting trees/shrubs along the lower side supporting the bench terraces or ditches construction • Protection of the drainage systems with check dams and

		grasses <ul style="list-style-type: none"> • Liming with agricultural lime in the treated area • Application of manure/ compost (10tons/ha)
slope 40-60 %	Above 50 cm	<ul style="list-style-type: none"> • Constructing narrow cut bench terraces • Planting trees/shrubs along the lower side supporting the narrow cut bench terraces • Protection of the drainage systems with check dams and grasses • Liming with agricultural lime in the treated area • Application of manure/ compost (10tons/ha)
Extremely steep (slope > 60%)	Above 50 cm or below 50 cm	Afforestation
	Shallow soil (Less than 50 cm)	Afforestation Pastures, trees planted in pastures

Specifically, the project will provide Rwanda with an opportunity to collaborate in the development, transfer, and dissemination of technologies and management practices with other participating countries. Rwanda will build on existing efforts and investments to sustain and build on productivity gains and other positive benefits as well as draw on lessons learned from existing projects.

The ultimate aim would be the development, testing, evaluation and uptake of Technologies, Innovations, and Management Practices (TIMPs) in land husbandry to sustainably increase productivity, profitability, food security and nutritional outcomes for farmers while minimizing risks from climate variability, pests, diseases and other shocks. The specific technical areas of focus include:

- (a) Mapping of land units across Rwanda to inform decision making and planning of public investments;
- (b) TIMPs to control erosion at the landscape level, tailored for different slopes, soil type and depth;
- (c) TIMPs to improve soil fertility and minimize the risk of pests and diseases at the farm level;
- (d) TIMPs to improve the capture, storage and management of surface water for agriculture on hillsides; and
- (e) TIMPs to strengthen the role of local institutions in planning, implementing and sustaining public investments at the landscape level.

The estimated cost of the proposed project for first phase totals up thirty million US dollars (US \$ 30,000,000) over five year period and this financing comes from IDA.

1.2.3 Project Development Objective

The development objective is to enhance regional collaboration to improve productivity, resilience, and competitiveness of selected agricultural commodity value chains and increase smallholder farmer access to the regional market for food commodities and products.

1.2.4 Project components

ECAATP will have four (4) components including three technical components and one implementation support component detailed below.

i) Component 1: Regional Commodity Programs

The objective of this component is to enhance regional collaboration in the development of agricultural technologies, innovations, and management practices (TIMPS) and to facilitate the exchange and dissemination of TIMPS across national boundaries. The regional collaboration is intended to accelerate the development of technologies and technical change at the farm level, foster entrepreneurship and innovation, as well as, save money and time, by eliminating duplicating efforts.

Rwanda is interested to develop a regional center of leadership in land husbandry and also to collaborate with the National Crops Resources Research Institute in Uganda on cassava development.

Sub-Component 1.1: Development of a Regional Centre of Leadership on land husbandry in Rwanda

The regional centers of leadership are intended to guide and lead technology development. These regional centers will collaborate with selected learning institutions to generate and disseminate improved TIMPs. The objective of this sub-component is to strengthen selected centers to lead and guide collaboration in development and exchange of TIMPS and the transfer of scientific knowledge across the region. In Rwanda, this sub-component will focus on land husbandry as this is critical for national and regional food and nutrition security, climate resilience and ultimately incomes from farming. The Regional Centre of Leadership will be hosted by RAB as it has specific expertise in this area and is well positioned institutionally to respond to farmer needs and national priorities.

Sub-component 1.2: Collaborative development of TIMP's

Collaboration with the National Crops Resources Research Institute in Uganda on cassava development.

ii) Component 2: Enabling Policies and Markets

The objective of this component is to provide the current and future labor force with critical knowledge and skills that: (a) promote faster technical change in agriculture, especially in technology development, and innovations to improve access to markets; (b) meet the needs of private sector agribusinesses and the public sector – including policy analysis; (c) are likely to be employable by the food system now and in the future; and (d) encourage innovation and entrepreneurship in transforming agricultural value chains and linking primary agriculture with the emerging food system and formal markets. There are three sub-components: (i) establishment of centers of leadership in key disciplines of agriculture education; (ii) enhancing skills of stakeholders along value chains; and (iii) promoting effective models for service delivery.

Sub-component 2.1: Enabling Policies

The objective of this sub-component is to create a conducive policy and regulatory environment for regional collaboration in development, transfer, and exchange of technologies. The project will finance: (i) completion of regional harmonization of about 17 policies, laws, and regulations identified for harmonization under EAAPP; and (ii) identification, formulation, and harmonization of new policies,

including intellectual property rights on plant and animal germ-plasm which is key for sustainable regional collaboration and private sector investment.

Subcomponent 2.2: Agricultural Markets

The objective of this sub-component is to improve smallholder farmer's access to regional and national markets for food commodities and products. The project will finance: (i) linking farmers to regional value chains; and (iii) piloting the use of warehouse receipt systems linked to regional commodity exchanges as a means of enabling farmers access regional commodity markets.

Sub-Component 2.3: Promoting Effective Models for Service Delivery

To apply and derive the full benefits of improved land husbandry practices, a range of complementary agricultural services are needed by farmers. These include a range of services that provide new technologies, weather forecasts, as well as market information and extension services that support the uptake of new technologies.

iii) Component 3: Contingent Emergency Response

This component provides a mechanism for emergency response to crisis of a regional nature, affecting at least two participating countries, and with the goal to enhance resilience and improve recovery from the crisis. Examples of such crises might include drought, severe weather events, and pests and diseases – such as the army worm currently ravaging crops across many countries in the region. No funds will be allocated to this sub-component. However, in case of emergency funds can be re-allocated to this sub-component following a joint decision by the Bank and client country

iv) Component 4: Regional Coordination and Project Management

The objective of this component is to coordinate the project at the regional and national levels. Two sub-components are envisaged: (i) regional coordination and learning; (ii) national project management and evaluation.

1.3 Scope of ECAATP

1.3.1 Project areas

ECAATP will be implemented in three (3) areas representing all landscape zones of the country. Though sites have not yet been confirmed, they will be selected from highlands of Northern and Western Rwanda, middle lands of Southern Rwanda and lowlands of Eastern Rwanda. Based on soil depth and slope category in each site, land husbandry technologies to use include bench terraces, soil bunds, grass strips, progressive terraces (ditches), drainage systems (waterways, cutoff drains, gully reshaping), afforestation or rehabilitation of existing forests, application of lime and compost.

1.3.2 Project activities

Developing a Regional Centre of Leadership on land husbandry, applying land husbandry technologies in three sites across the country, enabling policies and markets as well as contingent emergency response are in the scope of the Rwanda ECAAT project.

The ECAATP will specifically undertake the following activities: (i) conducting baseline studies of landscape management and production system across the country on socio-economic & market, landscape management & production systems, policy frameworks; (ii) modeling landscape based land husbandry practices, mapping climate risk of collaborative TIMPs in correlation to land units maps, (iii) designing climate smart ISFM and IPM TIMPs for enhanced production, (iv) developing decision support tool for monitoring and forecasting sedimentation and soil nutrients loss, (v) Building a regional reference laboratory for rapid landscape diagnostic (drying areas, soil chemical & physical analysis, Remote sensing, GIS, and modeling laboratories), satellite laboratory, greenhouse and physiology & phenomic facilities for agroforestry and agrostology, (vi) establishment of land husbandry regional training and communication center, (vii) Applying integrated soil erosion and fertility control measures, (viii) Afforestation and forest restoration as well as adapting forage species suitable to different agro-ecologies, (ix) adapting cassava TIMPs developed under EAAPP and CGIARs, (x) enabling policies and agricultural markets, (xi) promoting effective models for service delivery through awareness creation on agriculture business models, identification and profiling of business model case studies, training of stakeholders, establishing agribusiness incubation network, etc as well as (xii) contingent emergency response.

The ECAATP activities associated with environmental and social risks/ impacts include implementation of land husbandry technologies in three sites across the country (including the construction of terraces and drainage systems, application of fertilizers, application of pesticides) and construction of reference laboratories.

1.4 Methodology for preparation of ESMF

The study for ESMF preparation was conducted by the Project Environmental and Social Safeguards team using the following approach and methodology:

1. Literature Review

The review of the existing baseline information and literature material was undertaken to gain further and deep understanding of the project. Among the documents that were reviewed included ECAATP design document, the LWH and RSSP project documents, Districts development plans of Nyanza, Huye, Gisagara, Gatsibo and Nyabihu and the National Land use master Plan.

The project team also undertook detailed review and analysis of the current relevant legislations, policies and guidelines including national and World Bank Safeguards Policies, international conventions related to this project and other relevant documents.

2. Field Visits

The project team visited the five (5) districts within the 3 different landscapes where ECAATP will be implemented. These are Nyabihu District for highlands, Gisagara, Huye and Nyanza Districts for Middlelands and Gatsibo District representing the lowland regions to familiarize with the different social and environmental issues on the ground.

3. *Public consultations*

Various discussions and consultation meetings were held with Project beneficiaries, relevant districts and sectors' officials, other relevant staff of the key implementing partners of the ECAATP including among others Rwanda Environment Management Authority (REMA), Rwanda Land Management and Use Authority (RLMUA), Rwanda Development Board (RDB), and other MINAGRI projects.

4. *Preparation of ESMF*

The preparation of ESMF for ECAAT consisted of:

- Collection of baseline data on social-environment of the project areas;
- Identification of positive and negative environment and social impacts
- Identification of environment and social mitigation measures;
- Preparation of screening procedures to be used while screening subproject activities
- And formulation of environment and social management and monitoring plans.

CHAPTER TWO: POLICY, INSTITUTIONAL AND LEGAL FRAMEWORK

This section of the ESMF outlines and reviews the existing legislations, policies and institutions and identifies requirements as well as gaps and conflicts of the relevant legal and institutional arrangements that would guide the development of the project in line with the national and international laws applicable to ECAATP. Rwanda being a signatory to various international conventions and laws, it is important that national projects are in line with these laws and as such some of the relevant international conventions are reviewed in this chapter.

2.1 National environmental and social management requirements

2.1.1 Policy framework

a) Rwanda Environment Policy

The overall objective of the Environmental Policy is the improvement of man's wellbeing, the judicious utilization of natural resources and the protection and rational management of ecosystems for a sustainable and fair development.

The policy seeks to achieve this through improved health and quality of life for every citizen and promotion of sustainable socio economic development through a rational management and utilization of resources and Environment, integrating Environmental aspects into all the development policies, planning and in all activities carried out at the national, provincial and local level, with the full participation of the population, conservation, preserve and restoration of ecosystems and maintenance of ecological and systems functions.

b) Agriculture Policy

The main objective of Rwanda agricultural policy is to intensify and the transform subsistence agriculture into a market oriented agriculture, and which requires the modern inputs, notably improved seeds and fertilizers. To achieve sustainable agricultural development, the policy emphasizes rational use and environmentally sustainable exploitation of natural resources for food production.

c) Land policy

The Rwanda land policy calls for rational use and sound management of national land resources, and that land use be based on established master plans. The policy also provides development of land use plans based on suitability of the areas/lands thus distinguishing the different categories of land and their purpose. On the use and management of hillsides and marshlands, the policy stipulates that marshlands meant for agriculture should be cultivated after adequate planning and Environmental Impact Assessment.

d) Health Sector Policy

One of the objectives of Rwanda Health Sector Policy is to improve the quality of and demand for services in the control of disease. The policy identifies the most common illnesses in Rwanda and puts priority to addressing these diseases.

The policy calls for the strengthening of measures of prevention and the improvement of the management of cases building on the multi-sectoral approach. The approach consists of rapid diagnosis and treatment of cases, increase in the protection of individuals and communities using preventative methods

(impregnated mosquito nets, intermittent presumptive chemo-prophylaxis treatment for pregnant mothers, management of the environment, including vector control), making decision based on evidence, monitoring, community sensitization and adapted interventions, targeted research and coordinated activities aimed at reinforcing existing health services.

Irrigation projects and marshlands having a role to play in malaria incidences, the policy in these subproject areas should emphasize more on environmental control of the disease vector especially in marshy areas as opposed to curative services.

e) National Biodiversity strategy and action plan

This strategy defines the objectives and priorities for the conservation and sustainable management of biodiversity. The plan includes hillsides and wetlands and protected areas as some of the areas that need to be conservation. The strategy focuses on five major areas i.e. improved conservation of protected areas and wetlands; sustainable use of biodiversity in natural ecosystems and agroecosystems; rational use of biotechnology; development and strengthening of policy, institutional, legal and human resources frameworks; and equitable sharing of benefits derived from the use of biological resources. The Action Plan consists of urgent and priority actions which are attainable in a period of five years.

f) National Poverty Reduction Strategy

The National Poverty Reduction Strategy identifies the transformation of the subsistence agriculture, into modernized agriculture that is market oriented. Other priority areas include human development which covers the actions of improving living conditions of the poor, economic infrastructure, governance, development of the private sector and the institutional reinforcement.

The strategy focuses on five major aims: improved conservation of protected areas and wetlands; sustainable use of biodiversity in natural ecosystems and agro-ecosystems; rational use of biotechnology; development and strengthening of policy, institutional, legal and human resources frameworks; and equitable sharing of benefits derived from the use of biological resources. The Action Plan consists of urgent and priority actions which are attainable in a period of five years. However the plan is not based on the actual status quality of wetlands which is one of the most important ecosystems in Rwanda. There is need to undertake inventory of wetlands in the country which will allow planning of these ecosystems.

g) National Water Resources Management Policy

The water policy aims at fair and sustainable access to water, improvement of the management of water resources, etc. through reforestation on hillsides and water catchments areas. This policy would seem in conflict with other sector policies including agriculture and marshland development.

The policy also needs to adopt a holistic approach to the management of water resources and integrate other policies related to it including the forest, wetlands, agriculture and land. This policy is relevant to ECAATP subprojects as some of the project activities will be undertaken in areas with water resources and one of the key project input is water which is governed by the policy.

h) National Wetlands Conservation Program

The wetland convention implementation office in Rwanda has formulated a National Wetland Conservation Program for 2002-2030 jointly working with the National Commission for Development

and Reform, the Ministries of Finance, Education Scientific Research and Technology, Environment, Lands, Water and Natural Resources and Agriculture.

The program aims at engaging various Government ministries in wetland conservation; and ensures a holistic approach to wetland management. All authorities concerned will have proper coordination of activities concerning wetland management, a factor which leads to efficiency implementation of policies.

To avoid further exploitation of the resources, Rwandan Government has established rules governing wetlands in the country. This is done by subjecting any acts concerned with water and its resources like watering plants, the use of swamps to prior environmental impact assessment which is submitted for approved to REMA or any person given a written authorization by REMA.

f) Forest Policy

The forest policy is relevant to this project due to the role forests play in water regulation and soil conservation. The forest policy aims curbing the continuous wood shortage and but most important to this study the alarming deterioration of soil. The policy recognizes ecological and economic role of forest the policy also aims at linking forestry with rural development by establishing relationship between forestry and beneficiaries. Forest management is linked intricately to marshlands existence, soil productivity, and water quality and flooding. The policy provides strategies for reforestation for environmental protection. The policy is relevant to the project as some of the activities of the project touch on afforestation and revegetation of degraded areas especially catchments areas whether protected or non-protected. The agroforestry activities in the hills will also have positive impacts on the country's forest stock if successful through supply of firewood and rejuvenating the soil productivity thus intensifying crop production as opposed to encroachment to forested areas.

g) International Conventions

Rwanda being a signatory to some of the international conventions that are relevant to the ECAATP, it is imperative that proposed ECAATP sub-projects and activities are screened in light of the commitments made under such conventions:

- a) United Nations Convention on Biological Convention
- b) RAMSAR Convention on Wetlands
- c) Convention on the Conservation of Migratory Species
- d) EAC Protocol on Environment
- e) United Nations Framework Convention on Climate Change (UNFCCC)
- f) United Nations Convention to Combat Desertification

2.1.2 Legal and Regulatory framework

This section describes the relevant policies and strategies, legal instruments, institutional arrangement and framework applicable to rehabilitation and /or construction of feeder road in different districts of Rwanda with respect to resettlement and compensation. The awareness of social issues started as early as in 1920. Since 1977 action program were initiated such as: human settlement (1977), stockbreeding (1978), soil protection and conservation (1980), water supply in rural areas (1981), erosion control (1982) and reforestation (1983). The national environment strategy was prepared in 1988-1989 to keep a balance between population and natural resources.

The aims of this strategy are as follows:

- To enable the country to strike a dynamic balance between population and resources while complying with the balance of ecosystems; and
- To contribute to sustainable and harmonious socio-economic development such that, both in rural and urban areas, men and women may realize their development and well-being in a sound manner.

a) The Rwanda Constitution

The constitution is the supreme law of the land. Under Article 29 of the Rwanda constitution, every citizen has a right to private property, whether personal or owned in association with others. Further it states private property, whether individually or collectively owned, is inviolable. However this right can be interfered with in case of public interest, in circumstances and procedures determined by law and subject to fair and prior compensation.

b) National Development Strategy

The Vision 2020 document has developed National Development Strategy in year 2000 wherein it is realized that Rwanda shall have a reliable and safe transport network of feeder roads. Hence feeder roads will continue to be extended and improved. Land use management, urban and transport Infrastructure development are considered as important pillar among 6 pillars of vision 2020 and protection of environment and sustainable natural resource management is one of the crosscutting areas of the vision.

The other important planning tools are: the Economic Development and Second Poverty Reduction Strategy (EDPRS II), the National Investment Strategy, Millennium Development Goals (MDGs) and the Medium Term Expenditure Framework. The vision document advocates to the development of economic infrastructure of the country and transport infrastructure in particular.

These strategies and action plans reflect national priorities for Economic Development and Poverty Reduction Strategy (EDPRS II) as a medium-term framework for achieving the country's long term development aspirations as embodied in Rwanda Vision 2020 and the Millennium Development Goals (MDG) priorities.

c) Organic law on Environment Protection and Management

The most relevant legislation for this study is the Organic Law on Environmental Protection, Conservation and Management. The legislation sets out the general legal framework for Environment protection and management in Rwanda. The law centres on avoiding and reducing disastrous consequences on Environment. The Ministry of Environment puts in place the organic law regarding environment conservation.

Initially until very recently, REMA was responsible for the approval of ESIA/ESMP reports; this responsibility has now been transferred to Rwanda Development Board (RDB) where there is a department for ESIA responsible for review and approval of all ESIA/ESMP reports.

d) Ministerial Order determining the length of land on shores of lakes and rivers transferred to public property N° 007/16.01 of 15/07/2010

This law sets the boundary for development and settlement activities next to water bodies. This Order aims at setting aside the length of land on shores of lakes and rivers affected in the public domain for environmental protection. The land within a distance of fifty (50) meters from the lakeshore is public property. The land within a distance of ten (10) and five (5) meters from the shore of big rivers and small rivers respectively is public property. The length set is calculated beginning from the furthest line reached by water depending on successive flooding record; and such land is statutorily regarded as a protected area and not is allowed to erect private property on such land. The only activities aimed at protecting the water bodies are permitted in these protected areas. Specifically the following are protected: dumping solid wastes; and dumping liquid wastes.

e) Law n° 43/2013 of 16/06/2013 governing land in Rwanda

The law No N° 43/2013 of 16/06/2013 governing land in Rwanda is the law that determines modalities of allocating, acquisition, transfer and management of land in Rwanda. It also establishes the principles applicable to rights recognized over all lands situated on Rwanda's national territory and all rights united or incorporated with land, whether naturally or artificially.

According to the Law, Land in Rwanda is categorized into two: Individual land and Public land. The latter is subdivided into two categories: the state land in public domain and the state land in private domain. The Article 12 and 13 of the land law stipulates that State land in the public domain consists of all land meant to be used by the general public or land reserved for organs of State services as well as national land reserved for environment conservation. Land occupied by national roads and their boundaries; Districts and City of Kigali roads and that of other urban areas linking different Sectors headquarters within the same District, or those roads that are used within the same Sector with their boundaries; arterial roads that connect Districts roads to rural community centers that are inhabited as an agglomeration with their boundaries is among the State land in the public domain. Their widening will be done after expropriation of both land and property incorporated thereon.

f) Land Tenure System and Provisions in Rwanda

The Land Use Master Plan states that all types of land tenure must be in compliance with the designated land use. The Land Law provides two types of formal land tenure: full ownership/ freehold and long term leasehold. As a result of the recent privatization of State owned lands, many land users don't hold either type of land tenure. As a result of this, the Land Law recognizes existing rights, whether written or unwritten, under both civil law and customary practices through new national land tenure arrangements.

Article 5 of the land law No 43/2013 of 16/06/2013 formalizes land ownership, especially those acquired through customary means. In such cases, populations with customary/indigenous land rights are being encouraged to register their land through decentralized District Land Bureau, Sector Land Committees and Cell Land Committees.

2.1.3 National Resettlement Regulations

This part describes National institutional, legal and policy framework for resettlement requirements in Rwanda, applicable to the project as well as the international provisions that bear relevance to the implementation of this project.

a) Expropriation Law for Public interest

The law No. 32/2015 of 11/06/2015 relating to expropriation in the public interests determines the procedures relating to expropriation of land in the interest of the public. Article 3 of the law stipulates that it is only the government that has authority to carry out expropriation. However the 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.

According to the above expropriation law, no person shall hinder the implementation of the program of expropriation on pretext of self-centered justifications and no land owner shall oppose any underground or surface activity carried out on his or her land with an aim of public interest. In case it causes any loss to him or her, he or she shall receive just compensation for it. The law identifies properties to be valued for just and fair compensation including land and activities that were carried out on the land such as different crops, forests, buildings or any other activity aimed at efficient use of land or its productivity. However, as per Article 27 of the law No 32/2015 of 11/06/2015, the owner of land designated for expropriation in the public interest shall provide proof of rights to land and property incorporated thereon, like land titles or any other documentary evidence showing he/she has property ownership. Here the law is silent on access to economic activities on the land.

b) Law establishing and organizing the Real Property Valuation Profession in Rwanda

Law No.17/2010 of 12/05/2010 Establishing and Organizing the Real Property Valuation Profession provides conditions for registration of land valuers in Rwanda, establishes the Institute for real property Valuers and sets conditions to exercise the profession. The law also allows the Government staff to conduct valuation when mandated by their government institutions.

Articles 27, 29, 30 and 31 of the law discuss on the valuation methods. These articles specify that the price for the real property shall be close or equal to the market value. Where sufficient comparable prices are not available to determine the value of affected asset, the replacement cost approach shall be used to determine the value of improvements to land by taking real property as a reference. The law also allows the use of international methods not covered in the national law after approval from the Institute of Valuers Council.

2.1.4 Institutional framework for environmental and social management in Rwanda

The institutional framework for environmental management is currently enshrined in the Organic Law determining the modalities of protection, conservation and promotion of the environment in Rwanda, published in the Official Gazette N° 9 of the 1st May 2005, particularly in its chapter III relating to the establishment of the institutions.

a) Ministry of Environment (MoE)

This Ministry is composed of two sectors: Water Resources and Environment. Environment is a crosscutting sector because it covers the four other sectors. MoE is responsible for the development of policies, laws and regulations as well as coordination of all activities in the management of water resources activities and environment, as well as their follow up and evaluation.

b) Ministry of Agriculture and Animal Resources (MINAGRI)

The Ministry of Agriculture and Animal Resources (MINAGRI) through RAB/SPIU is the executing agency for the ECAATP. It seeks to improve agricultural productivity and soil conservation through selected districts across the Country.

c) Ministry of Land and Forestry (MINILAF)

The Ministry of Lands and Forestry has the general mission to ensure sustainable protection, conservation and development of lands and forestry.

Specifically, MINILAF is responsible for:

- a) Developing and disseminating the sector policies, laws, strategies and programs that aim at conserving, developing and ensure optimal and rational utilization of land and forestry through:
- b) Developing institutional and human resources capacities in the sector of land and forestry and sub-sectors;
- c) Monitoring and evaluating the implementation of sector and sub-sectors policies, strategies and programs through:
 - ✓ Setting up and implementation of appropriate mechanisms and systems for monitoring and evaluation of climate change situation in the country and in the region that may affect the land, forestry;
 - ✓ Monitoring and assessing the implementation and mainstreaming of policies and laws that enhance the protection of land and forestry and their rational utilization in all crosscutting sectors in the Country;
 - ✓ Submitting to the Government periodic and annual reports on the impact of the sector policies, strategies, programs and projects on sustainable national socio economic development.
- d) Overseeing the institutions under supervision through:
 - (i) Guidance and orientations on the implementation of specific programs to be realized by the institutions under supervision and decentralized entities;
 - (ii) Supervision and orientations on the functioning of sector public institutions and promote synergies between various actors intervening in the sector;
- e) Mobilizing resources for the development of the sector and related programs through:
 - 1) Coordination of mobilizing resources and supervise actions to ensure their rational utilization in the

sector development;

2) Put in place mechanisms for promoting investment and development in the sector.

d) Rwanda Agriculture Board (RAB)

RAB ensures improved food security and livelihoods of all Rwandans by transforming agriculture from subsistence into modern farming through generating research and extension innovations that generate sustainable crop, animal husbandry and natural resources management.

e) Rwanda Environment Management Authority (REMA)

Rwanda Environment Management Authority (REMA) was established in 2004 to act as the implementation organ of environment-related policies and laws in Rwanda. REMA is also tasked to coordinate different environmental protection activities undertaken by environmental promotion agencies; to promote the integration of environmental issues in development policies, projects, plans and programmes; to coordinate implementation of Government policies and decisions taken by the Board of Directors and ensure the integration of environmental issues in national planning among concerned departments and institutions within the Government; to advise the Government with regard to the legislation and other measures relating to environmental management or implementation of conventions, treaties and international agreements relevant to the field of environment as and when necessary; to make proposals to the Government in the field of environmental policies and strategies; etc.

f) Rwanda Development Board (RDB)

RDB was created by Organic Law N° 53/2008 of 02/09/2008 with a mission of improving the well-being of all Rwandans by fast-tracking development, catalysing sustainable economic growth, and creating prosperity for all. According to the recent restructuring of government institutions, RDB was assigned the responsibility of reviewing the ESIA report and authorising the project to proceed by issuing an ESIA certificate.

2.2 World Bank environmental and social safeguard policies

The World Bank's has developed 10 environmental and social safeguard policies, which are a cornerstone of its support to sustainable poverty reduction. The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. These policies provide guidelines for Bank and borrowers in the identification, preparation, and implementation of programs and projects.

This ESMF has been designed so that all ECCATP activities funded under the World Bank will comply with the Environmental laws of the Government of Rwanda. The bank's safeguards policies and their applicability to the agriculture sector are presented below:

1. Environmental Assessment (OP4.01)
2. Natural Habitats (OP/BP 4.04)
3. Forestry (OP/BP 4.36)
4. Pest Management (OP 4.09)
5. Physical Cultural Resources (OP 4.11)
6. Indigenous Peoples (OP 4.10)

7. Involuntary Resettlement (OP/BP 4.12)
8. Safety of Dams (OP/BP 4.37)
9. Projects on International Waters (OP/BP 7.50).
10. Projects in Disputed Areas (OP/BP 7.60)

The World Bank (WB) and GoR agreed that ECAATP will trigger six (6) WB environmental and social safeguards policies discussed below:

Environmental Assessment (OP 4.01)

This policy requires environmental assessment (EA) of projects/programs proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus improve decision making. The core requirement of this policy is to screen early for potential impacts and select appropriate instrument to assess, minimize and mitigate the potentially adverse impacts. Relevant safeguard instrument for the policy include Environmental and Social Impact Assessment (ESIA), which is prepared for specific projects already identified before project appraisal; Environmental and Social Management Framework (ESMF), which is prepared to establish a mechanism to determine and assess future potential environmental and social impacts during implementation of the project activities and investments, which are not specified before project appraisal; and Environmental and Social Management Plan (ESMP).

The policy calls for the proposed project as a whole, and for activities/investments to be identified at a later stage during project implementation to be environmentally screened to determine the extent and type of the EA process.

At screening stage, the proposed project of sub-projects will be classified as Category A, B or C, depending on the type, location sensitivity, and the full scale of the project and the nature and magnitude of its potential environmental impacts. For Category A: full Environmental and Social Impact Assessment (ESIA) will be required, since project activities may have adverse, irreversible and significant environmental impacts. For Category B: a limited ESIA will be adequate, since projects may have site-specific environmental impacts, and their mitigation measure can be designed more readily. Under Category C: subprojects are likely to have minimal or no adverse environmental impacts, hence beyond screening; no further environmental assessment action may be required.

OP 4.01 further requires that the ESIA and ESMF report must be disclosed as separate and stand-alone documents by the Government of Rwanda and the World Bank as a condition for Bank Appraisal of the proposed project. The disclosure should be both in Rwanda where it can be accessed by the general public and local communities and at the World Bank external website.

Categorization procedures:

Category "A" Projects

A full EIA is always required for projects that are in this category, and for which impacts are expected to be 'adverse, sensitive, irreversible and diverse with attributes such as pollutant discharges large enough to cause degradation of air, water, or soil; large scale physical disturbance of the site or surroundings; extraction, consumption or conversion of substantial amounts of forests and other natural resources;

measurable modification of hydrological cycles; use of hazardous materials in more than incidental quantities; and significant involuntary displacement of people or other significant social disturbances.

Category "B" Projects

Although an EIA is not always required, some environmental analysis is necessary and some form of environmental management plan should be prepared. Category B projects have impacts that are 'less significant, not as sensitive, numerous, major or diverse. Few, if any, impacts are irreversible, and remedial measures can be more easily designed. Typical projects include rehabilitation, maintenance, or upgrades, rather than new construction.

Category "C" Projects

No EIA or other analysis is required. Category C projects result in negligible or minimal direct disturbance of the physical environment and biological.

Only subprojects classified as category B or C will be eligible for financing under ECAATP in Rwanda. This ESMF sets out to establish the EA process to be undertaken for implementation of project activities in the proposed ECAATP when they are being identified and implemented. This process requires that ECAATP and its implementing partners screen their activities to identify their potential adverse impacts and thereby determine the corresponding mitigation measures to incorporate into their planned activities.

Natural Habitats (OP 4.04)

This Bank Operational Policy recognizes that conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long term sustainable development. The Bank therefore supports the protection, maintenance, and rehabilitation of natural habitats. Natural habitats are land and water areas where (i) the ecosystems biological communities are formed largely by native plant and animal species, and (ii) human activity has not essentially modified the areas primary ecological functions. All natural habitats have important biological, social, economic, and existence value. Therefore, the Bank natural habitats operation policy (OP 4.04) is triggered in all cases where the proposed investments are likely to have potential adverse impacts on Rwanda's natural habitats including wetlands, underground water sources, open water bodies and forests.

The Bank natural habitats operational policy requires that any activities funded under the ECAATP that adversely impacts these ecosystems must have a successfully mitigation plan so as to maintain the overall balance and integrity of the ecosystems impacted. This requires that ECAATP designs appropriate conservation and mitigation measures to remove or reduce adverse impacts on these ecosystems or their functions, keeping such impacts within socially defined limits of acceptable change. Specific measures may depend on the ecological characteristics of the affected ecosystem.

Such measures must include provision for monitoring and evaluation to provide feedback on conservation outcomes and to provide guidance for developing or refining appropriate corrective actions. Activities that risk significantly degrading or converting critical natural habitat will not be funded under the project.

Pest Management (OP 4.09)

The policy supports safe, effective, and environmentally sound pest management. It promotes the use of biological and environmental control methods.

An assessment is made of the capacity of the country's regulatory framework and institutions to promote and support safe, effective, and environmentally sound pest management.

The ECAATP project components will trigger this policy especially those activities that will focus on agriculture. In appraising a project that will involve pest management, the Bank assesses the capacity of the country's regulatory framework and institutions to promote and support safe, effective, and environmentally sound pest management. As necessary, the Bank and the borrower incorporate in the project components to strengthen such capacity.

The Bank uses various means to assess pest management in the country and support integrated pest management (IPM) and the safe use of agricultural pesticides: Economic and sector work, sectorial or project specific environmental assessments, participatory IPM assessments, and investment projects and components aimed specifically at supporting the adoption and use of IPM.

For World Bank funded agriculture projects, pest populations are normally controlled through IPM approaches, such as biological control, cultural practices, and the development and use of crop varieties that are resistant or tolerant to the pest. The Bank may finance the purchase of approved pesticides when their use is justified under an IPM approach.

Physical Cultural Resources (OP 4.11)

Physical cultural resources are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Their cultural interest may be at the local, provincial or national level, or within the international community. Physical cultural resources are important as sources of valuable scientific and historical information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. The Bank assists countries to avoid or mitigate adverse impacts on physical cultural resources from development projects that it finances. The borrower addresses impacts on physical cultural resources in projects proposed for Bank financing, as an integral part of the environmental assessment (EA) process. When the project is likely to have adverse impacts on physical cultural resources, the borrower identifies appropriate measures for avoiding or mitigating these impacts as part of the EA process. These measures may range from full site protection to selective mitigation, including salvage and documentation, in cases where a portion or all of the physical cultural resources may be lost.

Forests (OP 4.36)

This operational policy aims to reduce deforestation, enhance the environmental contribution of forested areas, promote forestation, reduce poverty, and encourage economic development. The policy recognizes the role forests play in poverty alleviation, economic development, and for providing local as well as global environmental services.

The forest strategy suggests three equally important and interdependent pillars to guide future Bank involvement with forests including harnessing the potential of forests to reduce poverty, integrating forests in sustainable economic development, and protecting vital local and global environmental services and forest values.

The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical habitats. If a project involves the significant conversion or degradation of natural forests or related natural habitats that the Bank determines are not critical, and the Bank determines that there are no feasible alternatives to the project and its sitting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs, the Bank may finance the project provided that it incorporates appropriate mitigation measures. Therefore, activities under ECCATP that is likely to have negative impacts on forests will not be funded by the World Bank.

Involuntary Resettlement (OP/BP 4.12)

Interventions in the agriculture sector could lead to displacement, loss of assets and restriction of access to sources of livelihood. Project areas would be screened for impacts and a Resettlement Action Plan (RAP) will be prepared, if required. Resettlement Policy Framework (RPF) sets the guidelines for the Resettlement and Compensation Plans (RAPs) that would have to be prepared when any project investment (activity) triggers this policy. The standalone Resettlement Policy Framework (RPF) has to be prepared by the Government and approved by the Bank in compliance with OP 4.12. The RAPs would be prepared by the subproject implementers (e.g. districts) and would have to be submitted to the Bank for approval.

This policy is triggered when a project activity causes the involuntary taking of land and other assets resulting in: (a) relocation or loss of shelter, (b) loss of assets or access to assets (c) loss of income sources or means of livelihood, whether or not the affected persons must move to another location. Therefore, people are in most cases compensated for their loss (of land, property or access) either in kind or in cash of which the former is preferred. The resettlement policy applies to all displaced persons regardless of the total number affected, the severity of the impact and whether or not they have legal title to the land. Particular attention should be paid to the needs of vulnerable groups among those displaced.

The policy also requires that the implementation of the resettlement plans are a pre-requisite for the implementation/start of the construction to ensure that displacement or restriction of access does not occur before necessary measures for resettlement and compensation are in place. For chosen sites involving land acquisition, it is further required that these measures include provision of compensation and of other assistance required for relocation, prior to displacement, and preparation and provision of resettlement sites with adequate facilities, where required. In particular, the taking of land and related assets may take place only after compensation has been paid, and where applicable, resettlement sites, new homes, related infrastructure and moving allowances have been provided to displaced persons.

It is to be noted that ECAATP will not involve any water storage hence the World Bank Operational policy on Safety of Dams (OP/BP 4.37) will not be triggered.

Comparison between Rwandan and World Bank EA System

This section compares the similarities and differences between the National requirements and the World Bank environmental safeguards policies.

Basically, there is no big difference in regards to environment and Social management framework between national requirements and World Bank safeguards. Some gaps identified the national Rwandan legislation and the World Bank Policy OP4.01 are presented below:

Table 2: Differences between Rwanda regulations and World Bank OP 4.01

Area	Rwandan Law	World Bank OP 4.01
Environmental safeguards instruments	Rwandan national legislation is silent on the ESMF, regional or sectoral EA. It makes emphasis on ESIA.	All EA instruments are considered depending on the project.
Project categorization/ classification	The Rwandan regulation does not have the same project categorization as the World Bank but specifies projects/ activities requiring full ESIA study or partial ESIA and others which do not require it.	Depending on the type, location, sensitivity and scale of the project and nature & magnitude of its potential impacts, the WB classifies the proposed projects into Category A, B, C or FI.
Documents Approval and Disclosure	The law specifies the Institution competent for ESIA review and approval (ie RDB) but remains silent on its disclosure.	WB 4.01 requires that prepared documents are approved by the Bank and disclosed at WB external website

2.3 World Bank Group Industry Sector Guidelines for Agribusiness

The World Bank (WB) Environmental, Health and Safety (EHS) Guidelines are technical reference documents with general and industry specific examples of Good International Industry Practice (GIIP). The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors. The EHS guidelines should be used together with the relevant Industry Sector Guideline(s).

The WB Industry Sector EHS guidelines for Agribusiness cover EHS Guidelines for annual crop production, aquaculture, breweries, dairy processing, fish processing, food and beverage processing, mammalian livestock production, meat processing, perennial crop production, poultry production, poultry processing, sugar manufacturing and vegetable oil processing. ECAATP is anticipated to comply with the annual crop production, perennial crop production as well as food and beverage processing (possible processing of vegetables like tomato and fruit raw materials into value-added food and beverages).

The industry sector EHS guidelines to be complied with by ECAATP provide potential issues associated with annual crop production, perennial crop production and food and beverage processing along with recommendations for their managements.

The Environmental, occupational health and safety and community health and safety issues both in annual crop production and perennial crop production primarily include Soil Conservation and Management, Nutrient Management, Crop Residue and Solid Waste Management, Water Management, Pest

Management, Use and Management of Pesticides, Fertilizers, Biodiversity and Ecosystems, Genetically Modified Crops, Energy Use, Air Quality and Greenhouse Gas (GHG) Emissions. Occupational health and safety (OHS) issues associated with annual and perennial crop production include the physical hazards (operational and workplace hazards, machinery and vehicles, confined and restricted space entry, exposure to organic dust), risk of fire and explosion as well as biological and chemical hazards. The potential exposure to pesticides and presence of pesticides or by-products in potentially harmful concentrations in foodstuffs and postharvest products, potential exposure to pathogens associated with the use of manure, potential exposure to air emissions from fires, burning of crop waste, residues, or solid waste and increased risk of vehicle or machinery injuries on roads and access routes around the community are the major community health and safety risks. These guidelines provide specific recommendations and performance indicators to monitor to minimize risks to communities.

CHAPTER THREE: ENVIRONMENT AND SOCIAL BASELINE CONDITIONS

This section describes the overall baseline condition of Rwanda in terms of bio physical environment, as well as the socio economic and cultural attributes.

3.1 Physical environment

Rwanda is a mountainous landlocked country, located in Central Africa, at latitude 2.00 S and longitude 30.00 E, bordered to its south by Burundi for about 290km, Tanzania to its east for 217 km, Uganda to its north for 169km and the Democratic Republic of Congo to its west for 217 km. Rwanda has a total surface area of 26, 338 sq. km of which the total land area is 24, 948 sq. km and 1, 390 sq. km is water.

Rwanda can be divided into six topographical regions which are:

- From west to east are the narrow Great Rift Valley, which slopes sharply to Lake Kivu
- The Volcanic Virunga Mountains, whose highest peak, the snowcapped Mount Kalisimbi, towers over the high north western lava plains.
- The steep north south rise of the Congo Nile Basins divide, whose width averages 25 km.
- The ridge of the Congo Nile Basins divides, with an average elevation of 2750m above sea level.
- The central plateaus east of the mountains, which are covered by rolling hills.
- The savannas and swamps of the eastern and south eastern border areas which cover one tenth of the nations land area and include the vast Akagera National Park.

3.1.1 Climate

Rwanda enjoys a tropical temperate climate due to its high altitude. The average annual temperature ranges between 16°C and 22°C, without significant variations. Rainfall is abundant although it has some irregularities. Winds are generally around 1-3 m/s. In the high regions of the Congo - Nile ridge, the average temperatures ranges between 15 and 17°C and the rainfall is abundant. The volcanic region has much lower temperatures that can go below 10°C in some places. In areas with intermediary altitude, the average temperatures vary between 19 and 21°C and the average rainfall is around 1000 mm/year. Rainfall is less irregular, and sometimes causes periods of drought, especially in the Eastern and lowland of Southern Province of Rwanda. In the lowlands (East and Southeast), temperatures are higher and at times can go beyond 30°C in February and July-August. Rainfall is less abundant in that region (750 to 900 mm/year). Weather in Rwanda is determined by the rainfall patterns. Thus, the climate of the country is characterized by an alternation of four seasons of which two are wet and the other two are dry.

However, rainfall is generally well distributed throughout the year, despite some irregularities. Eastern and Southern regions (ie Nyagatare, Rwamagana and Gatsibo of the Eastern Province and Gisagara in Southern Province) are more affected by prolonged droughts while the Northern and Western regions (Gakenke, Nyamasheke, Karongi, Rutsiro, Nyabihu) as well as Nyaruguru District of the Southern Province experience abundant rainfall that may cause catastrophic landslides and flooding. The quantity of total annual rainfall varies between 800 mm in the Northeast of Rwanda and 1600 mm in the National Park of Nyungwe (Wisumo) and in the highlands of the Northwest. A decrease in rainfall is generally observed from West to East.

3.1.2 Relief

Rwanda has a hilly and mountainous relief with an altitude ranging between 900 m and 4,507 m.

The components of that relief are:

- *Congo-Nil Ridge* overlaying Kivu Lake with an altitude between 2,500 m and 3,000 m. It is dominated in the Northwest by the volcanic ranges consisting of five volcanic massifs of which the highest is Kalisimbi with 4,507 m.
- *The central plateau* presents a relief of hills with an altitude ranging between 1,500 m and 2,000 m.
- *The lowlands of the East* are dominated by a depression characterized by hills with more or less round top and 1,000 to 1,500 m in altitude. The lowlands of the South-West in Bugarama plain with an altitude of 900 m are part of the tectonic depression of the African Rift Valley.

3.1.3 Hydrology

Rwanda has abundant water resources estimated at 417,000 ha, including 101 lakes covering almost 128,000 hectares, water courses (7,260 ha) with 6,400 km of rivers and 860 marshlands spanning an estimated 278,000 hectares.

The sources of surface water of Rwanda include water courses and runoff. Rwanda has a dense hydrographical network of ± 2 km/km² (length of the superficial flow network by km² of surface). The country is divided into two hydrographical basins with a separating line called Congo-Nile Ridge, moving from the North to the South and approximately perpendicular to the volcanic chain, making natural obstacles exchange between the catchments basins of the Northern Kivu and the Southwest of Uganda and those of Rwanda.

In the West of that line, there is the Congolese basin (33 % of the surface of the national territory) that drains 10 % of water resources of the country. It comprises rivers of Sebeya, Koko, Rusizi, Rubyiro, as tributaries of Lake Kivu (102,800 ha on the Rwanda side, 473 m of maximum depth), Ruhwa and many other small streams. In the East of the Congo Nile Ridge, there is the Nile basin which covers 67 % of the National territory and drains 90 % of Rwandan waters by two main rivers namely Nyabarongo and Akagera. The latter is the main tributary of Lake Victoria with an average outflow of 256 m³/s at Rusumo station and thus considered as the source of Nile. The Nile basin in Rwanda comprises of many small lakes (e.g. Bulera, Ruhondo, Cyohoha South, Mugesera, Muhazi, Rwampanga, Mihindi, Mirayi and others). Those lakes are not very deep (5 to 7 m), except Bulera and Ruhondo Lake, which are 50 to 90 m deep respectively.

Most rivers originate from the slopes of the Congo-Nile ridge. The two main rivers, namely Nyabarongo and Akanyaru, together with their numerous tributaries, form, downstream from Lake Rweru, the river Akagera which drains the most part of Rwanda's waters towards the Nile, forming the border with Burundi in the South and Tanzania in the East. Nyabarongo and Akagera rivers are closely associated with vast marshes and numerous shallow lakes found along these rivers. The ecology of these ecosystems is very dynamic and complex. Marshland vegetation and the size of the lakes change continuously with the rainfall and the flow rate of the rivers. The hydrographic network is very limited in the District of Nyagatare and Gatsibo but becomes so dense in Western Province (Nyamasheke, Karongi, Rutsiro and Nyabihu), Southern Province (Nyaruguru) and Northern Province (Gakenke) of Rwanda. Very few and small rivers, some of them erratic and intermittent, are observed in Eastern Province while permanently abundant and big rivers dominate the South, West and North.

3.1.4 Underground water

The Rwandan underground water is dominated by the water of wetlands covering some 278,000 ha. The catchment/watershed of these wetlands are the many hills that catch rainwater and drain slowly to the lower areas where the marshlands modify the movement of water in the channel network by lowering the peak flow and volume of flood discharges. Groundwater in most of these marshlands areas is found at a depth of 8 m. The marshlands provide recharge of the ground water through percolation during water retention time in the area. The outflow of the underground renewable water resource is estimated at 66m³/s. Out of this, the 22,000 known sources contribute an output of 9m³/s. In general, little information is available on underground resources. The total area of marshlands of Rwanda is estimated at about 278,000 ha which are partially exploited depending on their degree of flooding.

3.1.5 Lakes

Rwanda has some 28 lakes of significant size and 73 lakes of small size. Six largest are located entirely within the national territory: Ruhondo, Burera, Muhazi, Mugesera, Ihema and Rwanyakizinga. Three others, Rweru, Cyohoha and Kivu, are shared with neighboring countries. The largest and most spectacular is Lake Kivu. It lies at 1,460 m above sea level and is 90 km long (North-South) and 49 km wide (East-West). From an average depth of 220 m, it plunges to a maximum depth of 475 m. Lake Kivu has a rough, jagged coast and contains numerous islands of which Ijwi is the largest. Lake Kivu lies on the border with Congo in Western Rwanda at the foot of the volcanoes. Although there is a species of small edible fish in the lake, it is poor in fauna, but rich in volcanic substances. Great volumes of dissolved methane gases exist in its deep waters, which have begun to be developed as an energy source. Lake Kivu drains to the south into Lake Tanganyika by the swiftly descending Rusizi River.

3.1.6 Quality of water

In Rwanda, the quality of water is generally good with a pH ranging between 6 and 7.5. Surface water often carries a lot of soil sediments and, in mining and volcanic regions, the water can contain traces of arsenic, lead, mercury, fluoride, iodide and other toxic metalloids and heavy metals, leading to water resources degradation.

The physico-chemical pollution of water is not frequent due to the low level of industrialization and use of agricultural chemical inputs. The microbiological pollution is often observed and it comes from various domestic wastes and debris carried by rain water. The pollution of watercourses and lakes by the water hyacinth and other invasive species is a very recent and alarming phenomenon in Rwanda.

3.1.7 Wetlands

Wetlands cover a total area of 278,000 ha or about 10.6 % of the national territory. They include a variety of ecosystems, ranging from large, permanently flooded swampy peat-lands to smaller, seasonally flooded wetlands with a more mineral soil.

The wetlands are composed of marshes, lakes, rivers and streams representing around 10.6 % of the national territory. In the highlands of the Northwest, there are Bulera and Ruhondo lakes as well as the marshland of Rugezi. In the Central and the Eastern part of the country, wide marshes are those of Nyabarongo, Akanyaru and Akagera rivers.

Many lakes connect with rivers and most of them are located in the Akagera National Park. The main swamps are Akanyaru (30,000 ha) on the border with Burundi, Mugesera-Rweru in the Southeast, Akagera swamp along the Tanzania border in the East, Nyabarongo (10,000 ha) and the Rugezi wetlands (5,000 ha) and Mukungwa and Base wetlands in the North.

The wetlands serve as troughs for sediment particles and play an important role in the national water balance by acting as a buffer, thus reducing the maximal flow rates during the rainy season and maintaining a relatively high flow rate during the dry season. Currently, an estimated 94,000 ha have been brought under agriculture, the large majority of this being spontaneous agriculture with maize, sweet potatoes and beans. In addition, the wetlands are used for a variety of traditional activities including the collection of leaves to make handicrafts, extensive grazing and making of bricks. Wetlands also provide a spawning habitat for fish, and are of great significance for biodiversity conservation. They play a role of alleviating the erosive force of water and thus facilitate the deposit of sediments in suspension that could block watercourses downstream.

Given the importance that the Government of Rwanda attaches to wetlands, in 2003, Rwanda ratified the RAMSAR Convention (or convention on wetlands) and has already registered on the RAMSAR list the site of Rugezi and identified other potential sites that will be registered in the future, like the complex of Mugesera-Rweru, Kamiranzovu marshes and the wet zones of the Akagera National Park. In addition, an action plan for the implementation of the RAMSAR Convention was developed in June 2004.

3.1.8 Soils

The Rwandan pedology is characterized by six types of soils namely: Soils derived from schistose, sandstones and quartzite formations (50%); Soils derived from granite and gneissic formations (20%); Soils derived from basic intrusive rocks (10%); Soils derived from recent volcanic materials (10%); Soils derived from old volcanic materials (4%); Alluvial and colluvial soils (6%). There is also an assortment of deposits of minerals such as tin, wolfram, Colombo tentelite and gold with the mining sector playing significant role in the national economy and as one of the key drivers of foreign direct investment in the country. Rwanda's soils contain many of the metal compounds found in laterite soils, but are generally lighter, more fertile, more workable, and less problematic to farmers than true laterite soils. There are two sub zones, with vastly different soils. To the northwest and the lower portions of the larger river valleys are very fertile volcanic soils covering approx. 10% of the country. Elsewhere, the largely metamorphic bedrock has produced generally poor quality with fertility varying and depending on extent of erosion and leaching.

About 30% of Rwanda's land is suitable for farming, and another 30% for grazing. Except where the land is seriously eroded or leached by heavy farming, the soils have good humus content and fertility. Intensive food crop production, often on steep slopes, has led to serious soil erosion.

Pastureland has also been overgrazed in many areas. Population pressure on the richer lands is sufficiently intense that soil damage, which is due to leaching, erosion, and intensive farming without adequate fertilizer, is an increasingly serious problem. The over dependence on agriculture, high population density, and rugged mountainous terrain with steep slopes that makes them prone to serious erosion and leakage of nutrients, and being among the least users of mineral fertilizers, combine to deplete the soils of

needed nutrients and consequent reduction in agricultural productivity and production. Rates of nutrient depletion range from moderate, 30 to 60 kilograms of NPK5 per hectare per year in the humid forest areas and wetlands to high, above 60 kilograms in the highland areas. It is estimated that in bad years, the difference between nutrient inputs and nutrient losses in Rwanda can be as bad as 136 kilograms of NPK per hectare. Nutrient imbalances are highest where fertilizer use is particularly low and nutrient loss, mainly from soil erosion, is high.

Rwandan soils are naturally fragile. The highland soils are particularly prone to erosion and landslides especially regions of the Congo Nile ridge, valleys and lowlands (peat lands) as well as highland meadows. The slopes of hills are exposed to erosion notably in the case of clay, sandy or gravelly soils. In the wide water surfaces of eastern regions like Bugesera and Rusizi, the valleys are of vertisols and alluvial types are fertile. The slope slight as they may be, are threatened by erosion due to the weak permeability of soils.

3.1.9 Air

Rwanda has one of the lowest emissions per capita in the world, estimated at 0.65 tonnes CO₂/person (including land use change), compared to a global average of 4.63 tonnes CO₂/person (Nsengimana *et al.*, 2011). The majority of greenhouse gases (GHG) emissions were CO₂ (87%) at 531 Gg, dominated by transport (52%) and industrial processes (28.5%).

The air pollution from dust particles and vehicle emission is increasingly growing. During the dry season, there is a marked increase in air borne diseases due to dust particles emission especially in urban areas (REMA, 2009). Poorly maintained roads, old mopeds, motorcycles and vehicles cause an increasing concentration of different air pollutants (Henninger, 2009). The air pollution resulting from dust is expected to increase during rehabilitation works and terrace making, especially during dry seasons. Adequate mitigation measures should be proposed to minimize air pollution levels as well as diseases and ill-health effects associated with transport.

3.2 Biological Environment

Rwanda is covered with diverse ecosystems that include mountains, forests, gallery forests, savannahs, wet and aquatic zones, wood and agro ecosystems. All these ecosystems have a rich flora and fauna. From the initial environment assessment, the proposed sub projects do not affect any critical natural habitats, as it will be implemented in the already cropped areas.

3.2.1 Protected areas

The fauna and the flora can be better preserved and protected through the establishment of protected areas like national parks and forest reserves to which the best management is applied. However, through time and due to human activities, these conservation areas have been reduced considerably.

Rwanda has four national parks (Nyungwe, Akagera, Volcanoes and Mukura -Gishwati national Parks) and some forest reserves like Muvumba Acacia forest gallery. Nyungwe, Mukura –Gishwati and Volcano National Park) are highland forests with a high degree of biological diversity and rare animal species, such as mountain gorillas, Ruwenzori colobus monkeys and golden chimpanzees.

It is estimated that about 2,150 plant species are found in Rwanda, of which 700 species have medicinal value. Rwanda as a whole is known for its rich variety of flora is accompanied by an equal variety of fauna, including several species of birds and primates. The country has more than 275 species of birds, 24 of which are endemic to Albert Rift. Towards the east of the country lies the Akagera National Park, the forests galleries and wooded savannahs. Population pressures have already drastically reduced the land area of natural forests of Rwanda from about 30 % to presently fewer than 10 % in less than a century for agricultural, pastoral and settlement purposes.

The production of export crops (pyrethrum plantations around Volcanoes National Park, tea plantation around Nyungwe), food crops in Gishwati, etc. contributed to loss of natural forests. The deforestation of Rwanda's remaining forests is also a result of high fuel wood consumption. Heavily populated and cultivated areas adjacent to the natural forest have caused significant loss of genetic diversity within Rwanda's natural forest.

In general, for a period of about 40 years, the surface area of the natural forests of Rwanda underwent a decrease of about 65 % between 1960 and 2002. The search for arable lands, extensive farming, illegal felling of forests for firewood, production of charcoal and poles for construction in urban areas, as well as improper land use have drastically contributed to the reduction of the surface area of forests. This led to biodiversity loss.

The dense high altitude forests of Volcanoes National Park is home to about half (320) of the world's remaining population (650) of Mountain Gorillas. Mountain gorillas consume large amounts of vegetation from more than 70 different plant species and spend about 30% of each day foraging for food. They consume roots, leaves, stems of herbs, vines from trees, shrub-sized plants, wild celery, gallium, vines, berries, barks and bamboo shoots.

Nyungwe National Park serves as habitat for 12 species of primates, among which there are black and white Colobus monkeys that wonder around in huge troupes, some are as many as 300 agile individuals. There are also known to be 275 species of birds in the Nyungwe.

In the Akagera National Park, there is the largest variety of wildlife species that include buffaloes, zebras, antelopes, warthogs, baboons, Giraffes, elephants, hippopotamus and crocodiles. The main threats remaining for these species are the destruction of their habitats and poaching.

The newly established Gishwati-Mukura National Park has more indigenous species, but it has been badly degraded that the remaining intact natural forest is less than 7% of the original area. This was mainly due to human activities such as settlements and conversion of the forest into agriculture and livestock farmlands. Some few wild animals are hosted in Mukura-Gishwati, including few populations of Chimpanzee (*Pan troglodytes*) and Golden Monkey (*Cercopithecus mitis kandti*).

3.2.2 Biodiversity of wetlands

The ecosystems of the Rwandan wetlands inhabit a rich biological diversity of animal and vegetation (more than 104 plant species have been identified), except for Lake Kivu, Bulera and Ruhondo, due to their liminological characteristics.

The Lake Kivu contains very poor aquatic flora and the density of the phytoplankton is relatively low due to the lack of mixture of layers (the nutrients are found at the bottom of the lake). Aquatic fauna in the lake is also poor due to its physical isolation.

In the Akagera National Park, the flora is dominated by the Cyperus, Phragmites, Phinix. An invasive species the Water Hyacinth (*Eichornia crassipes*) is present and has recently started spreading, thus posing a threat to biological diversity of the lakes. Some lakes like Cyambwe, Rwampanga and Rweru are particularly rich in hippopotamuses and crocodiles. The flora of many other lakes, such as Nasho, the lakes of Gisaka and Bugesera, is mainly dominated by papyrus with *Cyperus papyrus* mixed with *Miscandium violaceum* and *Nymphaea nouchallii*. All these lakes are associated with gallery forests onshore or on small islands.

In contrast, the aquatic flora and fauna of the Northern lakes (Bulera and Ruhondo), are poor due to the physico-chemical situation unfavourable to their development and the isolation of these two lakes. The concentration of the plankton is less important in Lake Bulera than in Ruhondo due to its high depth which limits light penetration, thus reducing plankton growth in Bulera lake. This lake is about 90 m deep while Ruhondo lake does not exceed 50 m of depth.

Lake Muhazi is landlocked, isolated, and located at 40 km from Kigali city. Its ichthyologic fauna is very limited. Three endemic species and other nine introduced species are found within the lake. The lake is very rich in phytoplankton. The macroflora of the marshes is mostly composed of wide spaces of papyrus with some zones of *Miscanthidium*. The low layer is covered with *Cyclosorus stratus*.

3.2.3 Biodiversity in agricultural systems

a) Croplands

Rwanda agricultural land presently covers around 55.8 % of the total surface area of the country and is continuously cultivated. The time between two growing seasons is the only period of respite. These areas have various crops that play an essential role in the national economy. These crops are usually grouped in two categories: subsistence and cash crops. Some of the food crops include sorghum, beans (*Phaseolus vulgaris*), eleusine (*Eleusine corocana*), Colocases (*Colocasia antignorum*), maize (*Zea mays*), rice (*Oryza sativa*), wheat (*Triticum sp*), barley (*Hordeum vulgare*), peas (*Pisum sativum*), sojabean (*Soja hispada*), peanut (*Arachis hypogea*), sweetpotato (*Ipomea durcis*), potato, cassava (*Manihot esculanta*) and banana (*Musa spp*).

The importance of each crop varies according to regions. Some crops, like bananas, potatoes, different varieties of wheat, sorghums and beans are subject to high commercial trade.

Potatoes, beans, cassava and bananas are present everywhere for the daily diet of the people. The cash crops are very few and limited to coffee, tea and pyrethrum.

b) Pastoral zones

In Rwanda, the essential part of animal husbandry is comprised of one family ownership with a small number of animals per household. As agriculture occupies the biggest portion of land, the cows graze in paddocks, on road sides, and in some parts of marginal lands. This obliges farmers to adopt the zero grazing or semi-permanent farming and grow fodder crops such as *Tripsacum laxum*, *Setaria spp*,

Desmodeum spp, *Pennisetum purpureum*, *Mucuna pruriensis*, *Cajanus cajan*, *Calliandra calothyrsis*, *Leucaena diverifolia*, *Sesbania sesban*, etc. However, one can notice the development of ranching in Nyagatare, Gatsibo, Kirehe and Kayonza Districts of Eastern Province and Gishwati area in Nyabihu District of West. Other pastoral land is very limited across the country. These areas are prone to bush fires, trampling and sometimes overgrazing. The latter is the main cause of reduction of the biological diversity as it exterminates the threatened species along with pyrophile species with small bromatological value, such as *Eragrostis spp*, *Sporobolus spp* and *Digitaria spp*.

c) Forestry and tree cultivation

Tree planting in Rwanda was limited to some plants around households such as *Ficus thoningii*, *Euphorbia tirucalli*, *Erythrina abyssinica*, *Vernonia amygdalina*, *Dracaena afromontana*, etc., but cultivation of woody perennials for timber, energy uses or other services was not customary.

The first forest plantations were created in 1920 and 1948 and only consisted of Eucalyptus. Later on other tree species were introduced. These included *Pinus spp*, *Callistris spp*, *Grevillea robusta*, *Cedrella spp*, *Cupressus spp*. The Arboretum of Ruhunde (Huye District) has 206 species among which 146 feuillus, 56 resinous and a species of bamboo.

Those species proved to be dangerous for the biological patrimony because they drain and further acidify soils that already are acidic, which in turn causes reduction or even extermination of the undergrowth. Thus planting those species eventually leads to erosion.

The tree-covered surface area was estimated at 256,300 hectares in 1998. Despite efforts of diversifying tree species, it was estimated that 99 % of planted trees consisted of Eucalyptus spp. A replacement of those trees by agroforestry species, such as *Grevillea*, *Cedrella*, *Maesopsis*, *Calliandra*, *Leucena* proves to be of urgent need, including developing agroforestry in agricultural zones.

3.3 Socio-Economic Environment

3.3.1 Population and Demographic Characteristics

Rwanda is classified among the densely populated countries of the world. The Fourth Rwanda Population and Housing Census of 2012 places Rwanda's population at 10,515,973 residents, of which 52% are women and 48% men. The population density in 2012 was 415 inhabitants per square kilometer. Compared to neighboring countries, Burundi (333), Uganda (173) or Kenya (73), Rwanda is the highest densely populated country in the region.

In general, urban districts have the highest population densities, particularly the districts of Nyarugenge with 2,124 inhabitants/ km², Kicukiro with 1,911 inhabitants/km², Gasabo with 1,234 inhabitants/km² and Rubavu with 1,039 inhabitants/km². Low densities are recorded in rural districts; those with the lowest density are Bugesera (280 inhabitants/ km²), Gatsibo (274 inhabitants/km²), Nyagatare (242 inhabitants/km²) and Kayonza (178 inhabitants/ km²).

The population of Rwanda is still largely rural, with 83% living in rural areas. The majority of the population of Rwanda lives in private households with an average size of 4.3 persons. Households are a bit smaller in urban areas with 4.0 persons. The Rwandan population is young, with one in two persons being under 19 years old.

People aged 65 and above account for only 3% of the resident population; this has consequences in that the demographic dependency ratio, measuring the number of potential dependent persons per 100 persons of productive age, is 93 at national level (NISR, 2012).

3.3.2 Human settlements

a) Rural settlements

For years, rural settlements in Rwanda have been and continue to be scattered in some regions of the country. For a long time, they have been characterized by unplanned occupation of space, thus doing harm to environment by wastage of land and soil erosion. However, in December 1996, the Government adopted a national human settlement policy aimed at establishing an improved rural human settlement model, grouping settlements in villages generally known as IMIDUGUDU, which meet the criteria of environmental viability through the reorganization of the national space, land reform, improved housing quality, etc.

b) Urban settlements

The urbanization policy, which is in the course of finalization, aims at discouraging the proliferation of unplanned residential areas with a view to improving sanitary and security conditions, providing decent houses and socio-economic infrastructure. Commendable efforts have been made in the development of town master plans aimed at resolving problems caused by unplanned residential areas, while meeting the requirements of modern urbanization, taking into account environmental concerns

3.3.3 Energy and transport

In Rwanda, Woody fuels, biomass wastes, methane gas of Lake Kivu representing 57 billion m³ and solar energy are the sources of energy used in households, industries and handcrafts. The transport sector is generally dominated by road transport. In the sub sector of air transport, the country has two international airports (Kigali and Kamembe) and aerodromes (Huye, Rubavu and Ruhengeri, etc) used in internal transport. Lake transport is used mainly on Lake Kivu for connecting districts of the Western Province. But the construction of certain roads was done without studying the environmental impact, which caused landslides, floods, gullies and sandbanks in depressions.

3.3.4 Industry and Mining

The industrial sector of Rwanda is modest and recent. One of the major problems is related to the location of industrial units as some of them are installed near residence houses, others in valleys (wet lands). These installations are sometimes sources of pollution because of their wastes, liquid (waste waters) or gaseous (dust, smoke, smell), and noise. In the mining sector, the rehabilitation of quarries was never a preoccupation of those concerned. Many abandoned quarries are not rehabilitated.

3.3.5 Agriculture

Agriculture is an important sector of the Rwandan economy with a contribution of 32% to the GDP. The agriculture production system is based on small family exploitations whose production is consumed by the owners. The systems of crops are complex, based on the diversification of productions and the association of crops. The little use of chemical fertilizers and pesticides, the low level of equipment and the very limited use of research based technologies result in small yields which are also very vulnerable to climatic changes.

The extensive agriculture practiced by the Rwandan population contributes to the degradation of environment. The agriculture intensification at the level of projects was often realized without taking into account the adverse environmental impacts from inputs like fertilizers, pesticides, herbicides etc.

3.4 Summary of key environmental and social issues in proposed project sites

The project sites are not yet confirmed but they will be selected from highland, middleland and lowland, the main topographic features across the country. The key issues in terms of environment and social concerns and which are significant to the design, planning and implementation of ECAATP are summarized below:

- Soil erosion
- Massive loss of vegetation covers during land husbandry activities.
- Labor influx in search of employment
- Loss of top soil and reduction of soil fertility leading to loss of fertile soils, sedimentation and siltation.
- Water quality deterioration
- Spread of communicable diseases,
- Loss of income due to missing one growing season by farmers due to land husbandry works
- Land ownership conflicts
- Etc.

CHAPTER FOUR: PUBLIC CONSULTATION AND PARTICIPATION

4.1 Introduction

Project stakeholder consultation is a vital component of the ESMF process. The consultation process focuses on providing information on the proposed project in a manner that can be understood and interpreted by the relevant audience, seeking comment on key issues and concerns, sourcing accurate information, identifying potential impacts and offering the opportunity for alternatives or objections to be raised by the potentially affected people; nongovernmental organizations, members of the public and other stakeholders.

Consultation has also been found to develop a sense of stakeholder ownership of the project and the realization that their concerns are taken seriously, and that the issues they raise, if relevant, will be addressed in the ESMF and will be considered during project design refinement.

4.2 Public consultation

4.2.1 Consultations with Stakeholders

Consultation with the project stakeholders began during the Scoping phase continued throughout the entire ESMF process and will continue into the construction and operational phase of ECAATP.

These consultations assisted the participants to understand the local conditions, different NGOs and institutions doing similar projects within the sites as well as the existing traditional methods used by the communities. The stakeholder's consultation meetings also helped in highlighting the socio-economic and environment concerns and impacts that could arise from the project which was significant in coming up with appropriate mitigation measures.

Consultations with Districts and PAPs representatives were organized in the represented Districts and conducted in Kinyarwanda. They engaged among others; representatives of affected people in the community, Stakeholders and District authorities (Vice-Mayor or his representative in certain Districts, Agronomists, District Executive secretary, Environmental officer, etc).The PAPs representatives were invited from the local farmers' organizations, private sector, civil society and other community opinion leaders.

4.2.2 Consultation with affected people

The affected people have a right to be informed, consulted and involved in the activities that will affect their livelihoods. The exact number of directly affected people in ECAATP is yet to be determined; this is because the specific locations and sites have not been identified yet.

Nevertheless, indirectly affected people in the represented Districts were represented by community leaders and local leaders and several consultation meetings conducted.

During consultation with the affected people, the project and district staff explained the scope and objective of the upcoming project and were also explained that the negative impacts anticipated are minor. Some of the things discussed include the concerns to the public, compensation procedures including a proposed and effective grievance redress mechanism, generation of income, gender inclusion and participation.

Affected people were allowed to give their feedback and their suggestions were documented and will be taken into account during the project design and implementation.

In total, about 405 people (293 Men and 114 Women) from 5 Districts were consulted between November 2017 and January 2018. The consultations and meetings discussed the scope of the project, the impacts that are expected to arise, the mitigation measures in place etc. The attendance lists, minutes and photos with the consulted people are presented in Annex 6, 7, 8 and 9.

All the consulted categories are in favor of the project and perceive it as a possibility of increasing economic activity in the area through creation of Jobs; and in improved soil conservation measures that will boost agricultural productivity hence enhancing the overall livelihoods of the communities.

The benefits of the consultation meetings include among others;

- Early involvement of the affected people
- Improved community understanding of the project scope and objectives
- Promised safeguards compliance through increased ownership
- Enhancement of decision making by the project decision makers

Below, are some photos from several consultation meetings held



Public consultation in Nyanza District Public Consultation with District officers in Nyabihu



Citizen engagement in Gatsibo District Consultations in Gisagara and Huye District

In regards to social and environment concerns, consultation meetings revealed that all expected negative impacts, will be addressed during identified project’s ESMPs preparation.

The key recommendations drawn from consultation meetings are as follows:

- Continued engagement of the PAPs, Local leaders and stakeholders
- The type compensation agreed upon between the expropriator and the PAP should consider updated market prices;
- PAPs to be given priority during recruitment and employment
- Affected persons and local communities will be given priority during recruitment of manpower and technical staff.
- Create strategies for effective communication among all the concerned parties

The table below highlights the key outcome of the meetings

Table 3: Key outcomes of the consultation meetings

ISSUE RAISED	RESPONSE
Timely availability of funds for compensation	Planned activities will not imply loss of assets nor access to assets but rather loss of income by some PAPs who will miss one agricultural season due LH works. In order to restore loss of income expected during civil works, PAPs will be given employment in LH works, agricultural inputs (lime and compost) and tree seedlings, fruit inclusive. No financial compensation will be done.
Roles of the District in implementation of safeguards tools	The Districts will closely work with RAB/SPIU ECAATP for RPF and RAP implementation , ESMF and ESMPs implementation
Expected risks and negative effects of the Project to the local communities.	<p>This is a Category B project, its impacts are manageable and include among others:</p> <ul style="list-style-type: none"> - loss of perennial crops and trees - Loss of income, -air pollution by dust -Noise pollution from labor -Communicable diseases -Child labor
Mitigation measures to potential risks and adverse project impacts to local community	<ul style="list-style-type: none"> -Assistance to resettled PAPs, including the vulnerable PAPs -Appropriate mitigation measures taken for pollution and health safety control, erosion control

	<ul style="list-style-type: none"> -Employment PAPs in ECAATP implementation works - Provision of seedlings and agricultural inputs - Capacity building
Anticipated benefits likely to be occurred from the project for stakeholders.	<ul style="list-style-type: none"> - Increased income for all employed personnel that will be recruited in the civil works -Soil erosion control - Overall agricultural productivity from improved soil fertility -Access to regional even international market by selling their products. -Capacity building
Information regarding grievance redress mechanisms.	-Grievance redress mechanism strategies will be put in place, including grievance redress committees that will be voted and close to the affected people
Employment Opportunities for PAPs during civil works	The local people were promised to be given priority during recruitment
Engagement of the vulnerable	The project will engage all people; Vulnerable People will be employed in Tree nurseries that will be used during forest rehabilitation and in creation of check dams.
Soil erosion and landslides	In ESIA studies, measures for soil erosion control and landslides will be provided and will be fully observed.

CHAPTER FIVE: POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND GUIDELINES FOR MITIGATIONS

5.1 Introduction

This chapter identifies potential impact that could arise from the activities of the project either during the construction phase or the operational phase. The identified impacts apply to the socio-economic environment as well the bio-physical environment. These impacts can be positive or negative and direct or indirect.

5.2 Positive Impacts

The key positive impacts from ECAATP are:

- ✓ Catchment Rehabilitation and Management and improved soil conservation through land husbandry (soil erosion control, improved soil fertility);
- ✓ Improved Water Resources Conservation;
- ✓ Flood control;
- ✓ Increased farm incomes from crop output;
- ✓ Poverty reduction through increased agricultural production;
- ✓ Improved Nutrition
- ✓ Appreciation of the value of land;
- ✓ Generation of employment for the locals
- ✓ Empowerment of land husbandry skills to beneficiaries (schools, farmers, technicians, etc)
- ✓ Environmental Protection
- ✓ Creation of Birdlife Habitat
- ✓ Improved regional collaboration and coordination
- ✓ Increased social interaction
- ✓ Provision of firewood, fodder, stakes, etc

5.3 Negative Impacts

The critical project activities that could potentially lead to adverse impacts mentioned below include;

1. Clearing of the proposed project sites for land husbandry activities and laboratory construction. Land clearing is a prerequisite for the construction of terraces and drainage systems. Some ECAATP potential sites are located in areas with high slopes. By clearing steep areas during rainy period, the land will be left exposed to erosion. In addition, freshly constructed terraces or drainage systems can also be destroyed by rains. This will lead to loss of soil on hills and sedimentation in the wetlands with adverse impacts on water and biodiversity. The same risks/impacts is anticipated during land clearing for laboratory construction during rainy period. However, this impact is going to be low in significance in terms of magnitude because the project in itself is aimed at improving soil conservation through reduction of erosion. The erosion likely to occur during the construction will be minimal and localized in the areas where excavation will take place only and during rainy period. The impact duration is only expected to be felt during the construction phase.
2. Introduction or application of synthetic fertilizers and pesticides to boost overall productivity in treated areas;
3. Income loss caused by a lost cropping season by farmers due to land husbandry works

4. Wastewater from laboratories.

5.3.1 Potential adverse impacts

- Water quality and quantity degradation (mostly surface water during land clearing or chemicals applications in heavy rains)
- Soil erosion and quality deterioration
- Loss of biodiversity (some trees in terraceable area)
- Ecological imbalances
- Ecosystems damage
- Surface water sedimentation
- Soil salinity/ acidity due to potential use of inadequate chemicals
- Introduction of invasive flora species

5.3.2 Socio-cultural and economic impacts

- Damage to property
- Grievances and conflicts associated with expropriation
- Conflicts related to assets ownership
- Labor influx related issues
- Food insecurity attributed to season loss by farmers within the delineated area for land husbandry works or labour influx

5.3.3 Health impacts

- Spread of communicable diseases
- Dust pollution
- Noise pollution
- Injuries

5.3.4 Localized Impacts

Most of the developments or subprojects planned under the ECAATP will vary from medium to small in scale. Consequently the significance of the direct negative environmental and social impacts is likely to be low to moderate except where they accumulate in single watersheds.

5.3.6 Strategic Impacts

The main objective of the ECAATP is to increase agricultural production and marketing in hillsides targeted for development under the Project in an environmentally sustainable manner. This will be achieved by assisting rural households to expand and intensify sustainable crop production systems and to increase their participation in agricultural markets.

5.3.7 Ecological Impacts and Land Degradation

A number of the proposed activities in the subprojects can lead to both localized and cumulative impacts on biodiversity, wetlands, soils and water quality. Land degradation may arise due to subprojects that involve intensification of agriculture. The environmental and social screening tools identified in this ESMF will be used to identify and mitigate the potential impacts as they relate to certain types of community investments.

5.3.8 Potential Sources of Pollution

Due to construction of terraces during rains, unprotected embankments or drainage channels (waterways) are exposed to agents of erosion (water) which wash away soil sediments. This is likely to lead to siltation of water body downstream. The use of agro-chemicals such as inorganic fertilizers and pesticides can also lead to pollution, especially due to surface runoff into adjacent watercourses, including infiltration into groundwater.

The soil loss related impact will be in significance in terms of magnitude because the project in itself is aimed at improving soil conservation through reduction of erosion. The planting vegetation on the cleared sites immediately after construction of terraces' embankments and waterways, cut off drains/ gullies and the clearance of only areas earmarked for construction are required. Concerning the impacts from agro-chemicals, this will be carefully monitored through annual reporting tools. Training and capacity building will be provided to communities on integrated pesticide management.

5.3.9 Pest Management

Successful Integrated Pest Management/Integrated Crop Management (IPM) is based on sound farmer knowledge of the on-going agro-ecological processes of the farming environment. Such farmers are, therefore, technically empowered to make informed decisions on the most appropriate management strategies to apply a specific period of crop development and production cycle. Furthermore, integrated crop/pest management is a farmer-centred management approach that addresses issues beyond pest management. It offers the entry point to improvement of the entire agricultural production system. It can be successfully adopted in the presence of a national Integrated Pest Management (IPM) policy framework and institutional support.

In all instances where high input-dependent crop/pest practices are adopted, pesticide misuse is known to be common and can result in the following impacts:

- ✚ Destruction of crop pollinators leading to poor crop yields;
- ✚ Elimination of the natural enemies of crop pests and consequent loss of natural pest control that keeps the populations of crop pests very low;
- ✚ Development of pest resistance to pesticides, encouraging further increases in the use of chemical pesticides;
- ✚ Contamination of the soil and water bodies;
- ✚ Toxicity to fish and birds;
- ✚ Proliferation of aquatic weeds;
- ✚ Pesticide poisoning of farmers and deleterious effects on human health;
- ✚ Unacceptable levels of pesticide residues in harvested produce and in the food chain; and
- ✚ Loss of biodiversity in the environment, particularly of the aquatic non-target species.

Considerable attention must, therefore, be paid to the environmental consequences of current pest management practices in Rwanda.

CHAPTER SIX: ENVIRONMENTAL AND SOCIAL MANAGEMENT PROCESS

6.1 Introduction

This chapter of the ESMF 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 subprojects. It sets out the reporting systems and responsibilities of the institutions in implementing the ESMF including the details to be addressed by the ESMF and the specific steps to be undertaken to ensure adherence to the ESMF.

Based on the project implementation approach adopted by the project, the project and subproject preparation and reporting will be through the RAB/SPIU as the focal point for environmental approvals.

6.2 Environment and social screening process

The Project intends to develop a regional center of leadership on land husbandry in Rwanda by testing/implementing land husbandry (LH) technologies in selected sites and constructing modern soil and ICT laboratories and collaborating with selected learning institutions to generate and disseminate improved LH technologies across the region.

The screening process intends to:

- Determine the potential of selected subprojects as to whether they are likely to cause negative environmental and social impacts
- Determine appropriate mitigation measures for activities with adverse impacts
- Incorporate mitigation measures into project design
- Review and approve project proposals
- Monitor environmental and social parameters during project implementation

The classification of each subproject under the appropriate environmental category will be based on the provisions of the World Bank operational policy on Environment assessment (OP 4.01). The environmental and social screening of each proposed subproject will result in its classification in one of the three categories A, B or C depending on the type, location, sensitivity, and scale of the sub project and the nature and the magnitude of its potential environmental and social impact. The ECAATP was assigned Category B.

The screening and review process for subproject identification will help determine which World Bank safeguard policies are triggered for each subproject, what similar requirements REMA and RDB may have, and what measures will need to be taken to address the potential adverse impacts. Subprojects and activities that fall under Component 1 will need to be reviewed for potential environmental and social impacts.

Based on the screening findings, an Environmental and Social Management Plans (ESMPs) will be prepared for all subprojects anticipated by ECAATP. The ESMF should provide substantial guidance on how each subproject should be planned, designed and implemented to avoid or minimize adverse environmental impacts.

Before the ESMP is conducted, the following are to be done:

❖ **Project brief preparation and submission**

The project brief provides information on the intended project and the basis for the screening to the Authority designing or approving the ESIA/ESMP Terms of Reference (ToRs), ie RDB. In preparing the project brief, it is important to identify, analyze and include the structure and interests of the key actors in land development/management depending on the scale i.e. the Ministry responsible for responsible for natural resources (Ministry of land and Forestry, Ministry of Environment); the Authority (RLMUA, RWFA, RDB and REMA) and the concerned Local Governments (where the site is to be located). It is also important to include the donors and development partners.

The ESMP team and the proponent should endeavor to simplify technical and engineering information to levels easily comprehensible by non technical managers and decision makers. The project brief should indeed be brief, no more than 10 pages for the most sophisticated project including any attachments except technical drawings.

❖ **ESMP requirements**

ECAATP involves among other activities land husbandry and construction of laboratories. Significant adverse impacts that may arise include erosion and landsliding problems, water pollution, and loss of income by farmers. This activity requires conducting an ESMP before the start of civil works. The ESMP will be undertaken on subproject basis and should cover all activities at the site.

❖ **Scoping**

The next stage, after screening and determining that proposed subproject activities should be subject to the ESMP process, is to decide on the scope and content of the ESMP. The land legislations, Law on Environment and associated regulations determine a core of key topics that must be covered as the minimum information to be contained in an ESMP.

❖ **Terms of References for ESIA**

RAB/ECAATP, the implementing agency, should develop terms of reference (ToRs) and send them to RDB and World Bank for approval before the ESMP process commences. The project brief submitted and any follow-up discussions may be the main basis for modification, approval or rejection of the ToRs.

❖ **ESMP Study**

The main issues to be assessed and described in the ESIA of a typical land development project include erosion and landsliding problems, water pollution, loss of income by farmers. The type of expertise needed in the ESIA will vary with the location and magnitude of the project but should in any case include:

- *Environmental Specialist*, with extensive experience in land development activities;
- *Soil Scientist*, with vast experience in soil and land management
- *Ecologist or Natural Resource Management Specialist* with vast experience in ecosystems management (aquatic ecosystems, land ecosystem, protected areas, etc)
- *Hydrology or Water resource management Specialist* with experience in water consumption, runoff and water bodies
- *Socio-economy Specialist* in rural economy/development.

The proponent will prepare a Scoping Report specifying the project's area of influence, the thematic scope and depth of assessments required, the composition of the required ESMPteam, and the probable

budget required to mount the ESMP study. The public consultation meeting will also be held and findings from the consultation will be included in the report.

Upon review and approval of the Scoping Report, the consultant will start the ESMP preparation. This will entail a systematic investigation of all impact areas as identified in the scoping report, taking care to document the current baseline environment, resource exploitation patterns and ecological pressure points. It is mandatory for the ESMP preparation to undertake public consultation with all stakeholders in the project's area of influence. The ESMP team should note and understand all stakeholder interests so as to cater for them in the ESMP. All accruing information will be written into a Draft ESMP Report.

In addition to policies and legal framework, environmental baseline and public consultation findings, the report will also include the environmental management plans and environmental monitoring plans as well as estimated cost.

❖ **Review of the ESMP Report**

The Consultant will prepare the ESMP report which will be submitted to the Client (RAB/SPIU ECAATP) for review and approval. The project will organize a validation workshop involving all stakeholders including public agencies (participating District, REMA, RDB, MINILAF, MoE, RLMUA, RWFA), private sector, local farmers' organizations and farmers' representatives.

The reviewed and corrected report will be submitted to RDB and World Bank for review and approval. The Project shall obtain clearance and completion Certificate from World Bank and RDB respectively.

The Project Management will be responsible for completing the screening checklist (Annex 6) and ensuring that the final ESMPs are approved by RDB before the subprojects receive final approval by World Bank for implementation.

6.3 Mitigation and Management plan

Mitigation measures will be considered starting with the Environmental Assessment process. Impacts identified as severe in consequence category and/or likelihood category will be further analyzed to identify additional mitigation measures that are potentially available to eliminate or reduce the predicted level of impact. Potential mitigation measures will include vegetation restoration plan, engineering design solutions, stakeholder's participation in finalizing mitigation measures, etc.

The ESMP should be developed so as to counter the impacts assessed and also the likely impacts during the implementation of the works and operational phase.

6.3.1 Guidelines for mitigation measures

All significant adverse impacts are considered for mitigation. The mitigation options considered include project modification, provision of alternatives, and pollution control. In case where the effectiveness of the mitigation is uncertain, monitoring programmes will be introduced. The mitigation measures are applied to significant impacts arising from construction, operation and maintenance aspects of the various subproject projects. The contractor is responsible for determining the cost of mitigation and to include such cost as part of its total cost for executing the works.

ECAATP is therefore required to include the mitigation measures as part of the Request for Proposal (RFP) or tender documents for contractors to enable them quote appropriately. This ESMF will make reference to the Bank's general Environmental, Health and Safety (EHS) Guidelines to address potential impacts.

6.3.2 Pest Management

Successful Integrated Pest Management/Integrated Crop Management (IPM) is based on sound farmer knowledge of the on-going agro agro-ecological processes of the farming environment. Such farmers are, therefore, technically empowered to make informed decisions on the most appropriate management strategies to apply a specific period of crop development and production cycle. Furthermore, integrated crop/pest management is a farmer-centered management approach that addresses issues beyond pest management. It offers the entry point to improvement of the entire agricultural production system. It can be successfully adopted in the presence of a national Integrated Pest Management (IPM) policy framework and institutional support.

In all instances where high input-dependent crop/pest practices are adopted, pesticide misuse is known to be common and can result in the following impacts:

- Destruction of crop pollinators leading to poor crop yields;
- Elimination of the natural enemies of crop pests and consequent loss of natural pest control that keeps the populations of crop pests very low;
- Development of pest resistance to pesticides, encouraging further increases in the use of chemical pesticides;
- Contamination of the soil and water bodies;
- Toxicity to fish and birds;
- Pesticide poisoning of farmers and deleterious effects on human health;
- Unacceptable levels of pesticide residues in harvested produce and in the food chain; and
- Loss of biodiversity in the environment
- Considerable attention must, therefore, be paid to the environmental consequences of current pest management practices in Rwanda.

6.4 Compliance with ESMP Implementation

Monitoring the compliance of subproject implementation with the mitigation measures set out in its ESMP and/or RAP will be required. The ECAATP Environmental Specialist (ES) and District Environmental Officer (DEO) will have responsibility for carrying out this monitoring by visiting the subprojects, and pursuing the following corrective measures as required.

- (i) If a violation of the ESMP or RAP is detected during a site visit, the Contractor will be notified of the violation, and the means of rectification, verbally. The ES and DEO will discuss with the Contractor/ Operator a realistic deadline for rectifying the violation.
- (ii) If a violation is reported to the ES and DEO by some other entity, they will conduct a site visit and, similarly, issue the verbal warning and deadline for rectification.
- (iii) The verbal warning will be confirmed in writing to the Contractor/ Operator within five working days.

- (iv) The ES and DEO will return to the site on the deadline, and if the violation is still occurring, he will notify the contractor / operator in writing of the continuing violation, informing him of actions/measures to be taken by the Project.

CHAPTER SEVEN: ESMF IMPLEMENTATION ARRANGEMENTS AND BUDGET

The Environmental and Social Management framework implementation and budgeting process presented under this section considers institutional arrangements required to implement the environmental actions and an estimated cost for its implementation. It is worth to note that the real cost of the mitigation measures will be determined during the preparation of Environmental Management Plan (EMPs) and Resettlement Action Plans (RAPs) for each sub-projects/district.

7.1 ESMF Implementation

The Project will be implemented by Rwanda Agriculture Board (RAB) under the Ministry of Agriculture and Animal Resources (MINAGRI). The ECAATP will be administered through the existing Single Project Implementation Unit (SPIU) for Marshland and Hillside Irrigation (RSSP-LWH -RCSP) which has experienced staff.

The implementation arrangement builds on responsibilities already in place to ensure that the requirements of this ESMF are met.

Table 4: Role and responsibilities in the ESMF implementation

No	Activity	Responsible institutions
1	Sub-project brief preparation	RAB/WB SPIU
2	Sub-project Screening and screening Checklist	Rwanda Development Board
3	Preparation of terms of Reference	RAB/ WB SPIU, World Bank, and RDB
4	Approval of terms of Reference	RDB and the World Bank
5	ESMP preparation	Consultant hired by RAB/SPIU
6	Review of ESMPs report	<ul style="list-style-type: none"> - RAB/SPIU - Participating Districts - Rwanda Development Board - World Bank
7	Approval of ESMP and Issuing completion Certificate	<ul style="list-style-type: none"> - World Bank - Rwanda Development Board (RDB)
8	Implementation of the ESMF	<ul style="list-style-type: none"> - RAB/SPIU
9	Implementation of ESMPs	<ul style="list-style-type: none"> - Contractors and Supervising Firms hired by MINAGRI/RAB - RAB/SPIU - Participating Districts
10	Monitoring of safeguards implementation	<ul style="list-style-type: none"> - Supervising firm hired by RAB/SPIU - RAB/SPIU - Participating Districts

		<ul style="list-style-type: none"> - REMA - World Bank
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7.2 Grievance Redress Mechanism

Grievances procedures will be required to ensure that project affected people are able to lodge complaints or concerns, without cost, and with the assurance of a timely and satisfactory resolution of the issue. The procedures also ensure that the entitlements are effectively transferred to the intended beneficiaries. Grievances may arise from members of communities who are dissatisfied with eligibility criteria use, community planning and resettlement measures, actual implementation or compensation.

a) Established procedures and time frame for Grievance redress mechanism

Grievance redress mechanisms are increasingly important for development projects, where ongoing risks or adverse impacts are anticipated. They serve as a way to prevent and address community concerns, reduce risk, and assist larger processes that create positive social change.

The subprojects to be implemented under ECAATP are minor in nature. Addressing complaints through Contractor, Project liaison personnel, Grievance redress committees, local authority and community gatherings are simple means that should be used.

The creation of a Grievance Redress Committee (GRC) will be given priority in each subproject. GRCs should be established at the Cell and Sector level to assure accessibility for affected people and the committee can be chaired by the Cell or Sector Executive Secretary or their representatives for Cell and Sector level respectively. The Cell GRC will include Cell Executive Secretary as Chair, Subproject Environmental and Social safeguards officer as Secretary (this staff will also be in charge of community development), village leaders and representatives of PAPs. The members of the GRC for ECAATP at the Sector level shall include the Executive secretary as Chair, District Environmental Officer as Secretary, the Subproject Environmental and Social safeguards officer, the representatives of the Contractor, and community representatives.

The GRC meetings are held at the respective Sector/cell's office at least once two weeks from the date of receiving complaints.

b) Grievance resolution approach

The channels of receiving complaints include presentation of complaints via face-to-face meetings, written complaints, telephones, email communication, third party (e.g., farmers' organizations, Church, private sector, etc).

If the aggrieved person does not receive a response or is not satisfied with the outcome within the agreed time, s/he may lodge his/her grievance to the relevant Municipal Administration such as the Sector Executive Secretary or District Mayor, also mandated to help resolve such matters. If requested, or deemed necessary by the subproject Committee, the District Project Coordination officer will assist the aggrieved person in this matter.

The relevant Local Administration will then attempt to resolve the problem (through dialogue and negotiation) within 30 days of the complaint being lodged.

If no agreement is reached at this stage, then the complaint is dealt with through the local courts (Abunzi) where possible. Where matters cannot be resolved through local routes, the grievance will be referred to higher authorities at the national level. The subproject Resettlement and Compensation Committee will provide assistance at all stages to the aggrieved person to facilitate resolution of their complaint and ensure that the matter is addressed in the optimal way possible.

c) Grievance Log

The DPC will ensure that each complaint is appropriately tracked and recorded. The log will contain record of the persons responsible for an individual complaint, and records of dates for the following events:

- ✓ Date the complaint was reported;
- ✓ Date the Grievance Log was added onto the project database;
- ✓ Date information on proposed corrective action sent to complainant (if appropriate);
- ✓ The date the complaint was closed out; and
- ✓ Date response was sent to complainant.

d) Monitoring Complaints

The District Project Coordinator will be responsible for:

- ✓ Providing the sub-project GRC reports on a bi-weekly basis detailing the number and status of complaints;
- ✓ Any outstanding issues to be addressed; and
- ✓ Monthly reports, including analysis of the type of complaints, levels of complaints, actions to reduce complaints and initiator of such action.

7.4 ESMF Implementation budget

The Budget for the implementation of this ESMF will be provided by the World Bank and will mainly consist on preparation of environmental safeguards tools. The cost for mitigation measures will be included in the 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 ECAATP

Component	Broad Activities	Activities	Cost (US\$)	Notes
Regional commodity programs	Development of a Regional Centre of Leadership on land husbandry in Rwanda and	ESMP Study	34,800	Three ESMP study will be conducted, ie one study per topographic zone will be done at a cost of 11,600 \$ US

	TIMPs	Monitoring of ESMPs	50,000	Routine monitoring of ESMPs during the project period
		Capacity building	27,000	Trainings, workshops on safeguards implementation and IPM approaches with project staff, Relevant district staff, Contractors and supervisors and Community representatives
Total			111,800	

CHAPTER EIGHT: MONITORING PLAN OF THE ESMF

The objective of monitoring is twofold;

- 1) To alert project authorities by providing timely information about the success or otherwise of the environmental management process outlined in this ESMF in such a manner that changes can be made as required to ensure continuous improvement to ECAATP environmental management process (even beyond the project's life).
- 2) to make a final evaluation in order to determine whether the mitigation measures incorporated in the technical designs and the EMP have been successful in such a way that the pre-project environmental and social condition has been restored, improved upon or is worse than before and to determine what further mitigation measures may be required.

This section sets out requirements for the monitoring of the environmental and social impacts of the ECAATP projects. Monitoring of environmental and social indicators will be mainstreamed into the overall monitoring and evaluation system for the project. In addition, monitoring of the implementation of this ESMF will be carried out the key implementing institutions of ECAATP.

8.1 Monitoring and reporting of Environmental and Social Indicators

Two opportunities will be taken to build a simple system for the monitoring and evaluation of environmental and social impacts:

- a) The Environmental Specialist should consider the environmental and social criteria that require measurement (i.e. groundwater levels, levels of income etc); a list of initial proposals is given below;
- b) Using that list of criteria, a set of indicators can be integrated into the screening forms used in the project approval process in each district. This will ensure flexibility at the subproject design stage, integration of monitoring considerations throughout the subproject cycle, as well as a participatory approach to environmental and social monitoring.

Initial proposals

The key issues to be considered under ECAATP subprojects include monitoring of water quality, soil fertility, agricultural production, income generation, and health and population influx. The goals of monitoring are to measure the success rate of the project, determine whether interventions have resulted in dealing with negative impacts, whether further interventions are needed or monitoring is to be extended in some areas. Monitoring indicators will be very much dependent on specific project contexts.

Monitoring and surveillance of subprojects will take place on a “spot check” basis at it would be impossible to monitor all the subprojects to be financed under the project. The spot checks consist of controlling the establishment of mitigation measures. It is not recommended to collect large amounts of data, but rather to base monitoring on observations by project technicians and stakeholders to determine the trends in indicators.

Monitoring of Participation Process

The following are indicators for monitoring of the participation process involved in the project activities. Number and percentage of affected households consulted during the planning stage:

- ✚ Level of decision making of affected people;

- ✦ Level of understanding of project impacts and mitigation;
- ✦ Effectiveness of local authorities to make decisions;
- ✦ Frequency and quality of public meetings;
- ✦ Degree of involvement of women or disadvantaged groups in discussions.

The main components of the monitoring plan include: environmental issue to be monitored and the means of verification; specific areas and locations; parameters to be monitored; frequency; and institutional responsibilities for monitoring and supervision. Site specific monitoring checklists will be prepared by the designers for the each subproject, and be included as an integral part of site specific ESMP. Monitoring checklist should be prepared using the generic monitoring plan presented within this ESMF document and respecting significant site specific impacts and proposed mitigation measures elaborated in site specific ESMP document.

The contractors will have a dedicated public liaison officer (or safeguards staff), who will establish communication with the local residents that may be affected by the project and be responsible to inform them about all of the project related activities, especially those related to environmental impacts of the project and planned mitigation measures.

The contractors will prepare their compliance reports in respect to ESMP, which document the implementation of environmental mitigation and protection measures (together with prescribed monitoring activities carried out during the reporting period) on quarterly basis and submit them to Project Coordinator who will, in turn, share the report with the Bank and REMA. However, in case of any kind of accident or endangerment of protected environments, reporting to project Management, participating District and World Bank will be immediate.

ECAATP will have the authority for immediate suspension of works if Contractor's performance is found to be in serious contravention of the environmental standards and regulations. Monitoring and compliance in accordance with ESMF and site specific ESMPs, including monitoring of implementation of site specific measures on each sub project/section during project implementation will be undertaken by ES and reported in writing to the MINAGRI and the Bank. Annual Environmental Health and Safety (AEHS) reports, including monitoring indicators and reporting on the implementation of the requirements set forth in the ESMPs will be prepared by ES and submitted for the Bank's review. In case of fatalities or major incidents on sites, the Project will immediately report to WB.

In addition to the Project Reports required by the World Bank and under the Organic Law on Environment, an Audit on ESMF implementation will be prepared by the Project at Mid Term Review and at the project end, and shared with REMA and the World Bank. The table below indicates project indicators to be monitored and reported against.

Table 6: Monitoring indicators for ECAATP

Project Activities	Negative Impacts	Indicators	Methods of Monitoring	Responsibility	Frequency
Hillside Development with land husbandry technologies	Potential absence of compliance to the ESMP, RAP and RDB conditions of approval	Environmental records (PPEs, sanitation (water & toilets), waste management, signposts, first aid facilities etc.)	Routine inspections of the site	ECAATP, District and Contractor	Biweekly
	Soil erosion	Embankments, drainage channels (cut-off-drains, waterways and gully)	Routine inspection of site for suitability and erosion problems.	ECAATP, District and Contractor	Biweekly
	Water quality degradation	Water quality (nutrient load & sediment load)	Water sampling & analyses Stream gauging	ECAATP and RAB	During LH works
	Soil degradation	Soil quality	Soil sampling and analysis	ECAATP and RAB	During LH works
	Ecosystems damages	Change in ecosystem composition	Site observation	ECAATP and RAB	During LH works

	Safety of livestock and humans	Reported cases of incidences and accidents	Review and evaluation of incidents and accidents Register	ECAATP, District	Regularly
	Labour influx and child labour	List of workers, origin (within or outside the project area) and age (records on workers above 18 years old)	Routine inspections of the site	ECAATP, District and Contractor	Biweekly
Promoting use and access the required inputs (chemicals and high quality seed)	Surface water pollution by chemicals	Water and soil quality	Soil and water Sampling and analyses	RSSP, REMA	Annually
	Soil degradation	Soil quality	Soil sampling and analysis	RSSP, REMA	Annually
	Change in the production	Change in exploitation levels of land	Yield measurement	ECAATP, District	Seasonally

8.2 Monitoring Roles and Responsibilities

a) Rwanda Environment Management Authority (REMA)

REMA will play the leading oversight role of monitoring the activities of this project. REMA will carry out this role by ensuring that the environmental management plans (EMPs) contained in the cleared design package is being implemented as specified therein. REMA will monitor the reports on a regular basis, perhaps quarterly. They will rely on a bottom up feedback system from the ground by going through the monitoring reports and making regular site visits to inspect and verify for themselves the nature and extent of the impacts and the success or lack off, of the mitigation measures.

b) RAB/SPIU

The SPIU/RAB Monitoring and Evaluation staff, jointly with the SPIU Safeguards staff will be primarily responsible for ensuring compliance to the monitoring framework; they will undertake review of the monitoring reports emanating from the implementing agencies and will then upon approval submit these monitoring reports to REMA and the World Bank. The SPIU will also provide overall coordination in monitoring including training coordinating of training in collection and analysis of monitoring data for data collectors.

Critical role of the SPIU will include data analysis, as well as maintenance of management information systems and all baseline data. Lately other than preparation of periodic reports, the SPIU will implement all the necessary modifications in the monitoring framework.

c) ECAATP Implementing Partner Institutions

All the ECAATP implementing institutions identified under this project, will monitor the specific components of project that they are targeted to execute. They include Ministry of Environment (MoE), Ministry of Land and Forestry (MINILAF) and its agencies (RLMUA, Rwanda Forestry Authority), MINALOC, Ministry of health (MINISANTE) and Private Sector Federation (PSF).

The MoE and MINILAF and their Agencies will support the project in water quality and ecosystem monitoring, land use and acquisition as well as in soil erosion control. The Ministry of local administration (MINALOC) through participating Districts will assist in mobilizing local communities in the project intervention areas for the adoption and ownership of the infrastructures and in resettlement process. Through the district environmental officer, and social protection officer, the district will monitor on daily basis the implementation of safeguards measures reflected in the safeguards documents. The Ministry of health (MINISANTE) will be responsible for campaigning and fighting against communicable diseases and monitoring their prevalence.

With regard to the Ministry of Commerce and Industry (MINICOM) and its agencies, especially Rwanda Cooperative Agency (RCA) will play a role in the formation, organization and capacity building of Cooperatives assisted by RSSP. The Private Sector Federation (PSF) will be involved in providing services, supplying agricultural inputs and transformation of agricultural produces. All implementing partners will be required to prepare periodic monitoring reports for submission to ECAATP Project Management and specifically to the Environment Specialist and the M&E Specialist.

c) Local Communities

Local communities will be useful agents in collection of data that will be vital in monitoring and as such they will play a role in the monitoring framework. Local communities in the project intervention areas will receive training and capacity building skills in data collection to be done by the implementing agencies so as to equip them with the ability to collect data. District Councils will, as part of the planning process, communities who will play a key role in identifying community infrastructure investments, prioritizing project interventions.

Community consultation protocols will also ensure representation of potentially vulnerable and under-represented groups.

e) Specific Community Groups

Land husbandry self-help groups, youth groups will be formed by farmers within the developed area. They will oversee the maintenance of LH infrastructures and their exploitation.

8.3 Evaluation of Results

The evaluation of results of environmental and social mitigation can be carried out by comparing baseline data collected in the planning phases with targets and post-project situations. A number of indicators would be used in order to determine the status of affected people and their environment (land being used compared to before, how many clean water sources than before, etc). In order to assess whether these goals are met, the ECAATP Environmental Specialist with technical support of the Advisor will indicate in the EMP, parameters to be monitored, institute monitoring milestones and provide resources necessary to carry out the monitoring activities.

The following are some pertinent parameters and verifiable indicators/questions to be used to measure the ESMF process, mitigation plans and performance;

- ✓ Has the Environment consultants trained a local social and environmental specialist?
- ✓ Has the ESMP's been cleared by the RDB?
- ✓ Have the Civil Works Contractors got considerable legal muscle to enforce the ESMP?
- ✓ At what rate are the civil works been monitored by ECAATP and by the REMA?
- ✓ How many violations of the contractors/transporters have been recorded and at what rate are they occurring.
- ✓ How many PAPs are physically displaced?
- ✓ How many recorded grievance cases have been settled within one year?

CHAPTER NINE: INSTITUTIONAL ASSESSMENT, CAPACITY BUILDING AND TECHNICAL ASSISTANCE

9.1 Introduction

The effective implementation of this ESMF will require technical capacity in the human resource base of implementing institutions as well as logistical facilitation. Implementers need to understand inherent social and environmental issues and values to be able to clearly identify their indicators.

While preparing this ESMF, an institutional assessment was inbuilt to identify strengthening needs on social and environmental evaluation, screening, mitigation and monitoring.

9.2 Institutional Assessment and Capacity building

The overall ECAATP management will be the responsibility of Rwanda Agriculture Board (RAB) under the Ministry of Agriculture and Animal Resources (MINAGRI). RAB does not have social and environmental staff to manage safeguards matter. MINAGRI has been managing many projects with same activities as ECAATP, including RSSP and LWH projects which are WB funded (LWH and RSSP) through Single Project Implementation Unit (SPIU). The latter has a Safeguards Team familiar with Rwanda and WB safeguards policies. With the new institutional arrangement, the WB funded SPIU will move together with its experienced safeguards team to Rwanda Agriculture Board (RAB) to undertake the ECAATP Project since the ECAATP components are very similar to those of LWH and RSSP.

The existing Safeguards team under WB funded SPIU working on LWH/RSSP projects will need to be strengthened through capacity building to be able to manage the tasks mentioned above for the implementation of ECAATP.

9.3 Human Resource Capacity Requirements

The safeguards team at the SPIU is made of 3staff (2 Social safeguards specialists and 1 Environment specialist) who have been overseeing the overall issues related to safeguards in the LWH and RSSP project sites. As mentioned above, the existing SPIU safeguards team will be repositioned to RAB under the new institutional arrangement. There is no doubt they will still execute the same responsibilities for the implementation of ECAATP.

ECAATP will be implemented in close collaboration with participating Districts. Each District has one land officer, social protection officer and environmental officer among other staff who are responsible for the social and environment safeguard aspects of the development projects in the District. The staff at the sector level that are responsible for the implementation of ECAATP include; Agronomist, Social protection officer and land manager whereas the responsible staff at the cell level consist of the Cell Executive secretary and the Social and economic development officer. Due to limited budget, workload and capacity limitation, the engagement of the staff mentioned above is specifically restricted to minor community level development actions.

Social and environment safeguards management aspects are daily cared for by the Cells and Sectors staff. However, their level of training and technical capacity on safeguards is not sufficient and will need to be enhanced.

The SPIU will emphasize on capacity building through trainings and workshops of the relevant district staff (land officers, social protection officers, environmental officers; Agronomists, Executive Secretaries, Grievance redress committees (GRC) and Self Help Groups (SHGs) on safeguards implementation and monitoring aspects (ie monitoring compensation, valuation, Grievance Redress Mechanisms, gender equity and GBV, child labor prevention, follow up of displaced PAPs, reporting, etc.). Such trainings and workshops shall be provided by the project management to ensure proper safeguards management under ECAATP.

9.4 Technical Capacity Enhancement

Mobilization meetings, awareness campaigns and trainings on social and environment safeguards will be required for the following institutions and personnel:

1. RAB/ SPIU staff,
2. Local Government Authorities(District environment officer, District Social protection officer, Executive Secretary of Sector & Cells, Agronomist, land officer) through Districts covered by ECCATP activities.
3. Subproject Grievance resettlement and compensation committees (GRCs);
4. Contractors who will be contracted to undertake the construction works;
5. Farmers organizations (Cooperatives and Associations);
6. Community opinion leaders.

The Capacity building will cover the following topics:

- Overview on ECAATP and Safeguards policies;
- Stakeholder engagement, consultation and partnerships
- Implementation and monitoring the compliance of safeguards during both the construction and operation phase of the ECAATP activities.
- Implementation and Compliance with ESMF
- Organization and management of resettlement and compensation committees
- Grievance Redress Mechanism
- Reporting, monitoring and follow up

CHAPTER TEN: DISCLOSURE OF ENVIRONMENTAL SAFEGUARDS DOCUMENTS

Following its preparation by RAB/SPIU under the Ministry of Agriculture and Animal Resource (MINAGRI) and its clearance by the World Bank, the ECAATP ESMF will be disclosed by making copies available at the RAB/SPIU head office, website and to the local government agencies and other stakeholders. The Subproject ESMP reports will also be disclosed by making copies available at its head office, Project website, District headquarters, District websites and local government's agencies, REMA and other stakeholders of the ECAATP.

The Government of Rwanda will also authorize the World Bank to disclose this ESMF and ECAATP ESMPs to be prepared electronically through its external website.

CHAPTER ELEVEN: CONCLUSION AND RECOMMENDATIONS

The Government of Rwanda (GoR) prepared this ESMF for ECAATP that will be implemented across three topographic region of the country to ensure the project implementation is in full compliance with Rwanda and World Bank environmental and social safeguards policies.

The policy, legal and institutional frameworks for this ESMF and the socio-economic baseline project were developed; public consultation and participation meetings conducted; the report provides potential environmental and social impacts and guidelines for mitigation. It also provides the ECAATP environmental and social management process as well as the implementation and monitoring procedures.

This ESMF has an inbuilt grievance procedure that will be used to address grievances that arise during the ESMF implementation. The estimated budget for the ESMF is US \$ 111,800.

Given the nature of the project, the potential adverse impacts are minimal and can be controlled through proposed mitigation measures. The proposed subproject Environmental and social Impact Assessment (ESIA) if properly implemented will be prepared and propose site specific measures to mitigate adverse impacts.

Successful implementation of this ESMF will depend to a large extent on the involvement and participation of local communities. Specifically 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.
- District and local community structures should be adequately trained to implement the screening process, and where required to develop and to implement appropriate Environmental Management Plans.

This ESMF should be regularly updated to respond to changing local conditions. It should be reviewed and approved through the national approval process and by the World Bank prior to project negotiations. It should also incorporate lessons learned from implementing various Components of the project activities. This framework will apply to any project activity within the ECAATP.

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ANNEXES

Annex 1: Potential adverse Environment and Social impacts and mitigation measures

<i>Potential Impact</i>	<i>Description</i>	<i>Environmental Significance</i>
Construction/Rehabilitation phase		
Air pollution	Exhaust fumes and dust emission from movement of construction equipment and construction activities like digging etc	Minor
Solid waste	Waste from bush/vegetation clearing, and removal of trees, camp sites. etc	Moderate
Water pollution	Sediment laden runoff from exposed areas mainly due to vegetation clearing during construction;	Moderate
	Improper use of waste oils from construction equipment;	Minor
	Improper disposal of sanitary waste from work camps	Moderate
	Drainage discharging their sediments into water bodies	Moderate
Noise pollution	Movement of heavy vehicles	Minor
	Noise from employed labor force and their equipment	Moderate
Soil erosion	Exposed land surfaces from cleared vegetation may induce erosion from rain events (soil/mass movement) Embankment slopes are prone to land sliding	Moderate
Loss of biodiversity	Due to the removal of vegetation during making of terraces, waste dumping area, protected areas, etc	Moderate
Public safety	Badly managed work activity/ site within community	Moderate
	Poor housekeeping leading to stagnant water as breeding grounds for insect vectors (causing malaria etc)	Moderate
	Movement of heavy trucks and equipment and road safety	Minor
Land use	Conflicts with incompatible activities and land uses.	Moderate
Land take	The activities of renovation of existing soil laboratories will happen on Government land whereas terraces will be made on PAPs farms hence requiring no land acquisition	Minor
Spread of Communicable	Impact on health due to increased labor influx	Major

diseases		
Occupational health and safety	Hazards from handling heavy equipment, including noise, ergonomic stress, lifting heavy materials etc	Minor
Use and Maintenance phase		
Air pollution	Dust emission from movement of heavy trucks and other vehicles	Minor
Water quality and pollution	Sediment laden storm runoff	Moderate
Noise pollution	From the movement of heavy vehicles	Minor
Soil erosion	Erosion may be induced or enhanced by vegetation clearing	Moderate
Water pollution	Inadequate provision and inappropriate method of storm water disposal	Moderate
Public safety	From road accidents due to poor traffic management	Minor
Public nuisance and health risks	Pot holes and ponding to breed insect vectors of disease eg. Mosquitoes;	Minor
Continued use of facility	Availability of, and accessibility to maintenance funds	Major
Controlled pesticide use and management	Loss of biodiversity Unacceptable levels of pesticide residues in harvested produce and in the food chain Contamination of soil and water bodies	Moderate Moderate Moderate

Potential adverse Social impacts from ECAATP

Type of impact	Description of Potential Impact/ Issue	Social Significance
Loss of employment and livelihood	Some farmers may lose some assets (trees, crops, structures) within the project site.	Minor
Deprivation of use of land	ECAATP may take up individual or community land	Minor
Loss of crops/ properties	Project activities may result in individual or community farm lands and affect crops.	Minor
Impact on vulnerable groups	No negative impacts on vulnerable groups in the society (such as the elderly, disabled, women, children and minority groups) will occur as a result of the proposed development. The Project has no inherent negative impact or bias towards any vulnerable group.	Negligible
Impact on Social and Cultural Structures	The Project will have positive impacts on social and cultural structures as the Project activities will bring together persons from different communities and interact for their common good.	Major
Impact on Cultural Heritage/ Archaeological interest	There are some potential sites of significant cultural/religious heritage or archaeological interest in the vicinity of the projects. The risks to cultural heritage would be on graveyards encountered or sacred sites or touristic sites during excavation on land.	Minor
Impacts on Human Health/ Safety and sanitation	<ul style="list-style-type: none"> (a) Human health and safety could be compromised through accidents involving rehabilitation works (b) Occupational injury associated with construction activities will be limited to the work force only. (c) Indiscriminate disposal of human waste or free-range defecation by project workers could create environmental health problems for local communities (d) Indiscriminate disposal of litter at the project sites and work camps will create unsightly conditions and pose safety and health risks 	<p>Minor</p> <p>Moderate</p> <p>Moderate</p> <p>Moderate</p>
Child labour	Some minors might quit school to come and look for employment	Moderate

Mitigation measures for Environmental impacts from ECAATP

Type of impact	Description of mitigation measures
Construction phase	
Water quality and pollution	<ul style="list-style-type: none"> • Temporary storage of sanitary and cleaning wastes in containers. Disposal should occur at waste dumps. • Where works take place adjacent to a watercourse, temporary sediment barriers should be installed on slopes to prevent silt from entering the watercourse.
Soil erosion and landslide	<ul style="list-style-type: none"> • Integrating land stability into the project designs to address the landslide risks. The planting of grasses on embankments slopes with low landslide risks, tree planting along embankments and other critical areas should be considered. • Application of appropriate erosion-protection measures, in particular where it concerns works on slopes. • Laboratory rehabilitation works should not be executed under aggressive weather conditions (rains, strong winds).
Public health problems	<ul style="list-style-type: none"> • Adequate sanitary facilities should be available for workers and open range defecation should not be countenanced. • Contractors should use local labour as much as possible and where available. Imported workers should be provided with proper housing, including sanitary facilities. • Labourers should adhere to basic rules with regards to protection of public health, including most importantly hygiene and disease (HIV) prevention. • All land depressions and disturbed areas at work sites should be filled to avoid water pond which could breed mosquitoes.
Safety of the public	<ul style="list-style-type: none"> • Contractors will inform local communities early about the construction programme. • Contractors will provide security barriers to ward off inquisitive persons and animals from active work sites.
Loss of biodiversity	<ul style="list-style-type: none"> • The project will consider forest rehabilitation where necessary, shrubs and grasses will be planted in other places to compensate the lost forest.
Visual intrusion	<ul style="list-style-type: none"> • Adequate organisation and maintenance of construction sites through good housekeeping. • Restoration of construction sites directly upon completion of works.
Disturbance and interruption of commercial and social activities	<ul style="list-style-type: none"> • Contractors to inform the affected communities early of the construction programme. • Limit any temporary interference with private property (e.g. farms) • Relocation (even temporarily) to be avoided as much as possible. • Where private land or other property is affected, or where there is loss of income as a result of project activities, agree on compensation measures with affected persons prior to start of construction. Compensation will occur in accordance with the defined Resettlement Policy Framework.
Land take	<ul style="list-style-type: none"> • Avoidance, as much as possible, the need for resettlement by considering other options • Where resettlement is unavoidable, develop and implement appropriate plans in accordance with the Resettlement Policy Framework developed for the Project.

Occupational health and safety	<ul style="list-style-type: none"> The Contractor should protect his workers by ensuring the use of protective equipment
Use and Maintenance	
Air pollution	<ul style="list-style-type: none"> Daily sprinkling of water to avoid dust emissions
Water quality and pollution	<ul style="list-style-type: none"> Regular maintenance of sediment management structure to ensure sediment capture without transport to water courses Use of check dams to control water sediments
Soil erosion	<ul style="list-style-type: none"> Integrating soil stability into the designs to address the landslide risks. The planting of grasses on embankments slopes with low landslide risks; tree planting along embankments and other critical areas should be considered. Application of appropriate erosion-protection measures, in particular where it concerns works on slopes and in stream beddings.
Public safety and nuisance	<ul style="list-style-type: none"> Provide speed ramps when close to community with visible road signs
Uncontrolled use of pesticides	<ul style="list-style-type: none"> Trainings and capacity building on IPM approaches

Mitigation measures for Social impacts from ECAATP

Type of impact	Description of mitigation measures
Employment and loss of livelihood	<p>Any affected farmer will be provided with livelihood assistance based on crops to be affected. It should be done in accordance with the Resettlement Policy Framework (RPF)</p> <p>It is expected that the project will further offer opportunities for the youth, women food vendors and income for community members who will supply the contractor with sands and stones</p>
Deprivation of use of land	<p>Land compensation should be based upon current market value of land in the area and in accordance with the resettlement policy framework (RPF).</p>
Loss of crops/ properties	<p>Appropriate compensation should be paid for any damaged or destroyed crops and propriety that belongs to the affected persons. All compensation process should satisfy the RPF developed for the project.</p>
Impacts on Human Health/ Safety and sanitation	<ul style="list-style-type: none"> Except for areas secured by fencing, all active construction areas will be marked with high-visibility tape to reduce the risk accidents involving pedestrians and vehicles. All open trenches and excavated areas will be backfilled as soon as possible after construction has been completed. Access to open trenches and excavated areas will be secured to prevent pedestrians or vehicles from falling in. Adequate sanitary facilities will be available for workers and open range defecation will not be countenanced. Manpower and construction workers will be provided with and educated to wear suitable Personal Protective Equipment (PPE) including hard hats, overalls, high-visibility vests,

	<p>safety boots, earplugs, gloves etc.</p> <ul style="list-style-type: none"> • Construction workers should be educated to adhere to basic rules with regard to protection of public health, including most importantly hygiene and disease (HIV) prevention and will be required to adhere to a code of Conduct regulating their interaction with the public and in particular women and children. • No child labour will be tolerated.
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Annex 2: Project Screening Criteria Form (PSCF)

Once a Project Brief has been received and reviewed by the Authority, a proposed project is exempted from further compliance with EIA requirements if all of the following conditions are satisfied:

1. The project will not substantially use natural resources in a way that preempts use, or potential use of that resource for any other purpose.
2. Potential residual impacts on the environment are likely to be minor, of little significance and easily mitigated.
3. The type of project, its environmental impacts and mitigation measures are evident and well understood.
4. Reliable means exist for ensuring that impact management measures can and will be adequately planned and implemented.
5. The project will not displace significant number of people, families or communities.
6. The project is not located in, and will not affect, environmentally- sensitive areas such as:
 - (a) National parks
 - (b) Wetlands
 - (c) Productive agricultural land
 - (d) Important archaeological, historical and cultural sites
 - (e) Areas protected under legislation

- (f) Areas containing rare or endangered flora or fauna
- (g) Areas containing unique or outstanding scenery
- (h) Mountains or developments on or near steep hill slopes
- (i) Forests
- (j) Lakes or their shores
- (k) Areas important for vulnerable groups such as fishing communities
- (l) Areas near high population concentrations or industrial activities where further development could create significant cumulative environmental problems.

Annex 3: Environmental and Social Checklist (ESCL) Form

Subproject Name:

Name of District/Sector:

Date:

		Yes	No
A Type of Activity Will the ECAATP subproject:			
1	Support animal husbandry or processing?		
2	Support irrigation schemes?		
3	Support rural water supply and sanitation schemes?		
4	Involve community forestry?		
5	Involve small- scale aquaculture?		
6	Involve leather processing?		
7	Involve food processing?		
	Involve community healthcare facilities and the management of healthcare waste?		
	Build or rehabilitate any		

	structures or buildings?		
	Support agricultural activities?		
	Be located in or near an area where there is an important historical, archaeological or cultural heritage site?		
	Be located within or adjacent to any areas that are or may be protected by government (e.g. national park, national reserve, world heritage site) or local tradition, or that might be a natural habitat?		
	Depend on water supply from an existing dam, weir, or other water diversion structure?		
If the answer to any of questions 1- 13 is “Yes”, please use the indicated Resource Sheets or sections(s) of the ESMF for guidance on how to avoid or minimize typical impacts and risks			
B- Environment- will the ECAATP Subproject:			
	Risk causing the contamination of drinking water?		
	Cause poor water drainage and increase the risk of water- related diseases such as malaria or bilharzia?		
	Harvest or exploit a significant amount of natural resources such as trees, fuel wood or water?		
	Be located within or nearby environmentally sensitive areas (e.g. intact natural forests, mangroves, wetlands) or threatened species?		
	Create a risk of increased		

	soil degradation or erosion?		
	Create a risk of increasing soil salinity?		
	Affect the quantity or quality of surface waters (e.g. rivers, streams, wetlands), or groundwater (e.g. wells)?		
	Result in the production of solid or liquid waste, or result in an increase in waste production, during construction or operation?		
	Result in the production of solid or liquid waste, or result in an increase in waste production, during construction or operation?		
If the answer to any of questions 15- 21 is “Yes”, please include an Environmental Management Plan (EMP) with the subproject application.			
C - Land acquisition and access to resources – Will the subproject:			
	Require that land (public or private) be acquired (temporarily or permanently) for its development?		
	Use land that is currently occupied or regularly used for productive purposes (e.g. gardening, farming, pasture, fishing locations, forests)		
	Displace individuals, families or businesses?		
	Result in the temporary or permanent loss of crops, fruit trees or household infrastructure such as granaries, outside toilets and kitchens?		
If the answer to any of the questions 22- 25 is “Yes”, please consult the ESMF and, if needed, prepare a Resettlement Action Plan (RAP)			
D – Indigenous people – Are there:			

	Any indigenous groups living within the boundaries of, or nearby, the project?		
	Members of these indigenous groups in the area who could benefit from the project?		
If the answer to questions 26 or 27 is “Yes”, please consult the ESMF and, if needed, prepare an Indigenous Peoples Plan (IPP).			

Annex 4: Guidelines for preparation of ESMPs

A project's environmental and social management plan (ESMP) consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The plan also includes the actions needed to implement these measures. Management plans are essential elements of EA reports for Category A projects; for many Category B projects, the EA may result in a management plan only.

To prepare a management plan, the borrower and its EA design team (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements.

The minimum requirements for ESMP were set out in OP4.01 Annex C of the World Bank and the following are important elements constituting an ESMP:

Executive summary

This concisely summarizes significant findings and recommended actions.

1. Introduction

- a. Background to the project
- b. Objectives of the ESMP
- c. Scope of the ESMP

2. Policy, legal and administrative framework for ESMP

This part discusses the policy, legal, and administrative framework within which the ESMP is implement. This should include both national and international legislations.

3. Project description

This part concisely describes the proposed project activities and its geographic, ecological, social, and temporal context, including any offsite investments that may be required (e.g., dedicated pipelines, water supply, housing, and raw material and product storage facilities, etc).

It indicates the need for any resettlement plan with a map showing the project site and the project's area of influence. It provides detailed information on the following:

1. Location of the project area and description of the current use of the location, project objectives and size;
2. Detailed description of the project, extent in time and space;
3. Description of activities related to all implementation stages from the inception, staffing and employment related to different stages of the project;
4. Description of all activities and farming techniques to be used during all farming seasons of the year;
5. Description of all activities which will follow from the execution of the project (construction of road, ware house etc);

6. Description of prevention and security measures, water and energy supply, wastes treatment and evacuation.

4. Identification of environmental impacts and mitigation measures

This section identifies feasible and cost-effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels. The plan includes compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient.

Specifically, the ESMP

- (a) identifies and summarizes all anticipated significant adverse environmental impacts (including those involving indigenous people or involuntary resettlement);
- (b) describes--with technical details--each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate;
- (c) estimates any potential environmental impacts of these measures; and
- (d) provides linkage with any other mitigation plans (e.g., for involuntary resettlement, indigenous peoples, or cultural property) required for the project.

5. Monitoring of environmental impacts and mitigation measures

The environmental and social monitoring during the project implementation provides information about key project environmental impacts and effectiveness of mitigation measures. Such information enables the borrower (Client) and Bank to evaluate the success of mitigation as part of the project supervision and allows corrective action to be taken when needed. Therefore, the ESMP identifies monitoring objectives and specifies the type of monitoring, with linkages to the impacts assessed in the EA report and the mitigation measures described in the ESMP.

Specifically, the monitoring section of the ESMP provides (a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and (b) monitoring and reporting procedures to (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.

6. Capacity development and training

To support timely and effective implementation of environmental project components and mitigation measures, the ESMP draws on the EA's assessment of the existence, role, and capability of environmental units on site or at the agency and ministry level. If necessary, the ESMP recommends the establishment or expansion of such units, and the training of staff, to allow implementation of EA recommendations.

Specifically, the ESMP provides a specific description of institutional arrangements-who is responsible for carrying out the mitigatory and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting,

and staff training). To strengthen environmental management capability in the agencies responsible for implementation, most ESMPs cover one or more of the following additional topics: (a) technical assistance programs, (b) procurement of equipment and supplies, and (c) organizational changes.

7. Implementation Schedule and Cost Estimates

For all three aspects (mitigation, monitoring, and capacity development), the EMP provides (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and (b) the capital and recurrent cost estimates and sources of funds for implementing the EMP. These figures are also integrated into the total project cost tables.

8. Conclusions and Recommendation

The report should include all information necessary to the project review such as lists of data sources, project background reports and studies, and any other relevant information to which the developer/consultant's attention should be directed. It should also provide detailed designs/plans of construction, the water canalization and waste water treatment systems, etc.

9. References

These are written materials; both published and unpublished, used in the preparation of the study report.

10. Appendices

- ✓ List of EIA report preparers –individuals and organizations
- ✓ Record of interagency and consultation meetings, including consultations for obtaining the informed views of the affected people and local nongovernmental organizations (NGOs). The record specifies any means other than consultations (eg. Surveys) that were used to obtain the views of the affected groups and local NGOs.
- ✓ Tables, maps presenting the relevant data referred to or summarized in the main text.

Annex 5: Checklist of possible environmental and social impacts of projects

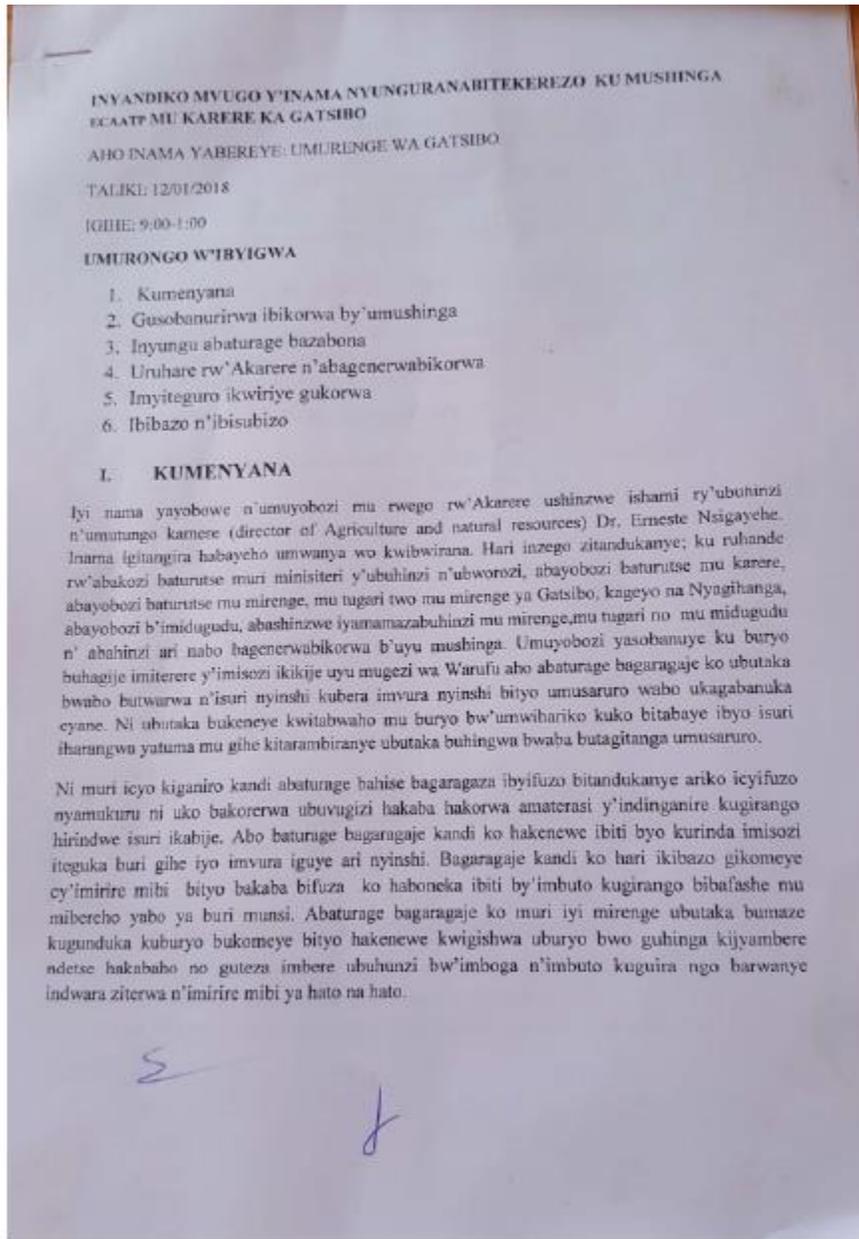
1. Site Related Issues

S No	Zoning and Land Use Planning	NO /YES
1.	Will the sub-project affect land use zoning and planning or conflict with prevalent land use patterns?	
2.	Will the sub-project involve significant land disturbance or site clearance?	
3.	Will the sub-project land be subject to potential encroachment by urban or industrial use or located in an area intended for urban or industrial development?	
4.	Is the sub-project located in an area susceptible to landslides or erosion?	
5.	Is the sub-project located on prime agricultural land?	
B.	Utilities and Facilities	
6.	Will the sub-project require the setting up of ancillary production facilities?	
7.	Will the sub-project require significant levels of accommodation or service amenities to support the workforce during construction (e.g., contractor will need more than 20 workers)?	
C	Water and Soil Contamination	
8.	Will the sub-project require large amounts of raw materials or construction materials?	
9.	Will the sub-project generate large amounts of residual wastes, construction material waste or cause soil erosion?	
10.	Will the sub-project result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?	
11.	Will the sub-project lead to contamination of ground and surface waters by herbicides for vegetation control and chemicals (e.g., calcium chloride) for dust control?	
12.	Will the sub-project lead to an increase in suspended sediments in streams affected by erosion, decline in water quality and increased sedimentation downstream?	
13.	Will the sub-project involve the use of chemicals or solvents?	
14.	Will the sub-project lead to the destruction of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards?	
15.	Will the sub-project lead to the creation of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors?	

16.	Is the sub-project located in a polluted or contaminated area?	
D.	Noise and Air Pollution Hazardous Substances	
17.	Will the sub-project increase the levels of harmful air emissions?	
18.	Will the sub-project increase ambient noise levels?	
19.	Will the sub-project involve the storage, handling or transport of hazardous substances?	
E.	Fauna and Flora	
20.	Will the sub-project involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?	
21.	Will the sub-project lead to the destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?	
22.	Will the sub-project lead to the disruption/destruction of wildlife through interruption of migratory routes, disturbance of wildlife habitats, and noise-related problems?	
F.	Destruction/Disruption of Land and Vegetation	
23.	Will the sub-project lead to unplanned use of the infrastructure being developed?	
24.	Will the sub-project lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?	
25.	Will the sub-project lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?	
26.	Will the sub-project lead to landslides, slumps, slips and other mass movements in terraces?	
27.	Will the sub-project lead to erosion of lands in the valley receiving concentrated outflow carried by covered or open drains?	
28.	Will the sub-project lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?	
29.	Will the sub-project lead to health hazards and interference of plant growth adjacent to project areas by dust raised and blown by vehicles?	
G.	Cultural Property	
30.	Will the sub-project have an impact on archaeological or historical sites, including historic urban areas?	
31.	Will the sub-project have an impact on religious monuments, structures and/or	

	cemeteries?	
32.	Have Chance Finds procedures been prepared for use in the sub-project?	
33.	Is the sub-project located in an area with designated physical cultural resources, such as archaeological, historical and/or religious sites?	
H.	Expropriation and Social Disturbance	
34.	Will the sub-project involve land expropriation or demolition of existing structures?	
35.	Will the sub-project lead to induced settlements by workers and others causing social and economic disruption?	
36.	Will the sub-project lead to environmental and social disturbance by construction camps?	
37.	Is the sub-project located in an area from which people have been displaced?	
38.	Is the sub-project located in an area where PAPs are temporarily relocated?	
39.	Is the sub-project located in a densely populated area?	
I.	Games, reserves and Natural Habitat	
40.	Does the sub-project require land acquisition? [Note: If YES, fill in the land acquisition form]	
41.	Will the sub-project negatively impact livelihoods? [Note: Describe separately if YES]	
42.	Is the sub-project located in an area with designated natural reserves or protected areas?	
43.	Is the sub-project located in an area with unique natural features?	
44.	Is the sub-project located in an area with endangered or conservation-worthy ecosystems, fauna or flora?	
45.	Is the sub-project located in an area falling within 500 m of natural forests, protected areas, wilderness areas, wetland, biodiversity, critical habitats, or sites of historical or cultural importance?	
46.	Is the sub-project located in an area which would create a barrier for the movement of conservation-worthy wildlife?	
47.	Is the sub-project located close to groundwater sources, surface water bodies, watercourses or wetlands	

Annex 6: Minutes and attendance lists of consultation meetings in Gatsibo District



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II. GUSOBANURIRWA IBIKORWA BY'UMUSHINGA

Abayobozzi baturutse mu rwego rwa ministeri y'ubuhinzi n'ubwoko basobanuye aho umushinga uteye. Basobanuye ko mu magambo arambuye ari *East and Central Africa for Agriculture Transformation Project(ECAATP)* akaba ari umushinga ugamije guteza imbere ubuhinzi ukoresheje uburyo bwiza bwo gufata neza ubutaka hagamijwe kongera umusaruro w'ubuhinzi n'ubwoko. Uwo mushinga ukoresheje imibereho y'ubuhinzi. Bibabura bitangirwe y'uko no mu karere ka Gatsibo wahakorera cyane ko hari n'igishanga cya warufu gihariweho n'imirengye ya gatsibo, kageyo, nyagihanga.

Basobanuye neza ko uyu mushinga utegurwa ushobora kuba igisubizo ku bibazo byabo nk'uko bari bahagaragaje. Uwo mushinga ukazaba ugamije gukora materasi yindinganire ku mahanga y'imisozi ihereye mu murenge wa Kageyo na Gatsibo ni Nyagihanga. Dabwye abaturage kuzagira uruhare rugaragara mu ishyirwa mu bikorwa ry'uko mushinga kandi bakazaba abambere mu gukora akazi bityo bikabafasha kwiteza imbere.

III. INYUNGU ABATURAGE BAZABONA

1. Ubutaka bw'abaturage bwarwarwaga n'isuri ya hato isa hato usibisongera gutwarwa n'isuri igihe imvura iguye keretse babaye ibibazo bidasanzwe
2. Nyuma yo gukora amaterasi umushinga uzashyira ishwaraga mu butaka kugira ngo uhusharire bwo mu butaka bugabamuke
3. Umushinga kandi uzageza ifumbire y'imborera mu butaka kandi wigishe n'abaturage kwikorera ifumbire y'imborera kugira ngo gukoresha ifumbire y'imborera bibe umuco
4. Abaturage bazashyirwa kuri tekinike zose zikoresheya mu buhinzi mu buryo bwo kongera umusaruro kuri ha.
5. Ku bufatanye na RAB abahinzi bazajya bagezwaho imbuto n'inyongeramusaruro kugirango bahinge kuburyo bwa kijyambere kandi bugezweho
6. Abahinzi bazagezwaho ibiti bivangwa n'inyaka ndetse natezwe imbere ubahinzi b'imbuto n'imboga
7. Abaturage bafite ubushake n'imbaraga bazabona akazi bityo imibereho yabo irushaho kumera neza.
8. Abahinzi bazahabwa amahugurwa atandukanye n'ingendo shuri, bigishwe ibyiza byo gukorera hamwe bityo bazashobore kwishyiriraho koperative nk'urwego rubahuza kandi rubavuganira mu zindi nzego

IV. URUHARE RW'AKARERE N'ABAGENERWABIKORWA

Urwego rw'akarere kazakurikirana umunsi ku wundi imikorere y'umushinga. Akarere kazafasha umushinga mu gukurikirana abaturage bangiza ibikorwa remezo bizubakwa n'umushinga. Akarere kandi kazakora ubujyanama aho kabona hari ibidakorwa uko

E

J

byateganyijwe kanakore ubuvugizi mu nshamba zizabwira za IFA, abikorera ku giti cyabo ndetse no mu buri bafatanyabikorwa kugira ngo umushinga ukorwe neza ugere ku ntego zawo.

Abagenerwabikorwa ari nabo bahinzi bazatangirirwa ubutaka nabo bazajira uruhare kuko ubutaka buzatanganywa ni ubwabo. Bazafasha umushinga muri mobilization aho abaturwa neza ibikorwa by'umushinga bazajya babisobanurirwa mu nama, mu matsinda mato ndetse no mu baturanyi babo.

Abagenerwa bikorwa kandi bazafasha mu gukurikiranira hafi ibikorwa byo guahyira ishwaga mu mirima yabo ndetse n'ubwambere kugira ngo abakozi bazabikora bazabikore neza.

Abaturage bazakora mu mushinga bazafasha mu kubona ibikorwaho by'ubwambere bikoresheje mu kubaka imiyoboro (check dams,...)

Abagenerwabikorwa bagomba kubyaza umusaruro ubutaha bumaze gutunganywa kandi bagakoresha neza inyongeramusaruro kurirango umusaruro wiyongere.

V. IMYITEGURO IKWIRIYE GUKORWA(INGAMBA)

Gutangira byihutirwa inama zivuye ibijyanye n'uyu mushingaku bufatanye n'ubuyobozi bw'abikorera mu gashyamba.

Gutangira mobilization y'abaturage abahungu babajije baturutse mu mibungo y'abaturage aho umushinga uzakorera.

Kumenyekanisha gahunda ihanywe yo gutangiriraho ibikorwa by'umushinga.

Gukurama inama n'abaturage kugira ngo bababwirwe ibisobanuro bibajije cyane cyane kuba hafi kawa, urutoki...

Gukora mobilization ijyanye no kubyaza umusaruro anaterasi igihe azaba amaze gutunganywa.

VI. BIMWE MU BIBAZO ABATURAGE BABAJIJE N'UKO BYASUBIJWE

- Abaturage babajije niba bazabona akazi muri uwo mushingwa n'ibizagenderwaho mu kugira ngo bababwirwe ibisobanuro. Bibaza niba n'abantu bakuzwe nabo hari icyo umushinga uzabamurira.
- Babajije kandi niba igihe umushinga uzatangirira kugira ngo bibafashe mu itegurwa ry'igihembwe cy'ihinga.
- Babajije ibihingwa bizahungwa ahazakorwa amaterasi n'uko umushinga ndetse bitajije umuhamya n'abakozi bazakora mu mushingwa bazahembwa.

Mu bisubizo byatanze n'abakozi bo ku rwego rw'umushinga bafatanyije n'ubuyoboziw'inzego z'ibanze:

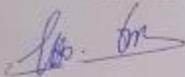
Hemejwe ko mu gutanga akazi ko gutunganya amaterasi y'indangire abaturaye aho umushinga ukorera nibwo bahabwaga akazi. Abashyamba bakuzwe bo bashobora gukora imirimo itakwacye ingufu nyinshi nko gukora mu mapepiyeri. Abaturage bazigishwa uburyo bwiza bwo gukora no kwizigamira kugira ngo babashe kwikura mu bukene.

Ku bijyanye n'ibihingwa bizatwaho kurusha ibindi ari ibigori nibishyamba ndetse hakabaho guteza imbere ibiti bivangwa n'imvaka. Ryongeye kandi ibihingwa nk'imbuta n'imbuga nabyo bizatwaho. Ibiyanye no guhamba abakozi hasobanurwe ko abakozi bazajya bahembwa nyuma y'iminsi 15 (quinzaine) ariko kandi basabwe ko icyo umuntu ashaka akazi agomba no kugira ibyangombwa nk'itangamuntu ndetse na konti muri sacco cyangwa mu biao by'imari.

Inama yosojwe abitabiriye inama bese bishimiye ibyavuzwe kandi bashishikajwe no gukora bagakomeza kwiteza imbere nk'uko icyivugaga cy'akarere ka Gatsibo kibivugaga neza kiti:

ISHEMA RYA GATSIBO...IBAKWE MU ITERAMBERE

TOGETHER... WE CAN DO BETTER.



Umwanditsi w'inama: **MANIRIHO Pierre Damien**

ISHURUSSE (GATSIBO)



Umuyobozi w'inama: **NSIGAYEHE Ernest**

Director of agriculture and natural resources

Gatsibo District

MURENGE WA GATSIBO na MASHAHTAMBA

N°	AMAZINA	IGITSINA	AHO ATUYE	AKAGARI	UMURENGE	TELEFONE	UMUKONO
1	Gumamuhine Jean Baptiste	M	Rugaramu	Mashyamba	Gashamba	078539296	Handwritten
2	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
3	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
4	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
5	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
6	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
7	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
8	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
9	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
10	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
11	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
12	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
13	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
14	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
15	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
16	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
17	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
18	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
19	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
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21	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
22	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
23	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
24	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
25	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
26	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
27	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
28	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
29	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten
30	Utabarungu Juvana Joseph	M	Makiranda	Mashyamba	Gashamba	07859064847	Handwritten

URUTONDE RW'ABATURAGE BITABIRIYE INAMA YO KUWA 12/01/2018 YITUNGANYWA NO KURINDA ISURI IGISHANGA. CYA WARUFU MU MURENGE WA GATSIBO

N°	AMAZINA	IGISINA	AHO ATUYE	AKAGARI	UMURENGE	TELEFONE	UMUKONO
1	NTWIZHEZA Emmanuel	M	Rugarama	Rugarama	GATSIBO	0784434610	MULLS
2	GASHIMANA Jeanne	M	Karaga	Rugarama	GATSIBO		
3	BASHIMANA Jeanne	M	Karaga	Rugarama	GATSIBO		
4	HAKIZIMANA Jeanne	M	Karaga	Rugarama	GATSIBO	0726631222	
5	RYAMUKIRA Claudine	M	Karaga	Rugarama	GATSIBO		
6	AMINAHARIE Jeanne	M	Karaga	Rugarama	GATSIBO		
7	NGENZIYIHO Jeanne	M	Karaga	Rugarama	GATSIBO		
8	NTWIZHEZA Jeanne	M	Karaga	Rugarama	GATSIBO		
9	NTWIZHEZA Jeanne	M	Karaga	Rugarama	GATSIBO		
10	MUKAMUKAMA Jeanne	F	Karaga	Rugarama	GATSIBO		
11	NTWIZHEZA Jeanne	F	Karaga	Rugarama	GATSIBO		
12	NTWIZHEZA Jeanne	F	Karaga	Rugarama	GATSIBO		
13	NTWIZHEZA Jeanne	F	Karaga	Rugarama	GATSIBO		
14	NTWIZHEZA Jeanne	M	Karaga	Rugarama	GATSIBO	0733312700	MULLS
15	NTWIZHEZA Jeanne	M	Karaga	Rugarama	GATSIBO	0728389757	
16	NTWIZHEZA Jeanne	M	Karaga	Rugarama	GATSIBO	0783365587	
17	NTWIZHEZA Jeanne	F	Karaga	Rugarama	GATSIBO		
18	NTWIZHEZA Jeanne	F	Karaga	Rugarama	GATSIBO		
19	KABUKURU Jeanne	M	Rugarama	Rugarama	GATSIBO	0782577650	
20	BASHIMANA Jeanne	M	Rugarama	Rugarama	GATSIBO		
21	BASHIMANA Jeanne	M	Rugarama	Rugarama	GATSIBO		
22	NTWIZHEZA Jeanne	M	Rugarama	Rugarama	GATSIBO		
23	NTWIZHEZA Jeanne	M	Rugarama	Rugarama	GATSIBO		
24	NTWIZHEZA Jeanne	M	Rugarama	Rugarama	GATSIBO		
25	NTWIZHEZA Jeanne	F	Rugarama	Rugarama	GATSIBO		
26	NTWIZHEZA Jeanne	M	Rugarama	Rugarama	GATSIBO		
27	NTWIZHEZA Jeanne	M	Rugarama	Rugarama	GATSIBO	072676379	
28	NTWIZHEZA Jeanne	F	Rugarama	Rugarama	GATSIBO		
29	NTWIZHEZA Jeanne	M	Rugarama	Rugarama	GATSIBO		
30	NTWIZHEZA Jeanne	M	Rugarama	Rugarama	GATSIBO		

URUTONDE RW'ABATURAGE BITABIRYE INAMA YO KUWA 12/01/2018 YITUNGANYWA NO KURINDA ISURI IGISHANGA CYA WARUFU MU MURENGE WA GATSIBO

N°	AMAZINA	IGITSINA	AHO ATUYE	AKAGARI	UMURENGE	TELEFONE	UMUKONO
1	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi	07853566	F
2	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
3	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
4	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
5	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
6	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
7	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
8	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
9	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
10	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
11	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
12	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
13	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
14	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
15	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
16	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
17	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
18	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
19	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
20	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
21	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
22	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
23	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
24	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
25	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
26	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
27	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
28	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
29	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F
30	MUSIBUYI MANAMA GASHIMURU	F	UMUDUGUDU	Gashimururu	Murengi		F

URUTONDE RW'ABATURAGE BITABIRIYE INAMA YO KUWA 12/01/2018 Y'ITUNGANYWA NO KURINDA ISURI IGISHANGA CYA WARUFU MU MURENGE WA GATSIBO

N°	AMAZINA	IGITSINA	AHO ATUYE UMUDUGUDU	AKAGARI	UMURENGE	TELEFONE	UMUKONO
1	Ndatoboka Emmanuel	G	Rufarima	Nyapokura	Gatsibo		
2	Gaburu Jean	G	Nyapokura	Nyapokura		038056968	
3	Hirwana Vicent	G	Rufarima	Nyapokura		038057163	
4	Ushimana (Manama)	G	Rufarima	Nyapokura		038056179	
5	Mubonyuma Claude	G	Gitega				
6	Kayimana Edisiri	G	Rufarima				
7	Mukamana Epide	G	Rufarima				
8	Nyapokura J. Clode	G	Rufarima				
9	Twahirwa Tadesye	G	Rufarima			038057163	
10	Nyapokura Clode	G	Gitega				
11	Mukamana	G	Rufarima				
12	Birwano Theophile	G	Rufarima				
13	Mukamana S. Paul	G	Rufarima			038057163	
14	Mukamana Jean	G	Rufarima				
15	Mukamana Andreya	G	Rufarima				
16	Mukamana Pictori	G	Rufarima				
17	Mukamana Alexandre	G	Rufarima				
18	Mukamana Irigane	G	Rufarima			038057163	
19	Mukamana Pictori	G	Rufarima				
20	Mukamana Pictori	G	Rufarima				
21	Mukamana Pictori	G	Rufarima				
22	Mukamana Theophile	G	Rufarima				
23	Mukamana J. Clode	G	Rufarima				
24	Mukamana J. Bosco	G	Rufarima				
25	Mukamana Pictori	G	Rufarima				
26	Mukamana Domatien	G	Rufarima			038057163	
27	Mukamana Pictori	G	Rufarima			038057163	
28	Mukamana Pictori	G	Rufarima				
29	Mukamana Andreya	G	Rufarima				
30	Mukamana Pictori	G	Rufarima			038057163	
31	Mukamana Vincent	G	Rufarima			038057163	

URUTONDE RW'ABATURAGE BITABIRIYE INAMA YO KUWA 12/01/2018 YITUNGANYWA NO KURINDA ISURI IGISHANGA CYA WARUFU MU
MURENGE WA GATSIBO

N°	AMAZINA	IGITSINA	AHO ATUYE	AKAGARI	UMURENGE	TELEFONE	UMUKONO
1	MUSA G. Kavutari	M	RUSENGE	MURAMBA	CIT. B. B.	078700354	[Signature]
2	BIRABIRE Thomas	M	GITSA	"	"	0782222042	[Signature]
3	KABIRUKA YABULIJE	M	Impamba	"	"	0786-65114	[Signature]
4	SEMUSUWA GIMAMUCI	M	KABARIBI	"	"	078-	[Signature]
5	Karukira Yashya	M	Karukira	"	"	078650328	[Signature]
6	MURIZANA Jean	M	Muruzama	"	"	078650328	[Signature]
7	MURICU BI Shyizi	M	Muruzama	"	"	078650328	[Signature]
8	MURIZANA Jean	M	Muruzama	"	"	078650328	[Signature]
9	Muruzama Shyizi F. de Dieu	M	Muruzama	"	"	078650328	[Signature]
10	Muruzama Shyizi F. de Dieu	M	Muruzama	"	"	078650328	[Signature]
11	SEBIRE YABULIJE	M	Muruzama	"	"	078650328	[Signature]
12	MURIZANA Jean	F	Muruzama	"	"	078650328	[Signature]
13	MURIZANA Jean	M	Muruzama	"	"	078650328	[Signature]
14	MURIZANA Jean	M	Muruzama	"	"	078650328	[Signature]
15	MURIZANA Jean	M	Muruzama	"	"	078650328	[Signature]
16	MURIZANA Jean	M	Muruzama	"	"	078650328	[Signature]
17	MURIZANA Jean	M	Muruzama	"	"	078650328	[Signature]
18	MURIZANA Jean	M	Muruzama	"	"	078650328	[Signature]
19	MURIZANA Jean	F	Muruzama	"	"	078650328	[Signature]
20	MURIZANA Jean	F	Muruzama	"	"	078650328	[Signature]
21	MURIZANA Jean	F	Muruzama	"	"	078650328	[Signature]
22	MURIZANA Jean	F	Muruzama	"	"	078650328	[Signature]
23	MURIZANA Jean	F	Muruzama	"	"	078650328	[Signature]
24	MURIZANA Jean	F	Muruzama	"	"	078650328	[Signature]
25	MURIZANA Jean	F	Muruzama	"	"	078650328	[Signature]
26							
27							
28							
29							
30							

[Signature]

Annex 7: Minutes and attendance lists of consultation meetings in Nyabihu District

INYAMUKOMVUZO Y'INAMA YAHUJE ABATURABE BASHI
BAMANA KU MISOZI IKIKIYE INKENGUZO Z'UMUGOZI WA GICIZE
NA BASERA.

Inama yaturanye kuwa gutamu tariki ya 14/01/2018, saa
yine h'iyite yari yitabwirye n'abaturage bane ba
gite c'ose baturaga mu misozi ikikuye Umugoyi wa
GICIZE na BASERA.

Abari bitabwirye Inama bari baturutse aha hakurikira;

UMUGOZI ABAGARI UMUGOZI

RAMBURA : - ABEREMBO : CYU ET
NYAMUVU
- GURIRO : KIMISEBEYA

MULINGA : - MULINGA : KIVUGIZA
- NDOMANE : KAMAJAN GA
- MWIRANKI : - GITERE
- KIVUKUGA
- MURARABA

JOMBA : - NYAMITANZI : - RUTANGORE
- KIVUMU
- RUBAVU
- GABURA : - GABURA
- KABANU
- RYABABENGE

RUREMBO : KIRIMBOGO : - KINABA
- KABUTOZI

Ku rukande mu'ubuyoboyi hari bitabwirye Abagororome
b'abaturage, Abagororome b'aturanye ibura ku mugoyi
wa Gicize, Abanyamabanga bashyamba bashyamba bitabwirye ya
MULINGA na JOMBA.

Ingingo z'ingingo zaganurwaho:

- (1) Guteguka igihembwe cy'ishinga cya 2018B
- (2) Gufata reza no kubungabunga inkengero z'Umuryango wa bitabwira mu bitabwira.

UKO INAMA YAGENZE

Mu gutangira Inama Umuryango w'Inama yabonye ikaze abaturage bose bitabwira Inama, atangira abafungira Umwaka mushya mukuru wa 2018, ko wazababwirako mu Anata n'ubwoko Inama yari bitabwira abaturage bagere ku 119.

Ingingo ya 1: Umuryango w'Inama yaganurije abaturage ko bababwirako gusuzuma hamwe uko igihembwe cy'ishinga cya 2018A yaganzwe, barebura hamwe ibyabazanywe n'ibibazo byagaraganyemo, uko byatumye a'iso mu bakuye mu byababwirako fashye gutegura reza k'isore 2018B.

Muri gahungu ya gutegura igihembwe cy'ishinga cya 2018B, abaturage Inama baturutse mu mibungo ibandurira bitabwira igihembwe cy'ishinga (top selection).

Mu gutitamo igihembwe urayabonye Inama yibukije abaturage n'abaturage bitabwira Inama ku bitabwira igihembwe bitabwira imvura nyinshi kandi ayera ubuho banyamuramba uko igihembwe cy'ishinga cya B, imvura aba nyinshi, izuba n'ibya nyinshi. kuri icyo nganga yibukije abaturage ko bagomba gutegura reza imvura yabo yababwirako ibi zovu bagatera bitarenze tariki ya 1/2/2018. ibabwirako ibi itabwirako nyuma.

Shirinkwa byemejwe ko byazadungwa ni: ibyari, Inzamba.

INZAMBA YA 2: Kubungabunga inkangero z'Umugaga wa Gashyamba
BATERA

Umunyobozi w'Inama yashyize abaturage babungabunga mu macyi
kubungabunga inkangero z'Umugaga wa Gashyamba ko bagamba yafatweho
ubwoko, baburwanyaho isuri, bakubura iburwanya seho kandi
baterako ubwoko bw'amatungo kuri icyo muburanyasurirye.

Umunyobozi w'Inama kandi yabubukije abaturage ko bagamba
yafatweho ko kubungabunga Inzamba yafatweho mu
inkangero z'Umugaga wa Gashyamba ko kubungabunga
kubungabunga amatungo. Yabubukije ko yafatweho cyo
hamba n'amatungo, kuko kubungabunga amatungo bitemewe.

Umunyobozi w'Inama yashyize abaturage ngo babaye ibibazo
byabo maze umutwe:

VLANTERON Nani Claudine, abaye ibibazo yerekeranye
ko kubungabunga inkangero za Gashyamba ko kubungabunga
ngo kubwira n'ya kandi mu byuma buramye bakorerwaho
inkangero z'ibidungo nire mu macyi nwo gutera burundu
isuri ibwoko ubwoko.

Nako KABERUKA Gilbert w'umunyobozi wa Inzamba
nawe yabajije ibibazo agashyamba ko ubwoko muri Inzamba
nta materasi arakurwaho ko nayandagwe yashyamba
ntoro ya 2003 ko babonye amatungo. agashyamba
byabefashye kubungabunga no yafatweho ubwoko
ko ubwoko.

MUshyamba Emmanuel mu mu mugenzi wa
 MURABA, yabaye ibyiza cyane mu yindi mubonye
 Umushyamba LWA wabakoreye amaterasi, muho bagera
 mu mugenzi wabo bagakagarara. Yifuye ko niba
 bishoboka Umushyamba LWA, ukora amaterasi; wanyabako
 rera nabo bakagendana n'iterambere ryeguzeho rya
 gufata neza ubutaka. Muri rusanga abaturage bas
 banyuze ku byiza yubonye amaterasi y'ubwiza
 mu kubona ibibazo byose byabajijwe, Umunyobozi w'ubwo
 yashyize abaturage ko barabona ubuho banyuzuye
 n'ubwo byari ku Umushyamba LWA wo muri MURABA
 niba bishoboka ko bababonye amaterasi aho hantu
 hose hashoboka kugera, mu rwego rwo gukomeza
 gufata neza ubutaka, harwamwaza kuri kandi kugera
 amashyamba.

Umwanzoro : Abaturage bo mu murenge ya Jomba,
 WEMBO, MURABA na KAMBALA
 bari bitabwiyeho inama byaje ko bakururwa amaterasi
 mu rwego rwo gufata neza ubutaka bwabo, burwamwaza
 ho ishuri kandi haraburungaburungwe neza ukomeza
 z'Umunyobozi wa GUYE na BASURA.
 Inama yashyize saa 13h 24'

Umwanditsi w'Inama
 MUKESHIMANA Louise
 SED / EVARICO All
 [Signature]

Umunyobozi w'Inama
 BYUKUSENGE Emmanuel
 Umunyamabanga ushinzwe ubushyamba
 w'Umurenge wa MURABA

INTIHLA YIUBULONGERAZUBA
AKATSELE KA NYATHU

- 1 -

UBUSUNDE AW'ATHATHAKIYE INTIHLA Y'IKHATHE BATHUNGA KU NIKUGILE
Z'UMUGETI WA GUYE AK BABELA.

№	IMAZANI	№	IBANOMUNYU	UMUGAVU	IKURU	UMUGAVU	UMUGAVU	UMUGAVU
1.	IKAVUTHI Jean Claude	1196680029757032	Nyamvu	Bikoro	Ruhuvu			
2.	Jean Pierre Euvonze	1197080038968012	Nyamvu	Bikoro	Ruhuvu			
3.	Jean Pierre Euvonze	1198370035920005	Kimisiye	Guruzo	Ruhuvu			
4.	Jean Pierre Theogene	1198380079017029	Kimisiye	Guruzo	Ruhuvu			
5.	KUBUKUNYONKA Sylvain	1199780075400085	Cyusa	Bikoro	Ruhuvu			
6.	YATSEBA Claude	1198870087488087	Cyusa	Bikoro	Ruhuvu			
7.	YATSEBA Eugene	1198870076692033	Nyamvu	Bikoro	Ruhuvu			
8.	YATSEBA Pauline	1199170077856418	Nyamvu	Bikoro	Ruhuvu			
9.	YATSEBA Eugene	1199270093230012	Nyamvu	Bikoro	Ruhuvu			
10.	Jean Pierre	1197080076681801	Kimisiye	Guruzo	Ruhuvu			
11.	YATSEBA Eugene	1198370078040075	Kimisiye	Guruzo	Ruhuvu			
12.	YATSEBA Eugene	11978700609089	Kimisiye	Guruzo	Ruhuvu			
13.	YATSEBA Eugene	1198680077791081	Guruzo	Kuruzo	Ruhuvu			
14.	YATSEBA Eugene	1197770044378088	Cyusa	Bikoro	Ruhuvu			
15.	YATSEBA Eugene	1197770048163072	Cyusa	Bikoro	Ruhuvu			

INARA Y'IBURENGEZARUBA
AKAREBE KA NYABIKU

- 3 -

UBUTONDE RW'IBYAZARIBYE INARA Y'IBARUKARE BAHINSA KUNKENGEZO
ZIBUKAZI NA GICIRE NA BASHA

N°	AMAZINA ZAMENYI	N° Y'IBAKAHO	UBUKUNDA	AMAZI	IBURENGEZARUBA
1.	Nshakighe Alon	11932800 ± 34054	kinaba	kinaboga	Burenba
2.	Nyigimwaga Jean Claude	1199180065 827014	kinaboga	Bwaga	Burenba
3.	Bwaga Jean Pierre	11996800 77612003	kinaboga	Bwaga	Burenba
4.	Murakete Providence	11921800 70745010	kinaboga	Bwaga	Burenba
5.	Rwamungu Bishie	11927800 ± 6453082	kinaboga	Bwaga	Burenba
6.	Batye Innocent	11964800 32358034	kinaboga	Bwaga	Burenba
7.	Muhirwe Benjamin	11954800 18364041	kinaboga	kinaboga	Burenba
8.	Nyiragahinda	11955700 22193002	kinaboga	kinaboga	Burenba
9.	Nyiradaga	11972700 43133039	kinaboga	kinaboga	Burenba
10.	Ndurwaga Jean Baptiste	11982800 88907038	kinaboga	kinaboga	Burenba
11.	TWIZERUKA Athanas	11972800 42874004	kinaboga	kinaboga	Burenba
12.	Ami Edison HARABAKI	11982800 90121035	kinaboga	kinaboga	Burenba

INTARA Y'IBURENGERAZURWA
KARERE KA NTAOTU.

Umukunda w'abatanyirye inama y'abaturage bakiranga ku nkensero
y'umugenzi mu gishyamba na basera.

N°	Amazina yombi	N° y'irangamunyu.	Umudugudu	Akagari	Umurenge	Umukore
1.	HAKIZAMUKU Joseph	M86480034181021	Ruhongore	Nyamirya	Pamba	MU
2.	MUKAZIARE Jacques	M91970059448036	Ruhongore	Nyamirya	Pamba	PT
3.	MUKABURUSA Pascalie	M95470018296081	Kimuru	Nyamirya	Pamba	PT
4.	HABIZAMUKU Akhona	M93580041160046	Ruhongore	Nyamirya	Pamba	PT
5.	MUTUNIBENYAGA Erimwe	M88200085317022	Ruhongore	Nyamirya	Pamba	PT
6.	ABIZAMUKU Claude	M92980058407094	Kimuru	Nyamirya	Pamba	PT
7.	ABIZAMUKU STI Spaciose	M96170023498070	Kimuru	Nyamirya	Pamba	PT
8.	MUKABURUSA Florence	M922700411653014	Rubaru	Nyamirya	Pamba	PT
9.	NABIZAMUKU Franck	M97670044278089	Rubaru	Nyamirya	Pamba	PT
10.	ABIZAMUKU Jean Bosco	M89480082540062	Rubaru	Nyamirya	Pamba	PT
11.	ABIZAMUKU Jean Bosco	M86180023498003	Rubaru	Nyamirya	Pamba	PT
12.	ABIZAMUKU Estime	M97980059434098	Rubaru	Nyamirya	Pamba	PT
13.	ABIZAMUKU Fabien	M96080030556079	Rubaru	Nyamirya	Pamba	PT

INTARERU UBUNGERA ZUBA

AKARERE KA NYABAHU

UBUNGERA	UBUNGERA	UBUNGERA	UBUNGERA	UBUNGERA	UBUNGERA
UBUNGERA	UBUNGERA	UBUNGERA	UBUNGERA	UBUNGERA	UBUNGERA
1. MURAHUKU TILIA Emmanuel	11988850 8720 4064	KIVUUBWA	MURAHUKU	MURAHUKU	[Signature]
2. MURAHUKU TILIA Odette	11994707 7382 8055	KIVUUBWA	MURAHUKU	MURAHUKU	[Signature]
3. MURAHUKU TILIA	11995707 4675 1013	KIVUUBWA	MURAHUKU	MURAHUKU	[Signature]
4. MURAHUKU TILIA Et. Claudine	11988700 7635 4088	KIVUUBWA	MURAHUKU	MURAHUKU	[Signature]
5. MURAHUKU TILIA Et. Et. Et.	11992300 2638 1001	KIVUUBWA	MURAHUKU	MURAHUKU	[Signature]
6. MURAHUKU TILIA Et. Et. Et.	11985700 8054 00 56	KIVUUBWA	MURAHUKU	MURAHUKU	[Signature]
7. MURAHUKU TILIA Et. Et. Et.	11986700 7781 0010	KIVUUBWA	MURAHUKU	MURAHUKU	[Signature]
8. MURAHUKU TILIA Et. Et. Et.	11995707 4471 2002	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
9. MURAHUKU TILIA Et. Et. Et.	11992700 4253 60 65	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
10. MURAHUKU TILIA Et. Et. Et.	11950850 7585 00 25	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
11. MURAHUKU TILIA Et. Et. Et.	11982700 9720 20 96	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
12. MURAHUKU TILIA Et. Et. Et.	11992700 4853 00 91	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
13. MURAHUKU TILIA Et. Et. Et.	11988850 7903 50 88	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
14. MURAHUKU TILIA Et. Et. Et.	11980700 7877 50 13	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
15. MURAHUKU TILIA Et. Et. Et.	11981700 157 20 34	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
16. MURAHUKU TILIA Et. Et. Et.	11977500 3204 20 24	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
17. MURAHUKU TILIA Et. Et. Et.	11976700 5831 00 25	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]
18. MURAHUKU TILIA Et. Et. Et.	11985700 8339 20 80	MURAHUKU	MURAHUKU	MURAHUKU	[Signature]

NITARA Y'IBUDENEPARAZWA
AKAREBE KA NYARATU.

BUDUTON BE RM ARI-IZABURUZE INAHU Y'IBATUBA GE BAHINGA KU MUKENGEZO
Z'UTUGEEZA WA GICIKWE NDA BODASEZA

N°	Amazina y'abanyarwanda	N° y'ibudatungurwa	Munyakuri	Kyari	Umurungu	Munyakuri
1	Mwamiyemwe Protais	M8550002972052	Rubohi	Nyamukanga	Jombab	Munyakuri
2	Zigwamunshi SNV	M8500001674009	Ruhongore	Nyamukanga	Jombab	Munyakuri
3	Tumhamahiri-re Tephile	M96900032444062	Ruhongore	Nyamukanga	Jombab	Munyakuri
4	Habiyemuruz Emmanuel	M98180070224650	Kivumu	Nyamukanga	Jombab	Munyakuri
5	Nyagwambaga Theogene	M97030070708063	Kivumu	Nyamukanga	Jombab	Munyakuri
6	Kamugirye Veronique	M85100012479042	Ruhongore	Nyamukanga	Jombab	Munyakuri
7	Nyabohanga Beatrice	M97970059048033	Ruhongore	Nyamukanga	Jombab	Munyakuri
8	Kanyemanda Lesmile	M98180075963048	Kivumu	Nyamukanga	Jombab	Munyakuri
9	Nyabohanga Speciose	M86100023328032	Ruhongore	Nyamukanga	Jombab	Munyakuri
10	Mwamiyemwe ibeliza	M96870036582010	Ruhongore	Nyamukanga	Jombab	Munyakuri
11	Nyamukanga Francis	M9778004697015	Ruhongore	Nyamukanga	Jombab	Munyakuri
12	Kanyemanda Gilbert	M983800075851001	Ruhongore	Nyamukanga	Jombab	Munyakuri
13	Rugwamba Xhensine	M96070030468057	Ruhongore	Nyamukanga	Jombab	Munyakuri
14	Bakirumana Jean Baptiste	M8516700191233092	Ruhongore	Nyamukanga	Jombab	Munyakuri
15	Rugwamba Jean Baptiste	M97070037998090	Ruhongore	Nyamukanga	Jombab	Munyakuri

INTABA Y'IBYUBUKURUKA
ARAREZWE KUKYABUKU

- 7 -

UBUKOME BUHATIRIWE INKA Y'IBYUBUKU BAHUKA BU BUBUKU BUBUKU BUBUKU BUBUKU BUBUKU
NA BAHUKA

No	AMUKAZI NA YAMUKAZI	NO SHAKARIMUNU	UMUBUKU	IBYUBUKU	IBYUBUKU
1.	ZABUWE Kaphile	11586800 7761 785	Kamukama	Kamukama	
2.	NABERERE Jephene	11968700 3640 6055	Kamukama	Kamukama	
3.	KAMUKAMA Patrick	11568800 3640 6055	Kamukama	Kamukama	
4.	BUTABURUKA Amant	11978800 3411 3017	Kamukama	Kamukama	
5.	NABERERE Jephene	11591700 3640 6055	Kamukama	Kamukama	
6.	UBUKOME Jephene	11568700 3640 6055	Kamukama	Kamukama	
7.	NABERERE Kaphile	11978800 3411 3017	Kamukama	Kamukama	
8.	BUTABURUKA Amant	11591700 3640 6055	Kamukama	Kamukama	
9.	KAMUKAMA Patrick	11568800 3640 6055	Kamukama	Kamukama	
10.	NABERERE Jephene	11591700 3640 6055	Kamukama	Kamukama	
11.	UBUKOME Jephene	11568700 3640 6055	Kamukama	Kamukama	
12.	NABERERE Kaphile	11978800 3411 3017	Kamukama	Kamukama	
13.	BUTABURUKA Amant	11591700 3640 6055	Kamukama	Kamukama	
14.	KAMUKAMA Patrick	11568800 3640 6055	Kamukama	Kamukama	
15.	NABERERE Jephene	11591700 3640 6055	Kamukama	Kamukama	
16.	UBUKOME Jephene	11568700 3640 6055	Kamukama	Kamukama	
17.	NABERERE Kaphile	11978800 3411 3017	Kamukama	Kamukama	

INTARA Y'IBURENGEBAZUSA
AKAREBE KA NYABIRU.

UBUTONDE RW'ABATARUKA INAMA Y'ABATURAGE BAHINGA KUKENGEZE
Z'UBUREZI WA GICIZE NA BAZERA

No	Amajira gamba	Ug'ibangamurika	Umudugudu	Akagari	Umurwego	Umu
1	Amajira gamba	11957500 2264028	Gasura	Gasura	Pamba	Umu
2	Amajira gamba	11957500 2545086	Gasura	Gasura	Pamba	Umu
3	Amajira gamba	11957500 36020	Gasura	Gasura	Pamba	Umu
4	Amajira gamba	11953800 176070 39	Kagano	Gasura	Pamba	Umu
5	Amajira gamba	119572800 415470 44	Kagano	Gasura	Pamba	Umu
6	Amajira gamba	11969800 380 21 609	Ryaba seru	Gasura	Pamba	Umu
7	Amajira gamba	11963800 3614 1024	Rya banyu	Gasura	Pamba	Umu
8	Amajira gamba	11980700 8530300 2	Rya banyu	Gasura	Pamba	Umu
9	Amajira gamba	11958800 16 1400 25	Gasura	Gasura	Pamba	Umu
10	Amajira gamba	11958700 2890 4014	Ryabanyu	Gasura	Pamba	Umu
11	Amajira gamba	119888800 85 10 60 30	Ryabanyu	Gasura	Pamba	Umu
12	Amajira gamba	11984800 825250 56	Ryabanyu	Gasura	Pamba	Umu
13	Amajira gamba	11994800 4315 10 48	Ryabanyu	Gasura	Pamba	Umu
14	Amajira gamba	11978800 4189300 2	Ryabanyu	Gasura	Pamba	Umu

Annex 8: Minutes and attendance lists of consultation meetings in Gisagara District

INYANDIKOMVUGO Y'INAMA NYUNGURANABITEKEREZO KU MUSHINGA ECAATP

MUKARERE KA GISAGARA

GAHUNDA Y'INAMA

- Gutanga ikaze no kwakira abitabiriye inama(Ubuyobozi bw'akarare)
- Gusobanurira abitabiye inama gahunda y'umushinga gahunda ya ECAATP
- Kugaragaza uruhare rwaburi ruhande
- Kugaragaza ibyitezwe kuro uyu mushinga
- Ibibazo nibitekerezo
- Ingamba
- Utuntu nutundi

1. Gutanga ikaze no kwakira abitabiriye inama(Ubuyobozi bw'akarare)

Umuyobozi w'akarere wungirije unshinzwe iterambere ry'ubukungu niwe watanze anakira abitabiriye inama. NZUNGIZE Gustave. Abari munama bibwiranye kugirango inama itangire abantubose baziranye

Umuyobozi w'inama yasabye abari munama kwisanzura kandi bagakurikira neza ibijyanye n'umushinga ECAATP kugirango babashe gutanga ibitekerezo aho bikenewe.

2. Gusobanurira abitabiye inama gahunda y'umushinga ECAATP

Uwaje ahagarariye umushinga yatangiye asobanura ECAATP asobanura ko mungambo arambuye ECAATP ari "East and Central Africa for Agriculture transformation Project", Uyumushinga rero ukuba ari umushinga ugamije kurwanya isuri kumabanga

Umushinga uzakorera ahantu hatandukanye bitewe nuko Site zizatoranywa, ariko nakarere ka Gisagara kakaba gafite amahirwe yo gutangirirwamo. Aho biteganijwe ko akarere ka Gisagara karamutse gatoranijwe hazabungabungwa amabanga yimisozi kubuso burenga hegitari 1000.

Yavuze ko kandi nyuma yo gutunganya ubutaka bukorwaho amaterasi, umushinga uteganya ko hazahingwa ibihingwa bitandukanye bizatoranywa byumwihariko imyubanyi bati.

Yakomeje asobanura ko umusaruro uzashakirwa isoko, haba hagati mugihugu haba ndetse no hanze y'igihugu

Yasobanuye ko, iyo Amaterasi amaze gucukurwa, ubutaka buba butakaje bimwe mubishobora kongera umusaruro akaba ariyo mpamvu mu mushinga hateganijwe ko nyuma yo gukora amaterasi hajya hatangwa inyongeramusaruro zisubiza ubutaka uburumbuke bwabwo arizo. Inyongera musaruro ziteganijwe ni: Ishwagara, Imborera, ibiti bivangwa nimyaka, gusa bigatangwa mu igihembwe kimwe cyihinga.

Aha yongeyeho ko kugirango izo nyongera musaruro ziza komeza gutangwa. Umushinga unateganya nubundi guha amahugurwa abahinzi kubijyanye no gukora Compost bazayabakoresha igihe Umushinga ntayo uzaba ukibaha.

-3 Kugaragaza uruhare rwaburi ruhanda

Kugirango Umushinga Uzabashe gushyirwa mu bikorwa neza, abari munama basabye ko Inzego zose zabigiramo uruhare. Aha twavugaga inzego z'ibanze, Umushinga ndetse nabikorera

Ibikorwa bigakurikiranwa umunsi kumunsi kandi abantu bagasangira amatuku haba kubitagenda ndetse nibigenda neza.

Inama nyishi zizajya zikorwa, ndetse na mbere yuko Umushinga utangira gushyirwa mubikorwa ningombwa ko Akarere, umushinga, abaturage ndetse nabikorera bajya inama murwego rwo kubisobanurira abafatanyabikorwa bose imiterere yumushinga nuburyo ujyije gushyirwa mubikorwa

Ba nyiri amasambu azatunganywa. Uruhare rwabo mumigendekere myiza yuyu mushinga ruzagaragarira mubintu bikurikira;

-Gutunganya amaterasi nkabakozi ba Nyakabyizi (Manpower)

-Gutanga ubufasha mukubona umubare munini w'abakozi bakora imirimo yo guca amaterasi

-Gutanga ubufasha mugusobanurira abaturage bazaba binangiye

-Gutanga bimwe mubikoresho bizifashishwa nko mugukora cg kubona za Chekdams aho ari ngombwa

-Kubahiriza ingengabihe yibikorwa by'umushinga hirindwa ko hazagira ibyangirika

-Gukurikirana imirimo yo gutunganya no gushyira inyongeramusaruro mu mirima yabo

-Kubyaza umusaruro imirima yabo nyuma yo kuyitunganya.

4. Kugaragaza ibyitezwe kuro uyu mushinga

Umuyobozi winama yagaragarije abitabiriye inama ko bimwe mubyitezwe kuri uyu mushinga ari ibi bikurikira:

- Kubona akazi kubaturage
- Ubutaka burwanyijeho isuri
- Amahugurwa atandukanye
- Umusaruro uzinyongera
- Isoko ry'umusaruro

5. Ibibazo nibitekerezo

Ibibazo byagarutse nabitabiriye inama ni ibi bikurikira:

- Nigute tuzabasha kubona imbuto?
- Ese aho ntituzajya dutinda guhembwa?
- Kuhagera tugatakaza seasons tuzatungwa niki?
- Ese imyaka yacu izaba iri mumurima ntimuzayirandura?

-Kukibazo cyambere , abahinzi basobanuriwe ko umushinga ufatanije na ministeri y'ubuhinzi bizabafasha kubona imbuto kandi kugihe..

-Abazakora mumatersi bazajya bahwmbwa nyuma y'iminsi 15.

-Ingengabihe yo gukora izajya yita ku gihembwe cyihinga kuhjira hatazagira igihombo cyibaho.

-Abahinzi bijwije ko ntamyaka iri mumurima izangizwa

Ikindi basobanuriwe nuko n tangurane izatangwa ahakozwe amaterasi . Basabwa ko bagomba no gutamngira kubahiriza gahunda yo gutura mumidugudu.

6.INGAMBA

-Gushyiraho gahunda ihamye yo gutunganya ubutaka

-Ubukangurambaga bwimbitse kugirango imirimo yihute

-Inama nyinshi n'abahinzi, ikindi ahazaba hagaragara imyaka imara igihe mumirima kandi imeze neza(urutoki, ikawa n'ibindi)ntizakurwaho ahubwo bakagirwa inama yo kuhatunganya neza.

-Guhemba abakozi kugihe.

-Ubukangurambaga bwimbitse mukubyaza umusaruro ubuso bwatunganijwe

-Gufata ingamba hakiri kare ngo hatazajyira ubutaka butabyazwa umusaruro bitewe nuko banyirayo batari hafi aho cyangwe bafite ubuso bunini

7 Utuntu nutundi

Ubuyobozi bw'Akarere kwasabye ko kugirango uyu mushinga ubashe gutanga umusaruro witezweho, Umushinga wakorana byahafi n'ubuyobozi bw'akarere, hatangwa amakuru yishyirambikorwa ry'umushinga kugihe,ndetse na zaraporo zitandukanye z'imigendekere y'akazi.

Abagerwabikorwa babonetse uwo muni babaye bake kuko amasaha yarakuze abenshi bavuye mumirima yabo.

Icyari kigamijwe kwari ukubaganiriza kubikorwa biteganijwe ndetse no kubabaza bo ubwabo uko bumva umushinga wazabagirira akamaro ndetse no kubasaba ko babiganiriza bagenzi babo batabashije kuboneka.

Umuyobozi winama yasoje ashimira abitabiriye, abasaba kugeza ubutumva kubitabiriye,abizeza ko abazakorerwa mumirimo aribo bazaherwaho bahabwa akazi anabasaba

Emile NSENGIMANA

Umwanditsi w'inama.

ABITARIYE INAMA GISABAA

AMEINA	AMUKAGARI	UMUKUGU	
1. MURIZAMBAKO Gaspard	CYAMUKUZA	GISEKE	Handwritten signature
2. GASHIMBARAKE David	ZIVU	Ryarubayi	Handwritten signature
3. NYIRAMUYIMANA Vincent	CYAMUKUZA	Nyaburondwe	Handwritten signature
4. NYIRAJEYUKA Antoine	CYAMUKUZA	GISEKE	Handwritten signature
5. NYUMUGABO Bonat	CYAMUKUZA	Nyaburondwe	Handwritten signature
6. MATHIMAKA Sibomam	CYAMUKUZA	GISEKE	Handwritten signature
7. NYIRAMUYIMANA Vincent	ZIVU	Ryarubayi	Handwritten signature
8. MUTUYIMANA Théodore	ZIVU	Ryarubayi	Handwritten signature
9. UKWITAGIRA Théodore	CYAMUKUZA	GISEKE	Handwritten signature
10. SHABASHIMUKUZA Domasene	ZIVU	Ryarubayi	Handwritten signature
11. NAKIRWA Comama Isabelle	ZIVU	Ryarubayi	Handwritten signature
12. Ndimubanzi Emmanuel	Cyamukuzi	gi Seko	Handwritten signature
13. Hategukimano Clément	Cyamukuzi	giseko	Handwritten signature
14. NYIRABENGA Vincent	CYAMUKUZA	GISEKE	Handwritten signature
15. NYIRABAYUKIRA Consolata	ZIVU	Ryarubayi	Handwritten signature
16. Ntanzuclacy Jenga Janeti	Cyamukuzi	gi se cye	Handwritten signature
17. Jeraudi Nyangawindemura	ZIVU	nyamurungu	Handwritten signature
18. Kamuziso Jeanne	Cyamukuzi	gi se cye	Handwritten signature
19. Nyiratalimi Dorothée	Cyamukuzi	gisecye	Handwritten signature
20. NDERUKIYETE Vincent	Cyamukuzi	Giseke	Handwritten signature
21. MURIMAJORO Ezechiel	Cyamukuzi	Giseke	Handwritten signature
22. Ntanzuclacy Emmanuel	Cyamukuzi	gi sek	Handwritten signature
23. NYIRABIZIMANA Vanessa	CYAMUKUZA	GISEKE	Handwritten signature
24. MISA GOFTEX	Cyamukuzi	Gi Seko	Handwritten signature
25. TWAGIRATZU Shant	Cyamukuzi	Giseke	Handwritten signature

ADJUTANT GENERAL

1. NITONSARA peruth	Agronomist save	
2. MUMBARA DUMBU Isaya	LTS/Asst Section	
2. UWIZIMANA Jean Paul	S/S CYAMUKOZA CEP	
4. UWIMBARAZI Ntare	Gis intern LWH/RSP	
5. NIYONZENZA Samuel	Immigration Engineer LWH/RSP	
6. UMUKOZA Ernestine	LTS (LWH) RSP	
7. Muzero Clavice	Contract Agreements	
8. MIBONIBAZA Irisma	CYAMUKOZA/GISEKA	
9. MUKIRE Augustin	CYAMUKOZA/GISEKA	
10. HANIRAGABA Jean Baptiste	JH Supervising Engineer	
11. HANGAMANA Paul	Vic Mayor EA	
12. Emile NSEBIMANA	LWH/RSP Asst DPC	

Annex 9: Minutes and attendance lists of consultation meetings in Nyanza District

INVANDIKOMVUGO Y'INAMA NYUNGURANABITEKEREZO KII MUSHINGA ECAATP MURI
NYANZA Kuwa 10 /01/2018

GAHUNDA Y'INAMA

- Kwibwirana kw'abitabiriye inama
- Ibisobanuro kumushinga ECAATP
- Uruhure rw'Akarere mumigendekere myiza y'Umushinga
- Uruhure rw'Abagenerwabikorwa(Beneficiaries)
- Ibyiza umushinga uzazanira Abagenerwabikorwa
- Imbogamizi
- Ingamba
- Ibindi.....

I: KWIBWIRANA

Inama yayobowe n'Umuyobozi ku Karere ka Nyanza ushinze ubuhinzi ndetse n'ibidukikije NZUNGIZE Gustave. Abari munama rero baribwiranye kugira ngo inama itangire abantu bose baziranye ndetse kugira ngo babashe no kungurana ibitekerezo .

Umuyobozi w'inama yasabye abari munama kwisanzura kandi bagakurikira neza ibijyanye n'Umushinga ECAATP kugira ngo babashe gutanga ibitekerezo aho bikenewe .

II: IBISOBANURO KUMUSHINGA ECAATP

Uwaje ahagarariye Umushinga yatangiye asobanura icyo aricyo ECAATP avuga ko ari Umushinga usobanuye mu magambo arambuye y'icyongereza ko ari "East and Central Africa for Agriculture transformation Project". Ati ni umushinga uzakorerwa abantu hatandukanye bitewe nuko Site zizatoranywa ko ariko mu ma Site biteganijwe ko ushobora kuba wahita utangira gukoreramo na Nyanza irimo;

Uyu mushinga rero ukaba ari umushinga ugamije kurwanya isuli kumabanga y'imisozi bikaba biteganijwe ko Nyanza iramutse ihise itoranywa nka Site bakoreramo bazatangirira kubuso bugera kuri 2000ha, byaba na ngombwa hagakorwa urugomeru ruzuhira imusozi (hillside irrigation).

Yavuze ko kandi nyuma yo gutunganya ubutaka bukorwaho amaterasi, umushinga uteganywa ko hazahingwa igihingwa cy'imyumbati (Cassava), akaba ari nayo mapamvu Nyanza yahise itekerezwaho kuhera ko ari Akarere kabanyeye niki gihingwa.

Yakomeje anasobanura ko umusaruro uzashakirwa isoko, haba hagati mugihugu haba ndetse no hanze y'igihugu aho biteganijwe ko ushobora kuzajya ugurishwa ku isoko ry'ibihugu bihariye mugace k'iburasirazuba (East African Community)

Yagize ati kandi, iyo Amaterasi amaze gucukurwa, abutaka buba bwatacaje bimwe muhishobora kongera umusaruro akaba ariyo mpamvu mu mushinga hataganijwe ko Nyuma yo gukora Amaterasi hazajya hatangwa inyongeramusaruro zisabiza ubutaka uburumuhake bwabwo arizo:

- ✓ Ishwagara
- ✓ Ihambire y'imboreza
- ✓ Ndetse hakanatembera uduti turumbura ubutaka ndetse tutanabufata (Agroforestry trees).

Aha ariko yavuye ko izi nyongeramusaruro zitangwa imshuro imwe gusa (Season imwe), hanyuma nyuma yaho abahinzi bakabyishakira (Seasons zikurikira).

Aha yongeyeho ko kugira ngo izi nyongeramusaruro zizabashe gukomeza gutangwa, Umushinga unateganyaga mubundi gushya amahugurwa ahahinzi kubijyanye no gukora compost hazajya bakoresha igihe Umushinga ntayo uzaba ukibaha.

III: URUHARE RW'AKARERE

Murwego rwo kugira ngo Umushinga Uzashakirwe gushyirwa mu bikorwa neza, Abari munama basabye ko imzego zose zahigiramo Uruhare. Aha twavuye imzego z'ibanze, Umushinga ndetse Private Sector.

Ibikorwa bigakurikiranwa umunsi kumunsi kandi abantu bagasangira amakuru haba kubitagenda ndetse nibigenda neza.

Inama nyinshi zizajya zikorwa, ndetse na mbere yuko Umushinga utangira gushyirwa mu bikorwa ningumbwa ko Akarere ndetse n'Umushinga babijyanamo murwego rwo kuhisobanurira Abagenerwabikorwa (Ba Nyiri mirima).

Akarere kandi kazatanga ubufasha aho abaturage bazaba binangiyeho cyangwa batumva neza ibijyanye n'umushinga. Bazanakoresha kandi umunsi kumunsi kubafatanye n'Umushinga abantu bazaba bangiza ibikorwaremezo bizakorwa.

IV URUHARE RW'ABAGENERWABIKORWA

Abagenerwabikorwa aha bavugwa niba Nyiri amasamu azatunganywa.

Uruhare rwabo mu bigendekere myiza yuyu mushinga ruzagaragarira mu biturikira:

- Gutunganya materasi n'abakozi ba Nyakabizi (Manpower)
- Gutanga ubufasha mu kubona umubare munini w'abakozi hazakora imirimo yo gucukura amaterasi
- Gutanga ubufasha mu gusobanurira abaturage bazaba binangiyeho. (Bazaba batumva ingaruka nziza z'umushinga)
- Gutanga bimwe mu bikoresho bizafashishwa nko mugukora cyangwa kubona za Checkdams

- Kuvana imyaka mumurima hakiri kare kugira ngo bitazagongana nikorwa ry'amaterasi imyaka ikiri mumurima
- Gukurikirana ishyamba wa mumurima ry'ishwagara na compost kugira ngo abakozi bazaba babishyiramo batabishyiramo nabi.
- Kubyaza umusaruro imirima yabo nyuma yo kuyitunganya, bahingira igihe kandi bakanahinga igihingwa cyatoranijwe aricyo imyumbati.
- Kwirinda gusiga ibisambu mumurima izaba yaratunganijwe.

V: IBYIZA UMUSHINGA UZAZANIRA ABAGENERWABIKORWA

Abari munama basanze Uyu mushinga hari byinshi uzazanira Abagenerwabikorwa n'abatwaga b'akarere ka Nyanza muri rusange aribyo:

- Kubona akazi kubaturage ba Nyanza
- Mituelle zizatungwa kubwisi kubera akazi
- Ubutaka burwanyijeho isuli
- Amahugurwa atandukanye
- Umusaruro uzinyongera
- Isoko ry'umusaruro
- Igabanuka ry'inzererezi

VI: IMBOGAMIZI

Abari munama bagaragaje ko kandi hashobora kuzaboneka imbogamizi zitandukanye arizo:

- Imyaka izaba iri mumulima igihe cyo gutunganya amaterasi
- Abana bashobora kuzata ishuli bakajya gukora imirimo yo mumaterasi
- Kwijujuta kw'abahinzi igihe bazajya batinda guhembwa
- Gutinda gukora cyo gutunganya ubutaka bityo ugasanga hari abamaze igihe kinini badahinga
- Abantu batahaba bashobora kuzatuma hari ahazatunganywa ntihabingwe
- Abakozi bashobora kuzabura igihe imirimo izaba itangiye.

VII: INGAMBA

- Kuzatangira mobilization yo gushaka abakozi hakiri kare, hakanyambazwa abatwaga baturutse mutundi turere.
- Gushyiraho gahunda ihamye yo gutunganya ubutaka
- Inama nyinshi n'abahinzi, ikindi ahazaba hagaragara imyaka imara igihe mumulima kandi imeze neza (Urutoki, ikawa n'ibindi) ntizakurwaho ahubwo bazagira inama yo gutunganya neza.

IBINDI

Abari munama bahagarariye Akarere basabye ko kugira ngo uyu mushinga ubashe gukorwa kandi uzagere kunshingano zawo, Umushinga ugomba kubakorera ibi bikurikira:

- Gutanga amakuru kumigendekere y'Umushinga
- Gutanga impapuro zose zirebana n'Umushinga
- Gushyiraho gahunda ihamye y'ishyirwamubikorwa ry'umushinga.

Inama yarangiye saa saba nigice(13h30) hanyuma Ikipe yaturutse ku Mushinga ijyana na Agronome wa Busasamana kuri terrain kubonana n'Abaturage bamwe mubazakorerwa Amaterasi.

IBYAVUYE MUBIGANIRO BY'INAMA YABAREYE KURI TERRAIN N'ABAHINZI

Abahinzi cy Abagenerwabikorwa babonetse uwo muni babaye bake kuko amasaha yarakuze abenshi bavuye mumirima yabo.

Icyari kigamijwe kwari ukubaganiriza kubikorwa biteganijwe ndetse no kubabaza bo ubwabo uko bumva umushinga wazabagirira akamaro ndetse no kubasaba ko babiganiriza bagenzi babo batahashije kuboneka.

Uwaruhagarariye Umushinga yasubiyemo neza ikigamijwe abasobanurira ibijyanye n'Umushinga, abereka ibigamijwe, igihe nyacyo umushinga ushobora gutangirira ndetse anababwira ibyiza umushinga uzazana aribyo:

- Kurwanya isuli
- Gutanga akazi kumubare munini wabazatunganya ubutaka
- Guha abazaba batunganiye imirima inyongeramusaruro (Ishwagara ndetse na Compost)
- Amahugurwa
- Kubafasha kongera kubona imbuto y'imyumbati no kuyihinga neza
- Isoko ry'umusaruro n'ibindi.

Abahinzi nabo babajije ibibazo bikurikira kugira ngo babashe gusobanukirwa neza.

- Ese imbuto izaturuka he?
- Ese aho ntuzajya dutinda guhembwa?
- Ese nimucaba kudahinga kugira ngo hakorwe amaterasi mwarangiza mugatinda kuhagera tugatakaza seasons tuzatungwa niki?
- Ese imyaka yacu izaba iri mumulima ntumuzayirandura?

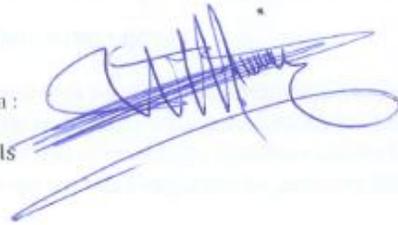
Mukubasubiza Yaba ari Agronome w'umurenge wa Busasamana n'Abahagarariye Umushinga basubiye mu buryo bukurikira:

- Minisiteri y'Ubuhanzi mu rwego rwo kongera umusaruro, ibinyujije muri RAB izahonera abahinzi imbuto nziza kugira ngo nubundi umusaruro uzabe mwiza kandi imbuto izavaho nayo ikwirakwizwe mubandi bagenerwabikorwa.
- Kubijyanye no gutinda guhembwa basobanuriwe ko amalistes azajya akorwa hakiri kare bityo bakajya bahembwa buri minsi 15.
- Hazashakwa umubare munini w'abakozi bityo ntawe uzararanya seasons 2 adahinze.
- Banasobanuriwe ko ntamya imeze neza izakurwa mumulima (Urutoki, Kawa...) ko ahubwo hazasabwa kuyikorera neza.
- Abahinzi kandi basabwa kuba intumwa nziza bakamenyesha abatabashije kugera aho inama yabereye igikorwa giteganijwe ndetse no kuzatanga ubufasha mugushakisha abakozi bazakora amaterasi.
- Abahinzi kandi banasobanuriwe ko hari bimwe mubikoresho hazajya bitangira mugihe cyo gukora materasi cyane cyane nkibyo gukora checkdams n'ibindi. Banasobanurirwa kandi ko aribo bambere bazaherwaho bahabwa Akazi ko gukora imirimo yo guca amaterasi.

Ikindi basobanuriwe nuko ntangurane itangwa ahakozwe amaterasi. Basabwa ko bagomba no gutangira kubahiriza gahunda yo gutura mu midugudu.

Umwanditsi w'Inama :

MUGAMBIRA Bonfils



LIST OF CONSULTED PERSONS DURING RPF CONSULTATION IN NYANZA

NO	NAMES	INSTITUTION	POSITION	SIGNATURE
1	KUGARIEN Rompis	LWH/RSSP	District project Agronomist	
2	OSWALIMANA Pauline	Nyanga District	District Environment Officer	
3	MUSHEGE MURIEL Jean d'Amarie	Nyanga District	District District Officer	
4	MUNGIKE Gustave	Nyanga District	District Driver	
5	KARAN Ehan	Bushamba & Sector	Sector Agronomist	
6	SALAMA Julius	LWH/RSSP	M&E Nyanza	
7	RUTHURU Thopha	Kinoni Sector	Executive Secretary	
8	KARIMIRI Emmanuel	Kinoni Sector	Agric. Assistant	
9	MUNIMWA Thayer	Sonye Cell	SEDO	
10	MULIMWA Emmanuel	Sonye Cell	Executive Secretary	
11	Munyama Shupha	Nyanza Cell	unofficial	
12	BIHENYANA Jean-Marie	Nyanga	unofficial	
13	MICHAEL Innocent	Magato Nyanga	unofficial	
14	MUNYAMA Pauline	Nyanga	unofficial	
15	MUNYAMA Jean	Nyanga	unofficial	
16	MUNYAMA Emmanuel	Nyanga	unofficial	