CIF CLIMATE INVESTMENT FUNDS

Global Climate Action Programs (GCAP) Sub-Committee

Washington, D.C. (Hybrid)

Thursday, June 13, 2024

RWANDA (NPC) INVESTMENT PLAN

CLIMATE INVESTMENT FUNDS
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GCAP/SC.6/02
May 21, 2024

PROPOSED DECISION

The Sub-Committee, having reviewed the *document GCAP/SC.6/02, Rwanda (NPC) Program Investment Plan*:

a) thanked the Government of the Rwanda for the work it has done in preparing the Investment Plan;
b) endorsed the investment plan as a basis for the further development of the projects foreseen in the plan and took note of the total requested funding of USD 31 million to support the following projects:
    a. USD 29 million for Catalyzing Climate, Nature and People Investments for Resilient Landscapes and Communities in Kaduha-Gitwe Corridor (World Bank).
    b. USD 2 million for Rwanda Wildlife Conservation Bond (World Bank).
c) took note of the estimated budget of USD 800,000 for MDB project preparation and supervision services as follows:
    a. USD 700,000 for the project entitled Catalyzing Climate, Nature and People Investments for Resilient Landscapes and Communities in Kaduha-Gitwe Corridor and approved USD 200,000 as a first tranche of funding for such services, and
    b. USD 100,000 for the project entitled Rwanda Wildlife Conservation Bond and approved USD 50,000 as a first tranche of funding for such services.
d) requested the Government of Rwanda, in the further development of the proposed projects, to take into account comments made at the meeting and any additional written comments submitted by members.

CLIMATE INVESTMENT FUNDS NATURE, PEOPLE AND CLIMATE PROGRAM

Rwanda Investment Plan

10 May 2024

REPUBLIC OF RWANDA

Kigali, on 10th May 2024
Ref. 0496/16.01

MINISTRY OF ENVIRONMENT
P.O. BOX 3502 KIGALI

Ms. Tariye Gbadegesin
Chief Executive Officer,
Climate Investment Funds Secretariat
WASHINGTON, DC

Dear Ms. Tariye Gbadegesin,

Re: Submission of Nature, People, Climate (NPC) Investment Plan

Reference is made to the expression of interest submitted by the Government of Rwanda to the Climate Investment Funds (CIF) with which we accessed funds for the preparation of the Nature, People, Climate (NPC) Investment Plan.

Reference is also made to the joint mission of the Government of Rwanda and the Multilateral Development Banks held from 12th to 16th February 2024 in Rwanda in the framework of following up the elaboration of the NPC program.

In this regard, I am honored to submit here attached, in accordance to CIF timelines, the NPC Investment Plan, which will be assessed by the GCAP sub-committee on 13th June 2024 in Washington, DC.

Thank you for your distinguished consideration.

Sincerely,

Dr. Jeanne d'Arc MUJAWAMARIYA
Minister of Environment

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ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
AFIRR	Access to Finance for Economic Recovery and Resilience Project
AFOLU	Agriculture, Forestry, and Other Land Use
AFS	Africa Food Systems
AGENT	Advancing Gender in the Environment
ALIS	Agricultural Land Information System
AMP EID	Analysis and Mapping of Policies for Emerging Infectious Diseases
APEFA	Action for the Protection of the Environment and the Promotion of Agricultural sectors
AR6	Sixth Assessment Report of the United Nations Framework Convention on Climate Change
ARCOS	Albertine Rift Conservation Society
AWF	African Wildlife Foundation
BAU	Business-as-Usual
BDF	Business Development Fund
BfW	Buy from Women
BK	Bank of Kigali
BMUV	German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection
BMZ	German Ministry for Economic Cooperation and Development
BN	Billion
BNR	National Bank of Rwanda
BRD	Development Bank of Rwanda
CAF	Community Adaptation Facility
CBO	Community–Based Organization
CCDR	Country Climate and Development Report
CCGAP	Climate Change Gender Action Plan
CCKP	Climate Change Knowledge Portal
CIF	Climate Investment Funds
CMIP	Coupled Model Inter-comparison Project
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CNFA	Cultivating New Frontiers in Agriculture
CO_2	Carbon Dioxide
CoEB	Center of Excellence on Biodiversity
COMBIO	Climate Change through Enhanced Community-based Biodiversity Conservation in the Eastern Province of Rwanda
COP	Conference of the Parties
COVID	Corona Virus
CPCIC	Cleaner Production and Climate Innovation Centre
CPI	Consumer Price Index
CROM-DSS	Catchment-based landscape Restoration Opportunity Mapping Decision Support System
CSA	Climate-Smart Agriculture
CSO	Civil Society Organization
CTF	Clean Technology Fund
DEG	Deutsche Investitions und Entwicklungsgesellschaft
DFMP	District Forest Management Plans
DGM	Dedicated Grant Mechanism
DRC	Democratic Republic of Congo
E&CC	Environment and Climate Change
EDPRS	Economic Development and Poverty Reduction Strategy
EIB	European Investment Bank

EICV	Integrated Household Living Conditions Survey
ENR	Environment and Natural Resource
ENSO	El Niño – Southern Oscillation
EoI	Expression of Interest
EU	European Union
EUR	Euro
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FFRP	Family Promotion, the Rwanda Women Parliamentarians Forum
FFS	Farmer Field Schools
FIP	Forest Investment Program
FLR	Forest Landscape Restoration
FMU	Forest Management Units
FOA	Forest Owners Associations
FONERWA	Fund for Environment and Natural Resources for Rwanda
GAP	Gender Action Plan
GBS	Gender Budget Statements
GCAP	Global Climate Action Program
GCCASP	Gender, Climate Change and Agriculture Support Program
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GESI	Gender, Equality, and Social Inclusion
GGCRS	Green Growth and Climate Resilience Strategy
GGGI	Global Green Growth Institute
GHG	Green House Gas
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMO	Gender Monitoring Office
GoR	Government of Rwanda
GWDD	Girls and Women with Disabilities
HDI	Human Development Index
HH	Households
HWC	Human-Wildlife Conflict
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFRC	International Federation of Red Cross
IISD	International Institute for Sustainable Development
IKI	International Climate Initiative
IMF	International Monetary Fund
IP	Investment Plan
IP&LC's	Indigenous People and Local Communities
IPCC	Intergovernmental Panel on Climate Change
IPM	Integrated Pest Management
IPTCs	Indigenous People and Traditional Communities
IRF	Integrated Results Framework
IUCN	International Union for Conservation of Nature
IWRM	Integrated Water Resources Management
JP RWEE	Joint Program on Rural Women Economic Empowerment
KfW	Kreditanstalt für Wiederaufbau

KIFC	Kigali International Financial Center
KOICA	Korea Internation Cooperation Agency
LAFREC	Landscape Approach to Forests Restoration and Conservation Project
LDCF	Least Developed Countries Fund
LDN TSP	Land Degradation Neutrality Target Setting Program
LODA	Local Administrative Entities Development Agency
LWH	Land Husbandry and Water Harvesting and Hillside irrigation
MAP	Mean Annual Precipitation
MDBs	Multi-lateral Development Banks
MIGEPROF	Ministry of Gender and Family Promotion
MINAGRI	Ministry of Agriculture and Animal Resources
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINEMA	Ministry in Charge of Emergency Management
MoE	Ministry of Environment
M&R	Monitoring and Reporting
MRV	Measurement, Reporting, and Verification
MSMEs	Micro, Small, and Medium Enterprises
NAEB	National Agricultural Export Development Board
NAP	National Action Plan
NAPA	National Adaptation Programs of Action
NbS	Nature-based Solutions
NBSAP	National Biodiversity Strategies and Action Plan
NBT	Nature-Based Tourism
NDB	New Development Bank
NDC	Nationally Determined Contribution
ND-GAIN	Notre Dame Global Adaptation Initiative
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organization
NISR	National Institute of Statistics Rwanda
NLA	National Land Authority
NLUDMP	National Land Use and Development Master Plan
NPC	Nature People Climate
NRM	Natural Resources Management
NST	National Strategy for Transformation
NTFP	Non-Timber Forest Products
NUP	National Urbanization Policy
NUWEP	Nyandungu Urban Wetland Ecotourism Project
NWC	National Women's Council
ODA	Overseas Development Assistance
ODI	Overseas Development Institute
PA	Protected Area
PCB	Polychlorinated Biphenyls
PES	Payment-for-Ecosystem Services
PIMA	Public Investment Management Assessment
POAs	Programs of Actions
PPCR	Pilot Program for Climate Resilience
PPI	Producers Price Index
PPP	Public-Private Partnerships
PSF	Private Sector Federation
PSTA 3	Third phase of the Transformation of Agriculture Sector Program

PTSD	Post Traumatic Stress Disorder
PWDs	Persons With Disabilities
RAB	Rwanda Agriculture and Animal Resources Development Board
RCCDN	Rwanda Climate Change and Development Network
RCP	Representative Concentration Pathways
RDB	Rwanda Development Board
REMA	Rwanda Environment Management Authority
RENGOF	Rwandan Environmental NGOs Forum
RFA	Rwanda Forestry Authority
RGF	Rwanda Green Fund
RICA	Rwanda Institute of Conservation Agriculture
RISE	Resilient, Inclusive, and Sustainable Environment
RLI	Red List Index
RMT	Rwanda Mountain Tea
ROI	Return on Investment
RSIF	Rwanda Sustainable Land Management Investment Framework
RTC	Rwanda Trading Company
RTDA	Rwanda Transport Development Agency
RTI	Research Triangle Institute
RUDP	Rwanda Urban Development Project
RWACOF	Rwanda Coffee
RWB	Rwanda Water Board
RWF	Rwandan Franc
SACCos	Village Saving and Credit Cooperatives
SACOLA	Sabvinyo Community Livelihood Association
SAIP	Sustainable Agricultural Intensification and Food Security Project
SAPMP	Sustainable Agricultural Productivity and Market Linkages
SCF	Strategic Climate Fund
SCRNRP	Strengthening Climate Resilience of Rural Communities in Northern Rwanda Project
SDG	Sustainable Development Goal
SEI	Stockholm Environment Institute
SEP	Stakeholder Engagement Plan
SGBV	Sexual and Gender Based Violence
SI	Strategic Interventions
SIDA	Swedish International Development Cooperation Agency
SLB	Sustainability-Linked Bond
SLM	Sustainable Landscape Management
SME	Small and Medium-Sized Enterprises
SPCR	Strategic Program for Climate Resilience
SPIU	Special Project Implementation Unit
SREP	Scaling Up Renewable Energy in Low Income Countries
TAF	Technical Assistance Facility
TCLP	Transformational Change Learning Partnership
ToC	Theory of Change
TREPA	Transforming the Eastern Province through Adaptation
TRSP	Tourism Revenue Sharing Program
UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCC	United Nations Framework Convention on Climate Change

UNFPA	United Nations Population Fund
UNIDO	United Nations Industrial Development Organization
US	United States
USA	United States of America
USAID	United States Agency for International Development
US$	United States Dollar
VCRP	Volcanoes Community Resilience Project
VNP	Volcanoes National Park
WASH	Water, Sanitation and Hygiene
WB	World Bank
WBL	Women, Business and the Law
WCEEs	Women-Centered Ecotourism Enterprises
WCMC	World Conservation Monitoring Centre
WCS	Wildlife Conservation Society
WFP	World Food Program
WRI	World Resources Institute

FOREWORD

The Republic of Rwanda is honored to present the Nature, People, and Climate (NPC) Investment Plan (IP) to the Global Climate Action Program (GCAP) Sub-committee. Rwanda's NPC IP seeks to address the multiple drivers and impacts of climate change resulting from human activities on land resources and ecosystem services in an integrated manner.

The NPC IP for Rwanda was developed to support citizens of the Southern Province in attaining a better quality of life by focusing on landscape restoration and catchment management, efficient utilization of natural resources, sustainable and resilient agriculture, secure and environmentally friendly settlements, and enhanced sustainable livelihoods. The IP aligns with Rwanda's Nationally Determined Contributions (NDCs), the Green Growth Climate Resilience Strategy (GGCRS) as well as the country's long-term vision to become a high-income, carbon-neutral economy by 2050.

Rwanda's NPC planning and investment preparation efforts were conducted following a programmatic approach, allowing for coordination and alignment with other major climate funds and initiatives such as the Global Environment Facility and the Volcanoes Community Project. Rwanda's NPC IP also adheres to two key principles: alignment with current GoR strategic priorities through intensive stakeholder consultations, and its ability to deliver transformative change and feasibility of implementation.

The final objective of the IP is to address systemic challenges hindering the most vulnerable population in Rwanda, particularly those living in the Southern Province, from effectively coping with climate change. Some of the challenges facing the Southern Province include environmental degradation, severe erosion, disaster risks and poverty, low agricultural productivity, scattered unplanned settlements, livelihood challenges, limited availability of social infrastructure, and limited economic opportunities.

Following an in-depth analysis of climate data, disaster risk assessment, and extensive stakeholder consultations, the NPC IP was drafted. Aligned with Rwanda's long-term Vision 2050, which underscores the aspiration of "the Rwanda we want," the the IP will play a pivotal role in propelling the country towards achieving an upper middle-income status by 2035 and ultimately becoming a high-income country by 2050.

This requires Rwanda to undertake an ambitious low-carbon and climate-resilient pathway by optimizing all sectors of the existing economic model. To achieve this, enhanced partnerships are crucial for leveraging additional and innovative finance from climate funds, the private sector, enhanced domestic climate finance, and other innovative financing mechanisms.

Rwanda's NPC IP aims to mobilize resources and strategically direct investments toward the Southern Province, the most vulnerable area in Rwanda. By aligning investments with local needs and opportunities, the plan aspires to drive sustainable rural growth and enhance Rwanda's progress toward a low-carbon, climate-resilient future.

The CIF total funding envelope for Rwanda's NPC is $35 million USD, a scale that matches the need and ambition levels of the Southern Province. As adaptation finance continues to decrease, Rwanda is privileged to access this funding. Building on previous CIF programs such as the Pilot Program for Community Resilience (PPCR), the Forest Investment Program (FIP), and the Scaling Up Renewable Energy Program (SREP), Rwanda aims to maintain a strong working relationship with the CIF and pursue further programs in the future.

We express our sincere gratitude for the continued support, and it is with great pleasure that we officially submit Rwanda's Nature, People, and Climate Investment Plan.

Dr. Jeanne d'Arc MUJAWAMARIYA
Minister of Environment

1 CIF NPC Program Summary

1. Funding request NPC	US$ 31 million
2. Other funding sources	US$ 207 million (WB, GEF-8, Others)
3. National Focal Point	Felix Yvan RUGWIZANGOGA Chief Strategy Officer Rwanda Green Fund
4. National Implementing Agency	Rwanda Green Fund
5. Involved MDB	World Bank
6. MDB NPC Focal Point	Zhihong Zhang Senior Climate Finance Specialist Email: zzhang2@worldbank.org
7. MDB Task Team Leaders	Elisson M. Wright Senior Environmental Finance Specialist Email: ewright1@worldbank.org Hisham Osman Senior Environmental Engineer Email: hosman1@worldbank.org
8. Project Concept Notes	1. Catalyzing Climate, Nature and People Investments for Resilient Landscapes and Communities in Kaduha-Gitwe Corridor (US$ 29 million) 2. Rwanda Wildlife Conservation Bond (US$ 2 million)

1.1 DESCRIPTION OF THE INVESTMENT PROPOSAL

1.1.1 National Context

Rwanda has the highest population density in continental Africa (World Bank, 2022), and its current annual population growth rate is 2.3%. Approximately 70% of the nation's population lives in rural areas (NISR, 2019), where they rely significantly on natural resources and subsistence agriculture for a living. The intensification of agriculture to suit the needs of a growing population has resulted in widespread use of unsustainable farming practices. Approximately 90% of Rwanda's agriculture is located on steep slopes, creating a national reliance on sensitive landscapes (NISR, 2019). Continuous farming and exploitation of natural wetlands, forests, and woodlands has degraded farmland and natural ecosystems, resulting in changes in land productivity, hydrology, and related processes. The impacts include decreased crop yields, increased rainfall runoff and reduced infiltration, increased soil erosion, sedimentation of waterways, loss of wetland water storage capacity, increased flooding potential, and increased landslides. These changes ultimately heighten the vulnerability of Rwanda's predominantly rural population to the effects of a changing climate which include more intense yet more erratic precipitation and increased frequency of drought and floods.

The target area for investments is the Kaduha-Gitwe Corridor in Southern Province. The corridor spans the districts of Nyanza, Nyamagabe and Ruhango which, amongst having some of the highest risks of landslides, also exhibit some of the highest levels of poverty in the country. The country's mountainous topography and steep ravines make it particularly

susceptible to landslides that result in loss of life and damage to housing, infrastructure, and livelihoods. Around 42% of the country's area is classified as being of moderate to very high susceptibility to landslides, with slopes ranging between 8 and 55%. The Northern, Western, and Southern Provinces are the most susceptible, with Nyamagabe District in Southern Province having the highest percentage (27%) of area classified as being of very high susceptibility (MIDIMAR, 2015).

1.1.2 Vulnerability to climate change

Rwanda's agriculture sector, which is primarily rain-fed, is extremely vulnerable to climate change, including increased droughts, floods, and landslides. When there is excessive rainfall over a short period of time, heavy storms and flash floods cause extensive agricultural damage and soil erosion. Increased and unpredictable rainfall may shorten seasonal rains, which reduces agricultural productivity when occurring near the end of a crop cycle. This inconsistency makes it difficult for farmers to plan their farming cycles. Topsoil loss alone is predicted to cost RWF 810 billion (US$ 623 million) per year (RWB, IUCN, 2022), while erosion destroys around six million tons of crops worth RWF 76 billion (US$ 58.5 million) per year (REMA, 2021). Rwanda's climate vulnerability is compounded by encroachment of human settlements and expansion of agricultural and livestock production into forested areas and increasingly marginal lands. This, coupled with unsustainable farming practices on steep slopes cause soil erosion, deforestation, water pollution, and an increase in greenhouse gas emissions.

1.1.3 Goals and Objectives

The goal of this Investment Plan (IP) is to catalyze investment in climate and nature related interventions, underpinned by Nature Based Solutions (NbS), to build resilient landscapes and communities. Application of a programmatic approach is central to Rwanda's efforts to build on previous and ongoing initiatives to optimize available resources across Rwanda's landscape for the benefit of its people.

The IP has the following strategic objectives:

- To **restore degraded landscapes** and the ecosystem services and climate benefits they provide *(risk reduction, resilience and climate mitigation);*
- To **promote more sustainable management and use** of forests, wetlands and farmlands and **protect existing productive land** *(food, energy and water security);*
- To **improve and diversify rural livelihoods** so as to reduce pressures on the natural resource base and enhance adaptive capacity, with a particular focus on women and other vulnerable groups *(resilience building).*
- **To expand Rwanda's financial innovation efforts by deploying a capital market structured bond that channels private capital to protect Rwanda's charismatic wildlife and strengthen the resilience of its habitats.** The financial instrument is an important step towards Rwanda's long-term vision to re-establish habitats that connect key biodiversity hotspots in its protected areas (Nyungwe, Gishwati-Mukura and Volcanoes National Parks) and promote conservation investments on private and community land. The protection of conservation areas will safeguard the survival of flagship species and sustain ecosystem services critical to livelihoods of local communities and an important source of foreign exchange and revenue for Rwanda's economy.

The proposed IP contributes towards an integrated, system-wide sustainable land management (SLM) approach that reconciles competing uses of land and other natural resources to unlock the potential of nature for climate action, and

simultaneously strengthen adaptive capacity and livelihoods of local communities. This will lead to improved health of the land and other ecosystems, reduced greenhouse gas emissions, and enhanced sustainability and climate resilience of livelihoods and businesses, thereby mobilizing additional public and private funding. The program is directly aligned with the Government of Rwanda (GoR) strategy for promoting green growth and enhancing climate resilience, which acts as a roadmap for Rwanda's transformation into a developed, climate-resilient, and low-carbon economy by 2050.

To realize this program, Rwanda's NPC IP was developed around two interlinked thematic focal areas:

1. Resilient Landscapes: Improved management of lands, forests, and wetland areas contributing to emissions reductions and climate resilience;
2. Resilient Livelihoods: Strengthened adaptive capacity and reduced exposure to climate risks.

These themes were used to guide the formulation of two project concepts to form the basis for the Investment Plan (IP). Efforts to restore Rwanda's degraded ecosystems and secure the ecosystem services they provide over the long term need to be accompanied by efforts to improve the livelihoods that depend on them. The proposed project concepts thus combine a focus on implementing SLM and climate-resilient farming measures at the landscape level. Its measures aim to strengthen local community capacities to design, implement and maintain nature-based solutions (including climate-resilient agricultural practices), to develop and strengthen value chains for climate-resilient farming and forestry practices, and to diversify livelihoods away from a direct reliance on the natural resource base.

The project concepts, core components, activities and allocation of CIF funding are summarized below.

Projects, components and activities	CIF NPC contribution (US$, millions)
Project 1: Catalyzing climate, nature and people investments for resilient landscapes and communities in Kaduha-Gitwe corridor	**29.00**
Component 1: Integrated catchment and landscape restoration	
A: Increase forest productivity and sustainable forest management	2.37
B: Promote climate-resilient farming practices	15.2
Component 2 – Ecological restoration of priority conservation areas	
A: Restore and protect wetlands and riverine ecosystems	4.39
Component 3 – Livelihoods diversification	
A: Strengthen awareness, knowledge, and capacity of local communities, policy- and decision-makers to design, implement, and maintain natural solutions that enhance climate resilience	1.79
B: Promote income-generating activities that support more climate-resilient livelihoods associated with increased forest productivity and sustainable forest management	1.66
C: Develop post-harvest value chains associated with climate-resilient farming practices	1.95
D: Catalyze income-generating activities that support more climate-resilient livelihoods associated with restoration and protection of wetlands and riverine ecosystems	0.40
Component 4 – Project management, monitoring & evaluation, gender mainstreaming, and capacity building	
A. Project management and co-ordination	
B. Capacity-building, M&R and gender mainstreaming	0.14
Project 2: Wildlife Conservation Bond	**2.00**

Projects, components and activities	CIF NPC contribution (US$, millions)
Component 1: Improve wildlife conservation management	
A. Implement Park restoration activities	
B. Enhance Park facilities	
Component 2: Enhance community resilience	
A. Support to local community enterprise development and livelihood interventions	
B. Deploy nature-based tourism strategy	
Component 3: Conservation success payment	2.00
TOTAL	**31.00**

1.2 INVESTMENT PLAN PROGRAM SUPPORT

The primary overarching challenges that this IP seeks to address are the high level of soil erosion caused by poor land management, vulnerability to climate change risks, and food insecurity due to low land productivity. Addressing these issues will result in enhanced economic development, better livelihoods, more job possibilities, stable and sustainable landscapes, lower greenhouse gas (GHG) emissions, and significantly increased carbon storage. The proposed projects are intended to be synergistic, with a focus on: (i) protecting intact ecosystems, rehabilitating degraded ecosystems, and promoting sustainable management for improved productivity; (ii) ensuring continuous provision of ecosystem services for climate adaptation and mitigation; (iii) reducing household vulnerability to climate change; (iv) supporting sustainable nature-based livelihood opportunities; and (v) diversifying livelihoods to reduce dependency on natural resources and increased adaptive capability.

All components will be based on fine-scale land use planning and promote sustainable agriculture to provide enhanced and alternative livelihood opportunities. A community-centric approach will be taken, to maximize learning opportunities for local communities and support for diverse farming techniques andaccess to the tools and financing to promote long-term sustainability. This approach will be gender-responsive and socially inclusive, with a view to providing targeted support to women and youth, who make up majority of the population within the beneficiary communities.

1.2.1 Government Policies and Strategies

The climate change objectives and commitments of the IP align with several national polices, strategies, and plans, such as the Vision 2050, the Green Growth and Climate Resilience Strategy (GGCRS), and the Nationally Determined Contribution (NDC). The IP will inform and be integrated into Rwanda's Sustainable Land Management (SLM) Framework and programmatic approach. This approach will optimize alignment and incorporate complementary initiatives and projects. In particular, the SLM will serve as a programmatic framework for projects from the Global Environment Facility's 8th replenishment (GEF-8), the Least Developed Countries Fund (LDCF) II, and the Global Biodiversity Framework Fund (GBFF). It will also align with the Forest Investment Plan and the recently improved investments from the Green Climate Fund (GCF).

1.2.2 Delivery Mechanisms

A substantial part of the NPC investment leverages financing and technical capacity from MDB-funded projects, including projects financed by the World Bank and the African Development Bank related to livelihood development, biodiversity conservation, climate resilience, forestry and agro-forestry management, and climate smart agriculture. This phased approach will allow for scaling of interventions as additional funds are secured. Furthermore, it will use and build on existing arrangements and governance structure under the existing Volcanoes Community Resilience Project (VCRP) – a programmatic approach that enables streamlined implementation. REMA, RDB and other project partners are key executing agencies in VCRP and other projects.

There are several delivery pathways envisaged for the implementation of the IP. The use of farmer cooperatives and community-based organizations will facilitate collective action and equitable resource sharing. Extension services/officers, Farmer Field Schools (FFS), and demonstration plots will be used to disseminate knowledge and skills while also providing hands-on training. To have meaningful impact, the project also intends to cooperate with and build on current community activities.

1.2.3 Knowledge and Information

Apart from promoting knowledge-sharing amongst local communities, the IP will also draw benefit from lessons from successful initiatives such as the integrated Green Gicumbi project even as it seeks to generate evidence-based insights and innovative solutions for climate adaptation and mitigation by piloting short term research studies in the Corridor. The aim is to identify more resilient and productive interventions that suit the current context in Rwanda, as well as the needs and capabilities of the communities. Studies will test new species and varieties needed to adapt to future climates. The gender-responsive approaches adopted will also contribute to the globally growing body of literature on mainstreaming gender in NbS and climate action.

1.2.4 Skills Building

Community members require additional training to fully profit from novel interventions. Training sessions, workshops and demonstrations, including the FFS method, will enhance their knowledge and build capacity. Sample programs to build local capacity will include training on climate-smart agriculture and agroforestry techniques. Skills development initiatives will focus on sustainable land management practices, including soil conservation, water management, and biodiversity conservation. To improve access and timeliness of know-how, an enhanced field extension service will be tailored in addition to this. In addition, a Technical Assistance Facility (TAF) tailored to identified demand for essential skill sets may be established to support micro and small forest and farm enterprises with business incubation services and technical assistance.

1.2.5 Fiscal Support

Financial incentives, including subsidies and grants to support climate smart agriculture, agroforestry, and forestry will be made available to community members following successful experiences working with cooperatives in the GCF-funded investments in Green Gicumbi. Furthermore, the IP will endeavor to make available credit facilities to access affordable financing or capital for sustainable land management activities. CIF NPC investments will leverage co-financing from the

GoR, the World Bank, African Development Bank (AfDB), and the International Finance Corporation (IFC), and other development partners to mobilize additional resources for climate adaptation and mitigation projects. Consideration will be given to the establishment of a Community Adaptation Fund (CAF), successfully used in the Green Gicumbi project, to provide grant funding to districts and civil society organizations (CSOs) for ecosystem protection and restoration activities. A TAF could assist in developing alternative income-generating activities (IGAs) by providing financing for early-stage businesses and other innovative financing arrangements that promote the nature economy and sustainable resource use.

1.2.6 Standards and Guidelines

The IP encourages adherence to CIF technical standards and guidelines for implementing climate mitigation projects. In addition, the project has created a set of indicators to assess the impacts and overall success of the activities that will be undertaken. A structured grievance procedure and participatory monitoring tools are proposed to address issues and ensure accountability and transparency within the Gender, Equality, and Social Inclusion (GESI) framework.

1.2.7 Environmental and Social Risk Management

Identifying and properly managing risks is critical to the IP's long-term viability and impact. Managing risks requires a diverse approach, which includes risk assessment, adaptive management, stakeholder involvement, capacity building, and financial planning. The IP has taken a proactive approach to identifying a variety of risks that could potentially hinder the implementation of the plan. As such, a host of risk reduction measures in the following areas: institutional, technological, social, financial, and environmental, have been suggested. These will be managed in accordance with the World Bank's Environmental and Social Framework (ESF).

1.2.8 Institutional Structures

The IP will aid in strengthening government institutions, departments, and agencies that manage climate change adaptation, mitigation, and natural resource management. The plan further supports the development of multi-stakeholder platforms to enhance collaboration and information sharing. Locally led participation of community-based organizations, private sector, and research institutes will be encouraged to foster inclusive decision-making and partnerships.

1.2.9 Cross-sectoral Coordination

The IP promotes the integration of climate adaptation and mitigation objectives across key sectors, including agriculture, forestry, environment, finance, tourism, and planning. It incentivizes strong collaboration and coordination among relevant ministries, departments, and implementing agencies. The alignment of cross-sectoral activities inherent in Rwanda's SDG, NDC, CBD, GGCRS and Vision 2050 commitments will optimize synergies and co-benefits across sectors.

1.3 INSTITUTIONAL ARRANGEMENTS

The technical Ministry responsible for environmental management and climate change and natural resources in Rwanda is the MoE. To discharge its mandated responsibilities, the Ministry coordinates its affiliate agencies that include Rwanda Green Fund (RGF), Rwanda Meteorology Agency (METEO Rwanda), Rwanda Forest Authority (RFA), National Land Authority (NLA) and Rwanda Environment Management Authority (REMA). The RFA aims to ensure the growth of forest resources, including their management and protection for the purposes of sustainable development (Rwanda Forestry

Authority, n.d.), REMA provides advice to the government on all matters pertinent to the environment and climate change. RGF is Rwanda's engine for climate finance mobilization and coordination with donors, NGOs and other partners on climate finance, to invest in public and private sector projects to drive transformative change. Other key institutions include the National Land Authority, Rwanda Agriculture and Animal Resources Development Board, Rwanda Water Resources Board, and Rwanda Meteorology Agency. MINECOFIN is strengthening its capabilities to support economy-wide investments to scale climate and nature action, including with the creation of a new Climate Finance and Green Growth Unit and development of a national Climate and Nature Financing Strategy.

Responsibility for the overall supervision of the IP will reside with the MoE which will work in close co-operation with MINAGRI and MINALOC. Delivery of the IP will be overseen by a Steering Committee at the national level, and district authorities at local level. The Steering Committee will be chaired by the MoE with RGF as the Secretariat and will comprise representatives from MINAGRI and MINALOC, key implementing agencies (RWB, RAB, RFA, REMA, RGF, NLA, NAEB and GMO), Rwanda Climate Change and Development Network (RCCDN) as a CSO body, Private Sector Federation (PSF) as a private sector representative, and governmental representation from the Southern Province. The Steering Committee will be supported by a Technical Committee which will provide technical oversight and advice to guide the implementation and monitoring and evaluation of projects. The Technical Committee will comprise technical staff from relevant agencies (RWB, RAB, RFA, REMA, RGF, NLA, NAEB, and NWC), as well as representatives from each of the district-level governments, and from academia (University of Rwanda). The RGF, with its governmental mandate and experience in executing other CIF programs, will act as the Executing Entity and will play a coordinating role for the Technical Committee. It will ensure that there is strategic co-ordination across the program and will support the integration and streamlined reporting for each project. Fiduciary and procurement issues will be handled by a dedicated Project Management Unit (PMU) established by RGF to serve as the link between the Executing Entity, the districts, and projects. Working closely with Project Implementation Units (PIUs) at district level, the PMU will be responsible for the day-to-day operation and management of the NPC program, including work planning, financial monitoring and reporting. The PIU will operate through the District Agricultural and Natural Resource Units.

At the project level, the World Bank will be the main implementing agency. RGF will provide the overall coordination of the executing agencies (REMA, RFA, RWB, RAB, NAEB, and MINAGRI) and district officials and local communities through a participatory process to identify catchment investments that deliver the greatest benefits through work in upper sub-catchments and work downstream in a sequential manner. Other agencies that may play a role in steering project activities include the NLA, Meteo Rwanda, GMO, the NWC, NGOs and CSOs, other public and private sector partners (including the PSF) and academia.

These institutional mechanisms are already in use for the Volcanoes Community Resilience Project (VCRP) – comprising the Project Coordination Units (PCU), National Steering Committee, National Technical Advisory Committee, District Project Coordination Committee (DPCC), and Community Coordination Committee (CCC) – will coordinate CIF NPC project implementation. The CIF NPC IP will build on and align to VCRP institutional mechanisms to provide a robust governance structure, project management, and sharing of technical expertise and tools.

Beneficiary communities will execute activities aimed at reducing flood risk and catchments/landscapes restoration. It will support establishment and strengthening of existing community structures to ensure strong community engagement.

1.4 EXPECTED RESULTS, OUTCOMES, AND IMPACT

1.4.1 Expected results

- Increased adoption of agroforestry and climate-smart agriculture by smallholder farmers;
- Increased adoption of sustainable forestry practices by smallholder foresters;
- Preservation of remnant forests and restoration of riverine buffers and wetlands;
- Increased participation of women and youth in sustainable land management, climate-smart agriculture and forestry - related value chains and decision-making forums;
- Reduction in the rate of sedimentation and enhanced soil fertility;
- Improved water availability (increased infiltration leading to higher soil moisture content);
- Increased agricultural and forest productivity;
- Enhanced biodiversity and supply of ecosystem goods and services;
- Increased ability of rural communities to withstand the effects of climate change through diverse sources of income and livelihoods.

1.4.2 Expected outcomes

This will be achieved through a series of intermediate outcomes which are:

- Natural forests protected, connected, more resilient to climate impacts and risks;
- Carbon sequestered;
- Climate-resilient food sources and livelihoods Habitats for biodiversity created or improved;
- Improved flood attenuation, reduced erosion and siltation of rivers;
- Empowered women and youth;
- Incomes generated for rural livelihoods, reducing pressure on forests and other natural resources;
- Sustainable flows of finance generated;
- Improved biodiversity that supports eco-tourism and the livelihoods of local communities.

These outcomes are fully coherent with the CIF NPC IP results framework and support the following program-level indicators:

A. Improved management of natural resources.
    - **NPC CORE 1. Mitigation:** GHG emissions reduced or avoided or enhancement of carbon stocks (mt CO_2 eq) – direct/indirect.
    - **NPC CORE 2. Land Area:** Area of land or other physical environments covered by climate-responsive natural resource management practices (ha) – mitigation/ adaptation.

B. Increased adoption of sustainable supply chains.
    - **NPC CORE 3. Sustainable Supply Chains:** Number of firms, enterprises, associations, or community groups that have adopted a sustainable supply or value chain approach (#).

C. Strengthened enabling environment for sustainable uses of land and other natural resources.
    - *OPTIONAL: Number of people from targeted institutions and communities trained in climate-responsive measures (women and men).*

D. Increased access to capital and budgeting for sustainable uses of land and other natural resources

- None.

E. Mobilized public and private capital.
   - **NPC CORE 5. Co-Finance:** Volume of co-finance leveraged (USD) –mitigation/adaptation.

F. Rural communities and Indigenous Peoples' sources of livelihoods improved.
   - **NPC CORE 6. Livelihoods**: Number of people receiving livelihood benefits.
   - **NPC CORE 7. Jobs:** Number of jobs created – direct and indirect.
   - *OPTIONAL: Increase in annual mean household income/ consumption.*
   - *OPTIONAL: Reduction in moderate or severe food insecurity.*

G. Business case for private sector investments demonstrated.
   - **NPC CORE 8. Private Sector Investments:** Number (#) and value (US$) of CIF-supported private sector investments in sustainable land or natural resource management – mitigation/ adaptation.

H. Fostered innovation.
   - **NPC CORE 9. Innovation:** Number of innovative businesses, entrepreneurs, technologies, and other *ventures demonstrating a strengthened climate-responsive business model.*
   - *OPTIONAL: Number of innovative products, services, technologies, and processes that have entered a new market context.*

Rwanda's IP will also result in important co-benefits including the emergence of nature-based and nature-positive enterprises within the Kaduha-Gitwe corridor, improved social inclusion and more equitable distribution of wealth and benefits, and the creation and/or enhancement of habitats for biodiversity.

1.4.3 Expected impact

The program impact of the implementation of the CIF NPC IP is:

- Improved management of lands, forests, and wetland areas contributing to emissions reductions, climate resilience and reduced exposure to climate risks through strengthened adaptive capacity.

In line with the CIF Results Statement, "Improved use and management of land and other natural resources for low-carbon and climate-resilient livelihoods and businesses", the following Program-Level Impacts will be tracked:

- Poverty rates (%).
- Prevalence of moderate and severe food insecurity (%).
- National / territorial agricultural land (%).
- National / territorial rates of deforestation (ha per year).
- National / territorial rates of land degradation (ha per year).
- National / territorial rates of erosion (ha per year).

Consultations

Stakeholder consultation and engagement during development of the IP were focused on enabling stakeholder participation by providing insights and information, as well as participating in consultations, workshops, field visits, and relevant meetings to contribute to a collaborative co-creation process. During the study's Inception Phase, the team engaged with RGF, World Bank, AfDB and IFC representatives to establish a comprehensive stakeholder database that was used to target engagements during development of the IP. Stakeholders fell into the following broad categories:

- Government, including National and District level representation,
- Civil society organizations,
- Academia,
- Private sector
- Development partners
- Local community members (during field visits).

The following stakeholder engagements and field visits occurred over the course of the development of the IP, namely:

- The Discovery Mission,
- The Technical Field Visit,
- The Joint Mission and field visit, and
- The Draft IP Workshop.

Detail on the Stakeholder Engagements that have been held to inform the development of this IP is contained in **Appendix C**.

2 Country Context

Rwanda, nestled in the heart of East Africa, has emerged as a beacon of progress and resilience, transitioning from the shadows of a tragic past towards a future of promise and sustainable development. Now, the country stands at a pivotal juncture in its development trajectory. Demographic shifts, urbanization, poverty, and food insecurity are shaping the socio-economic landscape at the same time that the people and economy (most notably agriculture, tourism, and energy) are highly dependent on its natural resource base. Rwanda therefore faces a challenge of balancing competing objectives between economic development and environmental protection – a mandate made more difficult by the exacerbating effects of climate change.

This chapter explores these developmental challenges and opportunities by providing a brief overview of the country's environmental, social, economic, policy and institutional context.

- **Section 2.1** demonstrates Rwanda's high dependence on its natural resource base, both in terms of economic sectors at the national level and local livelihoods.
- **Section 2.2** explains how the sustainability of Rwanda's ecosystems and the services they provide are under increasing strain from land degradation effects associated with a growing population and persistent poverty levels.
- **Section 2.3** provides evidence of the exacerbating impacts of climate change on the sustainability of Rwanda's natural resources.
- **Section 2.4** offers insight into the country's policy and institutional landscape.
- **Section 2.5** considers Rwanda's development gaps, barriers and needs from the country context to offer an investment rationale.

2.1 ENVIRONMENTAL CONTEXT: RWANDA'S DEPENDENCE ON NATURAL RESOURCES

The status and future of Rwanda's ecosystems and people are tightly intertwined: both are heavily dependent on the natural resources and processes that provide a foundation for their ability to thrive. Rwanda's forest, savanna, farmland, and natural and modified wetland ecosystems provide a wide range of valuable services and benefits to people. These include hydrological and microclimate regulation, global climate regulation, soil conservation, opportunities for eco-tourism, and provisioning services such as crops, fodder for livestock, water and energy supplies, and timber.

Functioning ecosystems and intact natural resources underpin Rwanda's most important sectors. Agriculture, for instance, contributes 25% to the national GDP (NISR, 2023d) and employed 55% of the working population in 2021 (World Bank, 2021). The sector is not only critical to guaranteeing food security and rural livelihoods, but it is also a significant engine of the country's economic growth and poverty-reduction efforts. It encompasses a diverse range of activities, including crop cultivation, livestock rearing, and agro-processing, and its resilience and productivity are essential for ensuring food security, poverty reduction, and sustainable development across rural and urban communities. The agricultural sector is also a key employer of females. The percentage of agricultural employment is higher among females (77%) than males (58%) (NISR, 2023d); conversely the percentage of non-agricultural occupations is higher among males than females. This gender

disparity reveals two key observations: first, females have more limitations in accessing non-agricultural occupations compared to males; and second, women's significant reliance on agricultural-related livelihood opportunities hinders their ability to adapt to climate change. **Box 2.1** below captures some of the key barriers women face in this regard.

Box 2.1. Gender disparities and barriers to women's empowerment and resilience in the agriculture sector

Female farmers in Rwanda identify agriculture as their primary occupation, underscoring the significant contribution of women to the sector (NISR, 2020a). As small-scale farming becomes increasingly unsustainable, Rwandan women face unrealistic expectations to provide income and food for their families. This strain is particularly pronounced when men migrate to urban areas in search of work, leaving women to fend for themselves and care for their children. As a result, these female headed households (HHs) – particularly in the Southern and Eastern provinces – face notable disparities in terms of farming practices and access to support, compared to male headed. For example, 24.6% of female HHs concentrate exclusively on crop cultivation, which is typically highly climate-sensitive; conversely 79.6% of male HHs integrate both crop farming and livestock husbandry. (Kvinna till Kvinna Foundation, 2021) Such diversification can be an important factor in enhancing household resilience. These female HHs also predominantly receive information on nutrition and food security and horticulture skills, which – while highly useful and important – does reflect limitations around opportunities to expand their knowledge on climate-smart, income generating practices (Nyiransabimana, 2018).

These gender gaps in the sector are linked to gendered differences relating to land access and tenure security, access to finance, extension services and hired male labor, access to high-value inputs and equipment, and access to information and upskilling on climate-smart techniques (UNWomen, 2022). It is therefore critical to consider the way in which women are engaged and empowered to support Rwanda's commitment to enhance the resilience and productivity of its agriculture sector through the promotion of agro-ecology, crop variety development, and promoting climate-resilient cultivars and animal breeds for local and export markets as per Vision 2050 and the GGCRS (Government of Rwanda, 2022).

Healthy natural resources and functioning ecosystems are also vital to Rwanda's key economic sectors, such as energy, forestry and tourism.

- *Energy:* Although Rwanda has made significant strides in providing its population with access to electricity, from an electrification rate of less than 10% in 2010 to 61% in 2022 (IEA, 2023), access to electricity in rural areas remains limited (Ahmed, 2020). It is estimated that around 76% of Rwandan households (88.5% in Southern Province) still rely primarily on fuelwood, and 17% on charcoal, for cooking (NISR, 2022). This reliance highlights the critical role that healthy and productive forests play in sustaining livelihoods and supplying basic energy needs for a substantial portion of the population. Elsewhere, Rwanda's rivers offer significant hydropower potential, serving as a critical source of power generation for national industrial and domestic needs alike. Hydropower accounts for one third (50 MW) of the national electricity generating capacity (Government of Rwanda, 2020).
- *Forestry:* In 2022, the forestry sector contributed 6% to the country's GDP, having grown at a stable 4.5% average annual growth rate over 2017-2022 (NISR, 2023d). In addition to its timber value, forests offer significant provisioning (notably household wood fuel), regulating (carbon sequestration, watershed protection and soil conservation) and supporting (biodiversity and ecotourism) ecosystem services. Forests, as the habitat for the charismatic gorillas and chimpanzee populations, hold the base for the country's tourism opportunities which

generated US$458 million in export revenues (equivalent to 4.4% of GDP) in 2019. In that same year, tourism to visit the gorillas generated 21 percent of total tourism revenue. The numbers in 2022 have rebounded post COVID and are reaching similar levels.

- *Tourism:* Nature-based tourism (or ecotourism) – tourism to experience natural resources in a wild or undeveloped form – is supported by the country's rich biodiversity and landscapes, playing a significant role in the economy by attracting visitors and generating revenue through activities such as gorilla trekking and wildlife safaris. Ecotourism accounted for 80% of all leisure and business visitors in Rwanda (World Bank, 2023) and generates a substantial source of foreign exchange earnings, as noted above. Nature-based tourism, which accounts for 43% of jobs outside of agriculture (World Bank, 2023), also provides an important income stream for local communities, with high job multiplier effects in Rwanda's broader economy. It is estimated that for every US$1 million (about RWF 1,299 million) that nature-based tourism activities inject into the economy, an additional 1 328 new jobs are created (World Bank, 2023)

While underpinning much of the country's economy and livelihoods opportunities, Rwanda's natural resources and the critical ecosystem services they deliver to people – especially those who are most vulnerable in Rwandan society – are under significant strain (Bagstad, 2019). Ecosystems are being degraded by human activities like deforestation (with forests having been reduced in extent, fragmented, and degraded by agricultural encroachment), unsustainable farming practices, competition over scarce land, overuse of resources, pollution, and introduction of exotic species (USAID, 2019). For example, rural lands with steep slopes have experienced increasingly extensive and intensive farming practices, occurring on progressively steeper inclines (Camberlin, 2018; Seimon, 2022), while wetlands have been converted for agricultural use or energy production (USAID, 2015a). **Table 2-1** summarizes the key direct and indirect drivers of land degradation in Rwanda.

Table 2-1: Main direct and indirect drivers of land degradation in Rwanda. Adapted from (Bizimana, 2018)

Direct drivers	Indirect drivers
Climate change	
Natural causes (Rwandan soils with steep slopes are vulnerable to erosion, landslides, flooding)	Population pressure
Deforestation and removal of natural vegetation cover	Poverty
High evapotranspiration	Limited access to knowledge and support services
Improper management of soil	Low level of mineral fertilizer application
Overexploitation (of vegetation, overgrazing)	Governance, institution settings, and policies (including taxes, subsidies, incentives)
Industrial activities, waste deposition, mining and quarrying	Compliance with land use and management policies/plans
Urbanization and infrastructure development	
Disturbances of water cycle	

Soil erosion, driven by unsustainable human activities and changes in land use, is one of Rwanda's most significant environmental challenges in many catchment areas. The economic impact of topsoil loss alone is estimated at RWF 810 billion (US$623 million) per year (RWB, IUCN, 2022), while roughly six million tons of crops, valued at RWF 76 billion (US$58.5 million)are lost each year due to erosion (REMA, 2021). The main factors affecting the amount of soil eroded include land use and vegetation cover, soil, climate, and importantly topography. It is estimated that 90% of Rwandan territory lies on

slopes that present risks of soil loss, erosion and decreasing fertility. A national erosion mapping report (RWB, IUCN, 2022) found that 45% of land in Rwanda's 30 districts is considered high erosion risk. Of the land at high risk to erosion 6.7% is extremely high risk, 17.6% very high risk and 27.8% high risk. 47.9% of the total land at risk is considered moderate risk (RWB, IUCN, 2022).

Degradation of Rwanda's ecosystems is compromising their ability to provide critical services such as soil retention (World Bank, 2019), flood mitigation (Karamage, et al., 2017), the provision of reliable and clean supplies of water, microclimate regulation, carbon storage (Mugabowindekwe, et al., 2023), and agricultural productivity potential. This in turn threatens the livelihoods and incomes of those who rely on them. Rwanda's capacity to adapt to this threat is hindered by constrained government resources, a limited natural resource base being utilized by a growing population (explained in greater detail in **Section 2.2**), and the exacerbating effect of a changing climate (detailed in **Section 2.3**).

Furthermore, unsustainable land management practices and ecosystem degradation make a significant contribution towards the country's total greenhouse gas (GHG) emissions. Although Rwanda's share of GHG emissions is small, both regionally and globally, agriculture, land use change and forestry were responsible for around 62% of the country's total GHG emissions in 2020 (Climate Watch, 2024). Based on climate modelling for the 2015 baseline year, the country's total GHG emissions were 5.3 million metric tons of CO_2e ($MtCO_2e$) (Government of Rwanda, 2020). On a Business-as-Usual trajectory, emissions trajectories would result in annual GHG emissions of 7.42 $MtCO_2e$ in 2020, 9.61 $MtCO_2e$ in 2025, and 12.1 $MtCO_2e$ in 2030 (Government of Rwanda, 2020). Over the 2020–2030 timeframe, the agricultural and energy sectors are anticipated to experience the biggest increases in emissions. Rwanda thus recognizes the need to implement coordinated low-carbon interventions to reduce the carbon intensity of its economic operations and transition to lower-carbon techniques in the energy and agriculture sectors in order to fulfil its climate change mitigation obligations (**Figure 2-1**), in line with its Vision 2050 to become a carbon neutral economy (Government of Rwanda, 2020).

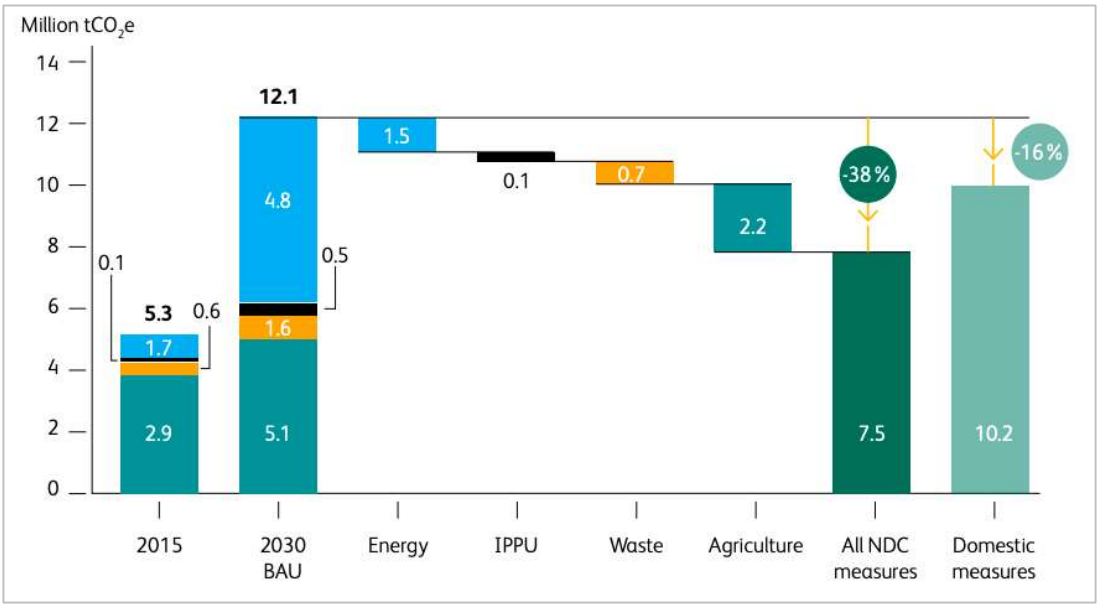


Figure 2-1: Rwanda's NDC commitments by sector, to reduce GHG emissions from 2030 BAU levels (Government of Rwanda, 2020)

The country's updated NDC (Government of Rwanda, 2020) thus identifies a number of actions aimed at reducing emissions from agriculture and enhancing the sink capacity of forests. These include soil and water conservation (crop rotation,

terracing, multi-cropping), conservation tillage, improved livestock husbandry, improved manure management, development of post-harvest and value addition facilities and technologies, promotion of agroforestry, afforestation and reforestation, and improved forest management.

2.2 DEMOGRAPHIC AND SOCIO-ECONOMIC CONTEXT

The sustainability of Rwanda's ecosystems and the services they provide is under increasing strain from a growing and densifying population, as well as persistent poverty that limits alternative livelihood opportunities for the country's rural majority. Over the past six decades, Rwanda's population has grown more than fivefold, from 2.6 million in 1960 to 12.9 million in 2021 (REMA, 2021), making it the most densely populated country in Africa at 503 inhabitants per square kilometer (NISR, 2023b). This dense population distribution underscores the significant pressure exerted on limited land resources and infrastructure, particularly in urban centers and densely populated rural areas. Concurrently, poverty remains a pressing concern, despite positive strides in alleviation efforts over the past two decades. As of 2021, the poverty rate stood at 38.2%, with rural areas bearing the brunt with 85% of the poor; inequality, as measured by the Gini coefficient, stood at 0.43, indicating moderate levels of income inequality (REMA, 2021). The central region (including Kigali) presents the lowest poverty levels and the Southern region the highest. Concerningly, between 2014 and 2017, the Southern Province experienced the highest increase in poverty, leading to a poverty rate of 41.4% from 38,4%, meaning an increase of 3% (NISR, 2018d). Rwanda's poverty profile indicates that women are more affected by poverty than men, with 47% of female-headed households being labelled as poor compared to 44.9% of all households in this category (NISR, 2018d).

Rapid population growth rate combined with high poverty levels is concerning as it drives unsustainable land degradation impacts, characterized by land use change, overexploitation of natural resources and pollution. For example, for many rural households, productive agricultural land is limited. Farmers are therefore compelled to encroach into previously undeveloped areas, reducing natural vegetation and exacerbating slope destabilization and soil erosion. This in turn leads to heightened runoff and river flow, affecting water availability, elevating the risk of landslides and soil erosion, and diminishing both infiltration and groundwater replenishment.

Food insecurity is an additional socio-economic challenge, one that persists in Rwanda with 19% of households facing moderate to severe food insecurity (with rural areas disproportionately affected). Food insecurity drives malnutrition, reflected in the high stunting rates among children – 33% in 2020 – which impedes human capital development (World Bank, 2020). Food insecurity is largely due to challenges of affordability and availability combined with rising urbanization rates, making Rwanda's food security well below the average for low-income countries (World Bank, 2022). Only 13.5% of arable land benefits from irrigation, suggesting high exposure and vulnerability to climate shocks (Rwanda Agriculture and Animal Resources Development Board, 2020). While agricultural practices have improved, crop productivity remains low, averaging 1.4 tons per hectare (Food and Agriculture Organization, 2021).

The coupling of stressed ecological and socio-economic systems has led to a negative feedback cycle. For example, having little access to alternative sources of livelihoods or capital to enable change (Clay & King, 2019), smallholder farmers have consequently increased pressures on natural forests for land, fuel, and other forest resources. Such pressures in turn cause further forest loss and degradation and decline in biodiversity – reducing their ability to provide essential ecosystem services to people living in the landscape and across the nation, including tourism revenues and employment that are of

national importance. One such pressure – demand for fuelwood – is substantial given that a recent GoR census found that 77% of Rwandan households still use wood as their primary fuel for cooking (NISR, 2021). The demand for wood exceeds supply with a demand to supply ratio of 2:1 with the shortage projected to increase (REMA, 2021). Overall, the ecological and socio-economic systems are caught in a negative cycle that has proven difficult to break, despite significant sector-specific efforts.

2.3 CLIMATE CONTEXT

Climate change exacerbates drivers and impacts of land degradation in Rwanda's already strained systems, which are showing clear signs of breakdown. Greater variability in the timing and intensity of rains along with rising temperatures are causing increased landslides and soil erosion (Gariano & Guzzetti, 2016), prolonged dry spells (Tichavský, Ballesteros-Cánovas, Šilhán, Tolasz, & Stoffel, 2019), and unpredictable timing for agricultural plantings and harvest (World Bank; CIAT, 2015). This is reducing farm productivity and food security, driving even greater pressures on forests and wetlands, thereby further compromising the essential ecosystem services that are necessary to such well-being. These trends are set to continue, with their resulting impacts expected to worsen in the future.

2.3.1 Current Climate

Rwanda is located between 1.5 and 2.9 degrees south of the equator. It is highly elevated, ranging in altitude between 850 meters above sea level in the eastern areas and 4 500 meters above sea level in the west and southwestern regions. This elevation range means that the country experiences relatively cool temperatures compared to other equatorial countries, but also a relatively wide range of temperature, with mean annual temperature varying between 24°C in the low-lying areas and lower than 17°C in the highlands (Rwanda Meteorology Agency, 2024). Rainfall within the country is spatially and temporally unevenly distributed. The higher lying western areas, which experience very high mean annual precipitation (MAP) of up to 1 700mm of rain a year, create a rain shadow for the lower lying central and eastern areas which result in a semi-arid climate there with MAP in some areas being as low as 830mm (**Figure 2-2**). Rainfall is bimodally distributed with the highest rainfall falling between March and May and between September and December (Rwanda Meteorology Agency, 2024).

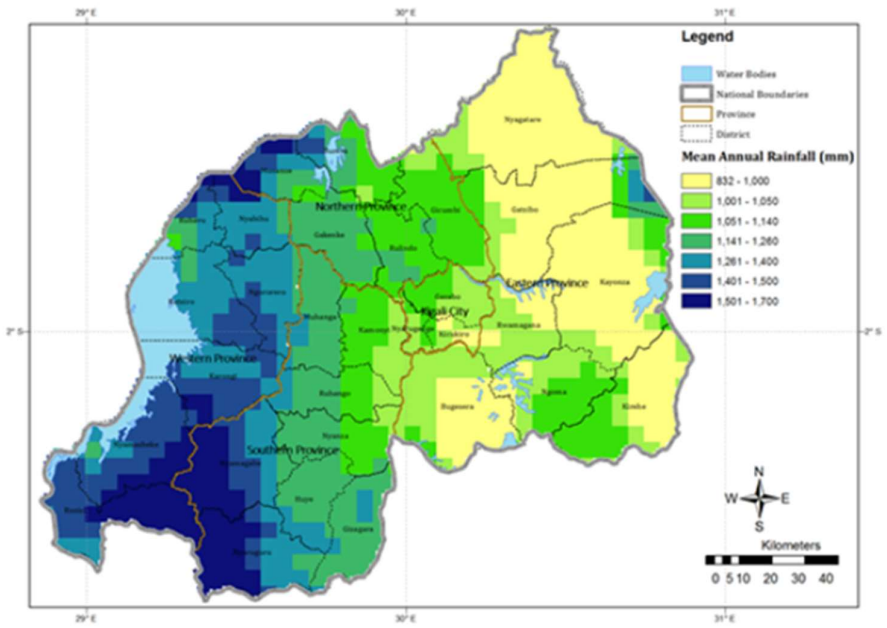


Figure 2-2: Mean Annual Rainfall for Rwanda (Rwanda Meteorology Agency, 2024)

As noted in the country's Revised GGCRS, Rwanda's land is an important factor in the country's climate change vulnerability. The significant topographical and climatic gradient across the country means that the nature of the threats posed by a changing climate varies spatially. In the more mountainous and wetter western areas, the topography makes the area particularly prone to flash floods and landslides, whilst in the dryer eastern areas, drought is the most relevant climate related hazard (**Figure 2-3**) (REMA, 2015c).

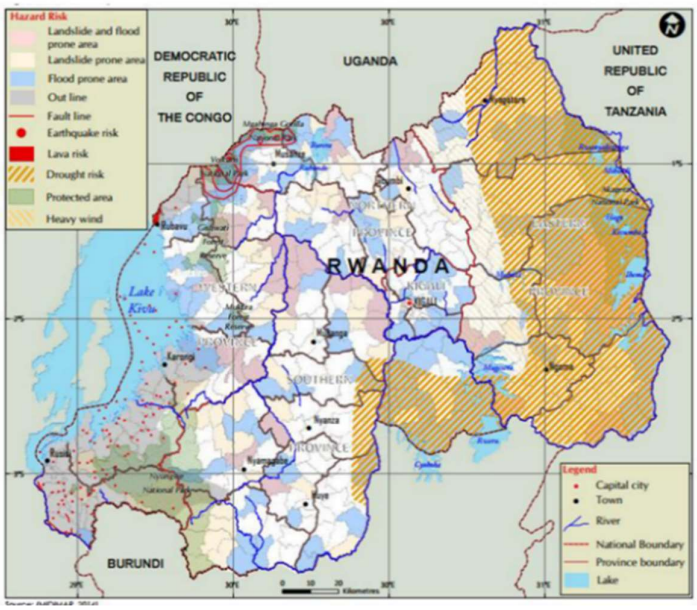


Figure 2-3: Distribution of environmental hazard risk in Rwanda (REMA, 2015c)

Rwanda has experienced significant natural disasters in recent history. Table 2-2 presents a summary of the number of incidents and their severity between 1900 and 2020.

Table 2-2: Natural Disasters in Rwanda, 1900–2020 (Centre for Research on the Epidemiology of Disasters, 2023)

Natural Hazard 1900-2020	Subtype	Events Count	Total Deaths	Total Affected
Drought	Drought	6	237	415 654
Epidemic	Bacterial Disease	11	317	7 259
Earthquake	Ground Movement	2	81	2 286
Flooding	Flash Flood	4	34	26 051
	Riverine Flood	10	170	85 739
Storm	Convective Storm	2	3	6 553
Landslide	Landslide	5	117	11 949

Moreover, the frequency and severity of drought, landslides, and flooding has increased markedly since 2000 as shown in **Figure 2-4** (World Bank, 2021). Floods effect on average about 5,000 people every year, more than 0.04% of the total population and around 0.22% of the GDP of the country (UNDRR and CIMA, 2019). The average annual value of direct economic losses is approximately US$55 million per year, with the Western and Southern Provinces being worst affected. Across sectors, the agricultural and transportation sectors typically experience the largest direct economic losses (UNDRR and CIMA, 2019). However, the floods and landslides experienced in May 2023 which caused substantial damage to housing and infrastructure and the loss of over 130 lives provide an indication of the increasing severity of events. A post-disaster needs assessment estimated that the Government of Rwanda would need at least RFW 518.58 billion (US$415 million) to recover from the physical damages and economic losses caused by the floods and landslides (MINECOFIN, 2023). Overall, total direct and indirect losses and damages were expected to reduce the 2023 real GDP growth to 5.8 percent compared to the 6.2 percent projected before the disasters, a notable decline from the growth rates of the post-COVID-19 pandemic (MINECOFIN, 2023).

In the case of droughts, it is estimated that on average about 700,000 people (6.3% of the population) are currently exposed to droughts per year, but that this could increase to 30.9% by 2050 accounting for population growth (UNDRR and CIMA, 2019).

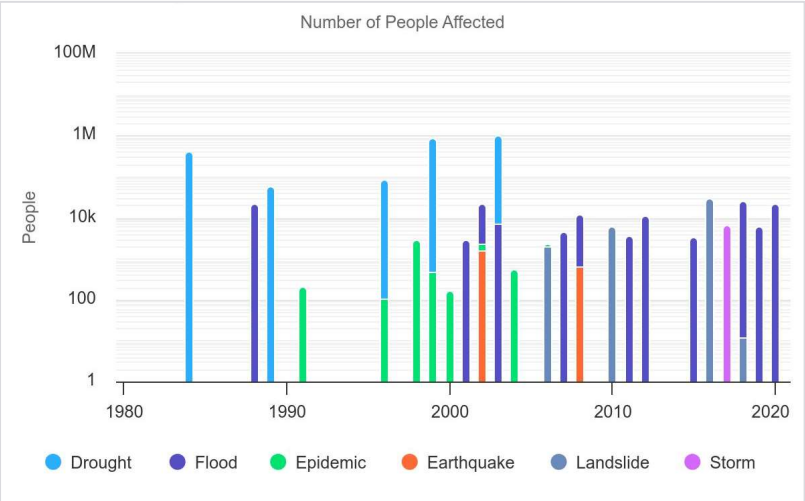


Figure 2-4: Key Natural Hazard Statistics for 1980-2020 (World Bank, 2024)

Land scarcity and population growth has led to settlements developing in areas with high risk of flooding or landslides further exacerbating the impacts of these incidents on lives and livelihoods (World Bank, 2021).

2.3.2 Future Climate

Extreme weather conditions, such as severe droughts and floods, are projected to happen more frequently due to climate change. Based on modeled data from the global climate model compilations of the sixth phase of the Coupled Model Inter-comparison Projects (CMIP6), Rwanda is likely to experience (World Bank Group, 2024)

1. An increase in temperatures with projections showing a change in mean annual temperature relative to a 1995-2014 baseline of +0.82°C in the period 2020-2039, +1.75°C in the period 2040-2059 and up to +4.04°C in the period 2080-2099 under SSP5-8.5, using the 50th percentile;
2. An increase in annual rainfall, with the increase likely to occur during the main rainy season. Projections indicate an increase in mean annual precipitation of 41.27 mm (2.16%) in the period 2020-2039, 63.25 mm in the period 2040-2059, and 175 mm (9.37%) in the period 2080-2099 relative to a 1995-2014 baseline and using the 50% percentile;
3. An increase in the frequency and intensity of heavy rainfall; and
4. An increase in the frequency of extreme weather events. For example, the largest 1-in-50 year precipitation event is expected to occur approximately every 34 and 35 years under SSP2-4.5 and SSP5-8.5 respectively for the period 2010-2039 (centered on 2025) and every 25 and 18 years for the period 2035-2064 (centered on 2050) .

These changes manifest as risks to the national economy and the lives and livelihoods of the majority of rural Rwandans through increased potential for the occurrence of hazards such as droughts, floods, and landslides, which result in damage to crops and infrastructure, loss of life and property and which contribute to soil erosion and water pollution. For example, the average number of people potentially affected by flooding is expected to almost double, from 5,000 at present to almost 10,000 by 2050, while the population exposed to drought is expected to increase from 700,000 people (6.3% of the population) per year on average at present, to seven million (30.9% of the population) by 2050 when accounting for changes in both climate and the growth of the population (UNDRR and CIMA, 2019). Furthermore, the Rwanda CCDR (World Bank, 2022) estimates that if the projected climate risks materialize, Rwanda's GDP levels could drop by 5-7% below baseline[1] in several years between the present and 2050. During a year of severe floods (e.g., a 100-year flood), such extreme events are forecast to reduce GDP by an additional 4.4 percentage points below the baseline scenario during the flood year.

Famine, population displacement, violence, and a loss of biodiversity have already been brought on by droughts. Extended seasonal droughts are predicted, posing issues mostly in the country's east and southeast districts. Floods cause major health issues, large-scale erosion, infrastructure damage, and displacement. Floods and droughts are regional issues with the country's east mostly affected by droughts, while the west, central north, and south are affected by floods (MER, 2015). Water supply and food security will be impacted by temperature changes, increased frequency of floods and droughts, and variations in rainfall. According to an evaluation of how climate change is affecting crop output in African nations, Rwanda and many of its neighbors may become hubs for food insecurity in the future (Liu, et al., 2008).

[1] The CCDR compares the long-run evolution of the economy under several climate change scenarios against a hypothetical baseline economic path in which Rwanda faces no climate variability or damages and undertakes no new climate actions. This baseline aligns with the baseline economic scenario used to develop the 2020 updated NDC. It is built around the broad development trajectory articulated in Vision 2050 and related strategies and incorporates the macroeconomic and fiscal assumptions from the February 2022 Debt Sustainability Analysis (IMF and World Bank, 2022), with key variables extended through 2050

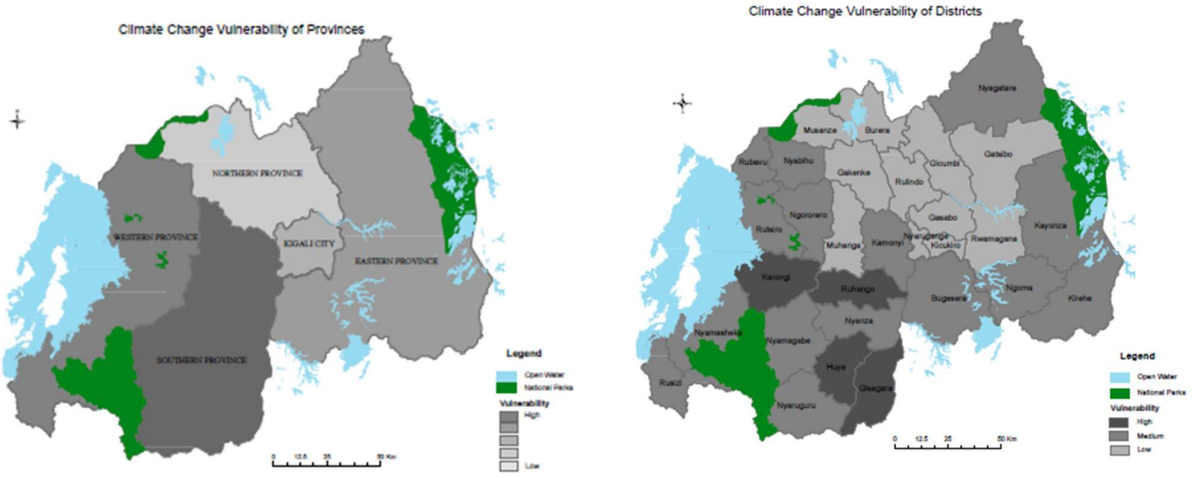
Heavy rainfall and floods in particular are likely to have significant consequences on the environment, society, food security situation, and wider economy. Significant impacts are also expected for the country's water resources, agriculture, and health sectors. Increased temperatures, flooding, increased aridity, and soil erosion puts both urban and rural communities at risk, particularly for poor and vulnerable groups. Environmental degradation, impacted water resources, and loss of biodiversity and ecosystem services constitute serious obstacles to the country's continued development and responsible management of its natural resources, which is also likely to impact the country's tourism sector (World Bank, 2021).

2.3.3 Climate Vulnerability

Due to a combination of political, geographic, and social factors, Rwanda is recognized as highly vulnerable to climate change impacts, being ranked 112 out of 185 countries in the 2021 Notre Dame Global Adaptation Initiative (ND-GAIN) Index[2] (University of Notre Dame, 2024). Vulnerability to climate change impacts extends across almost all sectors, yet the economy's heavy reliance on nature-based tourism, rainfed agriculture, and extractive industries in particular exposes it to climate fluctuations. Rwanda's Country Climate and Development Report (2022) estimates that if climate risks materialize, Rwanda's GDP levels could drop by 5–7% below baseline in multiple years by 2050 (World Bank, 2022).

At the district level, REMA has assessed Rwanda's vulnerability to climate change in a district baseline assessment in 2015 (REMA, 2015b) **and updated in 2019** (REMA, 2019)**.** The assessment used data from a survey of 2,407 households in all districts and uses indicators of exposure and sensitivity to climate change as well as the adaptive capacity to assess vulnerability (REMA, 2019). This assessment found that the Southern Province is the most vulnerable to climate change while the Northern Province was the least vulnerable (REMA, 2019). Of the four districts with the highest vulnerability to climate change, three of these are located in the Southern Province (Gisagara, Huye, and Ruhango Districts) and the fourth district (Karongi District) is located in the Western Province (REMA, 2019). The Huye District in the Southern Province was found to be the most vulnerable district in Rwanda due to its high sensitivity and low adaptive capacity (REMA, 2019). The provincial and district climate change vulnerability are presented graphically in **Figure 2-5.**

[2] The Notre Dame Global Adaptation Initiative (ND-GAIN) Index ranks 185 countries using a score which calculates a country's vulnerability to climate change and other global challenges as well as their readiness to improve resilience (University of Notre Dame, 2024). This Index aims to help businesses and the public sector better identify vulnerability and readiness in order to better prioritize investment for more efficient responses to global challenges. The ND-GAIN defines readiness as "a country's ability to leverage investments and convert them to adaptation actions" (University of Notre Dame, n.d.). The more vulnerable a country is the lower their score, while the more ready a country is to improve its resilience the higher it will be.



Rank by Categories: Low, Medium, High		
Low	Medium	High
0.460 to 0.481	0.482 to 0.502	0.503 to 0.523
Northern Province and City of Kigali	Eastern Province	Southern and Western Province

Scale for categorizing Climate Change Vulnerability at District Level		
Low	Medium	High
0.444 to 0.485	0.486 to 0.526	0.527 to 0.568
11 Districts	15 Districts	4 Districts
Interval size: 0.0406		

Figure 2-5: Climate change vulnerability of provinces (left) and districts (right) in Rwanda (REMA, 2019)

Gender and socio-economic inequalities in Rwanda also impact an individual's, and a community's, vulnerability to the impacts of climate change. Women, who make up the majority of Rwanda's poor, face increased economic vulnerabilities due to social norms around inheritance, land ownership, and informal employment. The decline in female headed households owning farmland, coupled with lower access to resources like fertilizers, electricity, and improved sanitation facilities, underscores these gender disparities. Unpaid care work, predominantly shouldered by women, exacerbates these challenges. From household chores to collecting essential resources, women face time constraints and reduced opportunities for paid labor, while men often migrate for economic opportunities. Additionally, indoor air pollution, water pollution, and post-traumatic stress disorders (following climate change -related shocks or stressors) contribute to the differentiated impacts on women, men, girls and boys (World Bank, 2021).

A recent Rwanda Country Program report identified several significant issues faced by women, girls and other marginalized groups during and after climate shocks (Kvinna till Kvinna Foundation, 2021):

- Both women and men experience distress in the aftermath of disasters, such as the earthquake triggered by the Nyiragongo Volcano in Rubavu District. Instances of migration and displacement following landslides and erosions further exacerbate the psychological toll on individuals, highlighting the need for comprehensive support systems to address mental health challenges in affected communities.
- During and after climate change-related events such as unpredictable heavy rains, both boys and girls experience disruptions to their education, with a recent study determining that girls bear a disproportionate burden compared to boys. For example, reports from Ngororero and Burera districts highlighted cases of girls missing classes or dropping out of school due to heavy rains that destroyed bridges. Fear of being swept away by floods or landslides often prevents girls from attending school, while boys, though not all, typically perceive themselves as stronger and are more likely to continue attending classes. Many adult females interviewed also noted that women tend to stay home during such times

due to concerns about landslides or floods, thus restricting the movements of women and girls while the majority of men and boys move more freely.

- Unpredictable and severe shifts in seasons and natural calamities like floods, erosion, and droughts are also linked to an increase in cases of Sexual and Gender Based Violence (SGBV) and heightened socio-economic risks for women and girls in Rwanda. For example, with increasing droughts, women's unpaid care work (such as water and firewood collection) not only takes longer and requires long distances but also exposes women and girls to higher risks of SGBV.
- Women also lack appropriate and accessible climate change - focused education materials for persons with disabilities (PWDs), hindering their ability to know how to respond, adapt, or seek support during such emergencies; and
- Women's needs are still often overlooked in district or local planning and decision-making processes related to the environment and climate change.

Rwanda's climate vulnerability provides a strong rationale to build resilience to the expected climate impacts by restoring degraded landscapes and ensuring that its landscapes remain stable in the face of climatic shocks and stresses. This means prioritizing measures to manage flood and landslide risk through ecosystem-based approaches (biophysical interventions), as well as improved technical capacity for flood forecasting (information systems and climate services), physical structures (infrastructure), and community-based approaches.

2.4 POLICY AND INSTITUTIONAL LANDSCAPE

Rwanda's commitment to climate resilience and environmental conservation is showcased in several international agreements that the country is a signatory to. This includes the following:

- The Convention on International Trade in Endangered Species of Wild Fauna and Flora,
- The International Convention on Biological Diversity,
- The Paris Agreement,
- The Kyoto Protocol,
- The Montréal Protocol,
- The Kigali Amendment,
- The United Nations Convention to Combat Desertification,
- The Convention on the Conservation of Migratory Species of Wild Animals,
- The Stockholm Convention on Persistent Organic Polluting Agents, and
- The Ramsar Convention on Wetlands and the Vienna Convention for the Protection of the Ozone Layer.

In addition to the above, Rwanda is also focused on achieving its Sustainable Development Goals (SDGs), which aim to end poverty, protect the earth's environment and climate, and ensure that people everywhere can enjoy peace and prosperity. In terms of climate change and the natural environment, this includes clean water and sanitation, affordable and clean

energy, sustainable cities and communities, responsible consumption and production, climate action, life below water, and life on land (UN, 2024).

Rwanda is also party to several regional policies and agendas including:

- The African Union Agenda 2063 (2015) - Africa's development blueprint to achieve inclusive and sustainable socio-economic development over a 50-year period.
- The East African Community Vision 2050 (2016) which lays out a broad perspective in which the region optimizes the utilization of its resources to accelerate productivity and the social wellbeing of its people. It portrays a future East Africa with rising personal prosperity in cohesive societies, competitive economies, and strong inter-regional interaction. In agriculture, food security and rural development, the goal of the Vision is increasing investment and enhancing agricultural productivity for food security and a transformation of the rural economy. The Policy further set out goal for sustainable utilization of natural resources, environment management and conservation with enhanced value addition.
- The East African Community Climate Change Policy (2011) and Climate Change Masterplan (2011-2031) which aim to address the adverse impacts of climate change in the region in response to a growing concern around the increasing threats of the climate change to national and regional development targets and goals (Ministry of Environment, 2019).
- The African Forest Landscape Restoration Initiative (AFR100) which is a pan-African, country-led effort to restore 100 million hectares of land across Africa by 2030. Rwanda was the first country to pledge to restore land (2 million hectares) and to date has brought over 1.3 million hectares (more than 65% of the target) under restoration through over 71 projects. The commitments announced under AFR100 also support the Bonn Challenge adopted in Germany in 2011, whose overall objective is to restore 150 million hectares by 2020, the New York Declaration on Forests that stretches the goal to 350 million hectares by 2030, and finally the African Resilient Landscapes Initiative (ARLI) to promote integrated landscape management to promote adaptation to and mitigation of climate change.

These agendas and policies highlight the challenges posed by climate change to the country's development and emphasizes the need to implement interventions that address climate change and ensure sustainable natural resource use while also promoting economic development.

Rwanda's drive to mainstream climate and environmental issues into the country's planning and public investment policy is recognized. The country has demonstrated a strong commitment to green growth and climate resilience which is evidenced by its ambitious green and sustainable urbanization and renewable energy targets as well as investments in sustainable agriculture (Government of Rwanda, 2023). These measures are framed within the country's Vision 2050.

The 2050 Vision for Rwanda is "*The Rwanda We Want: Prosperity and High Quality of Life for all Rwandans* " with the Vision's pillars including human development, competitiveness and integration, agriculture for wealth creation, urbanization and agglomeration, and accountable and capable state institutions. The Vision does recognize the impacts of climate change – noting that growth and development in the country will follow a sustainable path with regards to natural resource management and use, while also building resilience to cope with climate change-associated threats. Elements of climate change are also evident in the agriculture pillar with the promotion of climate resilient agriculture being a priority. In addition, the Vision acknowledges the need to have a high quality of life through sustainably improving the quality of the natural environment (Government of Rwanda, 2020). Importantly, the Vision 2050 also identifies "equity (including gender) and inclusiveness" as a core shared value for 2050 that will be cultivated and sustained by ensuring that women, youth and other

vulnerable groups are empowered to contribute as actors of Rwanda's sustainable development agenda – benefitting equally from the country's growth. This ambition filters through to Rwanda's other climate change and environment policies, thus providing a robust enabling framework for mainstreaming GESI into environmental protection and climate action efforts and serving as an important foundation upon which investment plans and programs can integrate clear, actionable GESI targets that align with national directives and international commitments.

Supporting Rwanda's Vision 2050 is Rwanda's National Strategy for Transformation: 2018 – 2024 (NST) and the Economic Development and Poverty Reduction Strategy: 2013 – 2018 (EDPRS). Both the NST and the EDPRS acknowledge the cross-cutting nature of climate change and the need to mainstream climate change vertically within government and horizontally across sectors / line ministries. Both strategies emphasize the need for a balanced approach that promotes economic growth coupled with sustainable use and protection of natural resources against the backdrop of climate change. Work on the second generation of the NST (NST2) is already underway with a focus on identifying transformative strategies on key issues of poverty alleviation and resilience, job creation and youth employment, as well as human capital development, and on introducing more partnership and innovation in the way in which domestic and external resources are mobilized and utilized (MINECOFIN, 2024).

Further to the above, Rwanda's NDC highlights Rwanda's commitment to taking urgent action to mitigate and adapt to the impacts of climate change. Its mitigation contribution looks at a reduction in greenhouse gas emissions relative to a business-as-usual (BAU) emissions baseline over the period 2015-2030. Several adaptation interventions are outlined in the NDC related to water, agriculture, land, and forestry and these are shown in **Table 2-3**.

Table 2-3: Adaptation measures for water, agriculture, and forestry from Rwanda's NDC (Government of Rwanda, 2020)

Water	Agriculture	Forestry
1. Develop a National Water Security through water conservation practices, wetlands restoration, water storage and efficient water use	4. Develop climate resilient crops and promote climate resilient livestock	10. Development of Agroforestry and Sustainable Agriculture (control soil erosion and improved soil fertility)
2. Develop water resource models, water quality testing, and improved hydro-related information systems	5. Develop climate resilient postharvest and value addition facilities and technologies	11. Promote afforestation / reforestation of designated areas
3. Develop and implement a catchment management plan for all Level 1 catchments	6. Strengthen crop management practices (disease prevention, diagnostic, surveillance and control)	12. Improve Forest Management for degraded forest resources
	7. Develop sustainable land management practices (soil erosion control; landscape management)	13. Integrated approach to planning and monitoring for sustainable land management
	8. Expand irrigation and improve water management	14. Develop a harmonized and integrated spatial data management system for sustainable land use management
	9. Expand crop and livestock insurance	15. Inclusive land administration that regulate and provide guidance for land tenure security

As noted in Rwanda's Adaptation Communication to the UNFCC (2021), progress has been made regarding implementation of adaptation measures in the country with national and subnational vulnerability indicators being identified to monitor progress in addressing impacts of climate change and building adaptive capacity. At the time of developing the communication, Rwanda was implementing the National Adaptation Plan (NAP) Readiness Project which was aimed at enhancing the country's capacity to respond to climate change in high-risk zones by implementing a NAP for integrated flood and landslide management in urban areas (Ministry of Environment, 2021).

To support Rwanda in achieving its international and national climate change goals, the Ministry of Environment plays a central role. The Ministry is responsible for developing climate change policies, strategies, and programs; monitoring and evaluating implementation of these across sectors; and mobilizing for these activities. Within the Ministry, Rwanda Environment Management Authority (REMA) is responsible for implementing climate mitigation measures as well as advising government on legislative and policy matters with regards to national environmental protection, conservation, promotion and overall management, including advisory services to the government on all matters pertinent to the environment and climate change. This includes (but is not limited to) establishing measures to prevent and mitigate climate change and adapt to its effects, to monitor and evaluate development programs and projects to ensure the compliance with laws and regulations on environment in their preparation and implementation phases; to participate in the preparation of action plans and strategies for prevention of disasters and hazards which may degrade environment as well as to propose remedial measures where such risks and catastrophes occurred; and to advise and provide technical support, where possible, to entities engaged in natural resources management and environmental conservation (REMA, 2021). Finally, Rwanda Green Fund (RGF), established by the Government of Rwanda in 2012 and one of the first national environment and climate change investment funds in Africa, has a mandate to invest in public and private projects with the potential to create transformational change. It facilitates direct access to international climate finance and streamlines and rationalizes external aid and domestic finance. Financing from the Fund can be accessed by Rwanda's government ministries and agencies, districts, and civil society organizations, including academic institutions and the private sector. The Fund has several investment products, including grants, innovation investments, and credit lines. To date it has mobilized almost US$300 million, supported over 120,000 people to cope with the effects of climate change, and secured over 24,000 hectares of land against erosion (Rwanda Green Fund, n.d.)Other government agencies are also starting to play a more direct role in climate and nature action. For example, the Ministry of Finance and Economic Planning (MINECOFIN) is currently in the process of finalizing a National Climate and Nature Finance Strategy 2024-2030 which includes plans to establish a new Climate and Green Growth Finance Unit. The Strategy aims to increase green investment by the public and private sectors and to enable the effective mobilization of substantial financial resources dedicated to addressing climate change and conserving biodiversity in alignment with the country's development vision. This involves scaling investment in specific climate and nature initiatives, as well as incentivizing other development investments to include green dimensions. It also requires the country to leverage diverse funding sources, foster innovative financial mechanisms, and promote partnerships with various stakeholders, both domestically and internationally. The Strategy also considers the evolution and future positioning of key climate and nature finance coordination mechanisms to ensure their continued effectiveness and alignment with the broader institutional framework supporting successful implementation.

2.5 INVESTMENT RATIONALE: GAP/BARRIER ANALYSIS AND NEED ASSESSMENT

The country context outlined above shows that, while Rwanda has demonstrated remarkable progress in its efforts to grow its economy over recent years, challenges remain. Economic activities and local livelihoods are highly dependent on the country's natural resource base, making it vulnerable to the myriad of factors that affect it. Land degradation associated with rapid population growth, urbanization and persistent poverty levels are putting pressure on the country's limited natural resources, while climate change poses an increasing and exacerbating threat. Rwanda's Country Climate and Development Report (2022) estimates that if climate risks materialize, Rwanda's GDP levels could drop by 5–7% below baseline in multiple years by 2050 (World Bank, 2022). The key challenge for Rwanda is to strike a balance between economic development and environmental protection.

Although the GoR has a clear vision to become a low-impact, resilient, and developed economy by 2050, a national strategy for accelerated transformation that identifies the promotion of climate resilience and sustainable management of the environment and natural resources as priorities, as well as supporting sectoral and district development strategies and plans, it requires financial support to implement these proposed strategies. Without such support, Rwanda will likely remain one of the least developed countries (LDCs) of the world (United Nations Conference on Trade and Development, 2023). The GoR has estimated that around US$11 billion (RWF 14,273 billion) equivalent to an average of 8.8% of GDP per year until 2030) is needed to achieve the mitigation and adaptation targets set out in its NDC (Government of Rwanda, 2020). At the same time, the total finance needs for implementing the National Biodiversity Strategy and Action Plan (NBSAP II) were estimated to lie between US$142 and US$156 million (RWF 184 -203 billion) over the period 2018 to 2030 (REMA, 2018). When compared against actual and projected inflows of Overseas Development Assistance (ODA), Foreign Direct Investment (FDI) and public spending between 2015 and 2030 (World Bank, 2022), it is evident that the quantum of climate and nature finance falls far short of what is needed. The GoR, through the RGF, is thus actively seeking to mobilize additional sources of finance, including from the private sector and through innovative financing mechanisms, to support the country's climate and nature recovery ambitions.

CIF resources present the potential to catalyze additional investments including private sources. This has been evident in the Volcanoes Community Resilience Project (VCRP) flagship project through which US$50 million of World Bank International Development Association (IDA) commitment has to date leveraged over US$150 million of blended finance. Similarly, the AfDB-led Development of Agroforestry for Sustainable Agriculture in Rwanda (PRODAR) (developed within Rwanda's Forest Investment Program (FIP) under the CIF Forest Investment Program of the SCF) has leveraged US$3 million co-financing from others to date. The GCAP Sub-Committee has approved a funding allocation of US$31 million for the GoR to invest in the NPC program. As part of the development of this IP a gaps and needs assessment was undertaken and was used to determine:

- Where investment should be targeted considering both the wider country climate and development context and climate vulnerability, both in terms of where it makes most sense in the landscape, at what scale, and where it can complement other recent, ongoing, and planned initiatives and programs;
- The types of interventions needed and how these could potentially be prioritized and packaged using a systems-wide approach to accelerate Rwanda's ability to deliver on its climate and sustainable development targets; and
- Opportunities for mobilizing private sector financing and other potential sources of co-financing.

The analysis to achieve these objectives was undertaken using assessment criteria, most notably the CIF investment criteria. A summary of the assessment criteria used can be found in **APPENDIX B Selecting Where to Invest**.

Based on the findings from this analysis, the Government of Rwanda took the decision that the initial focus of the NPC investment program should be on the Southern Province, and on the Kaduha-Gitwe Corridor (covering the districts of Nyanza, Nyamagabe and Ruhango) in particular (see **Figure 2-6**) with a view to scaling these and related investments up and across the country through an overarching Sustainable Land Management Investment Framework which is currently under development.

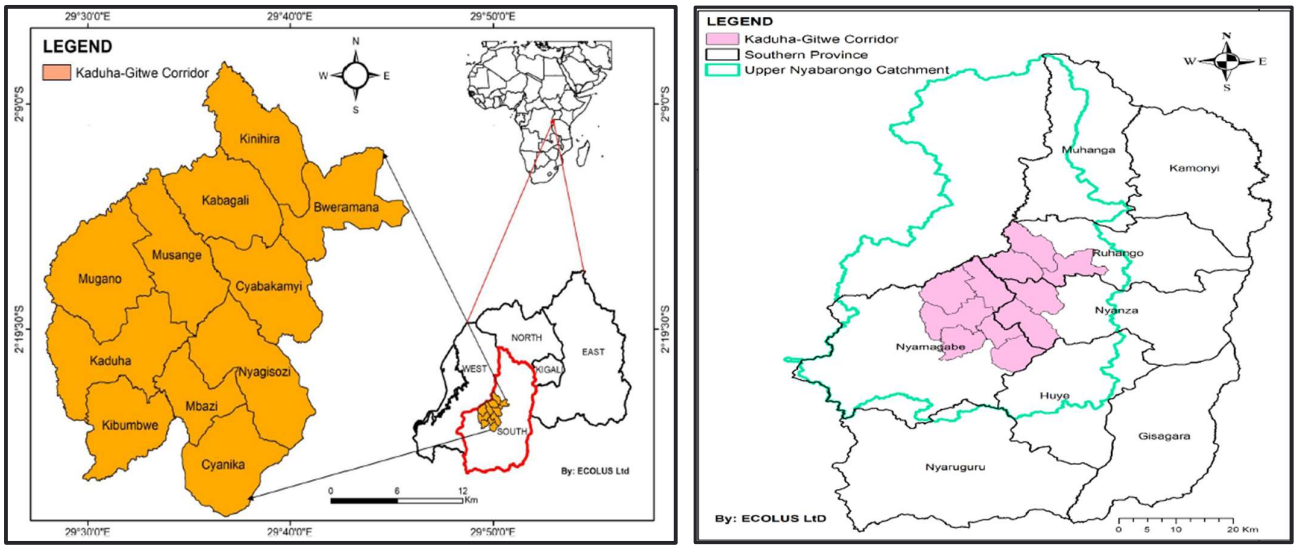
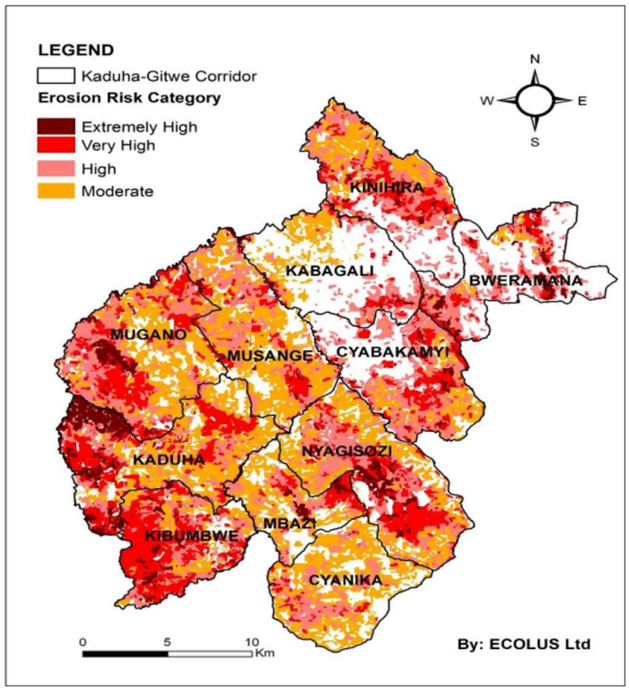


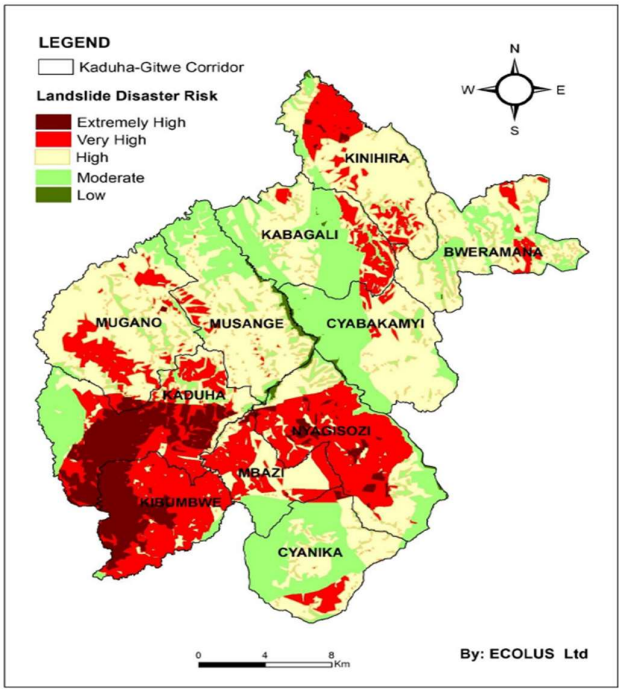
Figure 2-6: Location of the Kaduha-Gitwe corridor (FONERWA, 2023)

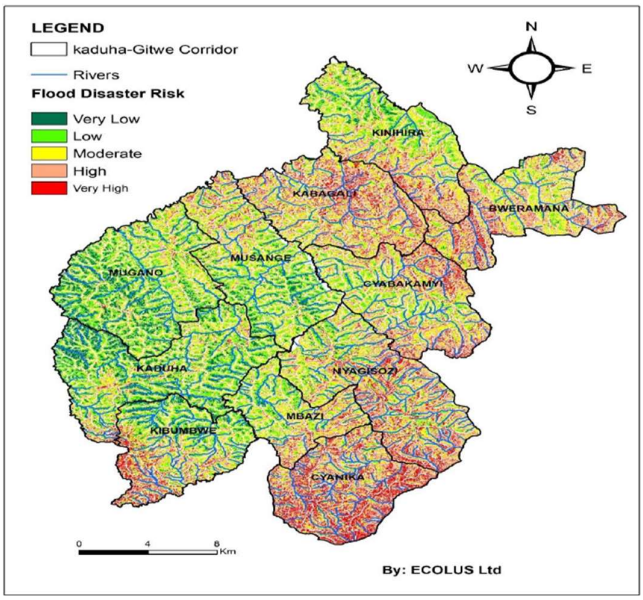
An overview of key outcomes from the analysis is provided in **Appendix B**. Findings relevant for the selection of the Kaduha-Gitwe corridor specifically are offered below:

- The area is characterized by steep slopes making it **susceptible to climate-related disasters** such as flooding and landslides which are **exacerbated by climate change and ecosystem degradation** (see **Figure 2-7**);
- Over the period from 2013 to 2023, 289 disaster events (mainly floods, landslides, windstorms, rainstorms lightning) were recorded across all sectors within the corridor, causing 23 deaths and 30 injuries, destroying 405 houses, and washing away 780.3 hectares of crops, among many other damages (FONERWA, 2023).
- The area is characterized by **pervasive and increasing levels of poverty and livelihood insecurity;** up to 43% of households are female headed, 17.7% of households are in the Ubudehe Category 1 (extreme poverty) and the overall poverty rate of 50.5% is notably higher than the national average of 38.2% (FONERWA, 2023; NISR, 2022). **A higher than average proportion of households are engaged in climate-sensitive agricultural activities** (90.6% in Nyanza, 91.3% in Nyamagabe, 88.3% in Ruhango) compared to the country average of 80.1% (NISR, 2020a)**, making the communities living within the corridor highly vulnerable to a changing climate.**
    - Gender disparities in access to, and control over, resources, high rates of malnutrition and stunting, and increasing incidence of SGBV are also all prevalent and are being further exacerbated by the impacts of climate change and environmental degradation (FONERWA, 2023).

    - Moreover, there is currently limited access to local tertiary education and off-farm employment prospects in the area, which presents a major challenge for young people between the ages of 16-30 years old who make up 48.8% of the corridor's population (FONERWA, 2023).
- The corridor is in the **Upper Nyabarongo catchment** which is the **country's main 'water tower'**. The restoration, protection and sustainable management of forest ecosystems within the catchment is vital for the continued supply of water and regulation of its quality;
- The **Upper Nyabarongo catchment** was also identified by Rwanda's Natural Capital Accounts as the **leading catchment area for the erosion of soil** in Rwanda.
- It lies immediately adjacent to the Congo-Nile Divide which **provides a strategic biodiversity link between the Nyungwe, Gishwati-Mukura, and Volcanoes National Parks**. In particular, it presents an opportunity to start reconnecting fragmented habitats, by revegetating corridors (along waterways) and providing stepping-stone habitats for biodiversity. This is likely to become increasingly important in supporting species to adapt to the effects of a changing climate;
- **It supports a broader aim to focus investments in the Southern Province in order to achieve rapid and transformational impact** by building on the foundations of ongoing projects such as the US$32 million Forest Landscape Restoration project in the Mayaga Region (presents opportunities for scaling up and out), leveraging resources of a forthcoming US$95 million GEF project to apply an ecosystem-based restoration approach for the Nyungwe-Ruhango Corridor, a proposed US$20 million GEF-LDCF project to Build Community Resilience and Transform Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province, as well as a CIF Forest Investment Program project on agroforestry covering Nyaraguru and Nyamagabe districts.
- Working in this area will **support more rapid impact by taking advantage of the fact that stakeholders here have already been mobilized**. Engagement with district officials during the field visits and Joint Workshop has highlighted their needs and their commitment to actively supporting the planning, design, and implementation of interventions under the program.







District	Sector	Erosion	Landslides	Flooding
Nyanza	Nyagisozi	High	High	High
	Cyabakamyi	Moderate	Moderate	High
Ruhango	Kinihira	Moderate	High	High
	Kabagali	Moderate	Moderate	High
	Bweramana	Moderate	High	High
Nyamagabe	Mugano	High	High	Low
	Kaduha	High	High	Low
	Kibumbwe	High	High	High
	Mbazi	High	High	Moderate
	Cyanika	Moderate	High	High
	Musange	High	Moderate	Low

Figure 2-7: Erosion risk (top left), landslide risk (top right), and flood risk (bottom left) in the Kaduha-Gitwe corridor (FONERWA, 2023)

3 NBS Context

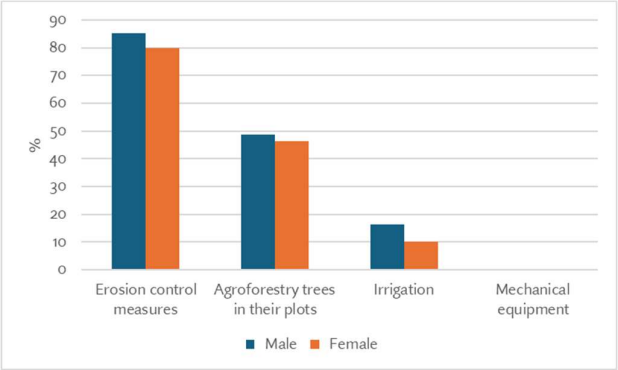
3.1 NBS IN RWANDA

NbS have the potential to reduce the vulnerability of communities, particularly with regards to natural disasters and food and water insecurity, by enhancing the resilience of the environment, promoting carbon-sequestration, fostering sustainable agriculture, and investing in natural infrastructure. Being proactive by addressing the root causes of vulnerability and building adaptive capacity can safeguard communities against the increasingly severe impacts of climate change (Government of Rwanda, 2018).

As defined by the International Union for Conservation of Nature (IUCN), "nature-based solutions are actions to protect, sustainably manage, and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits" (IUCN, 2016). In light of this, the GGCRS has identified a number of PoAs in support of NbS, including: adaptive and resilient land use management and spatial development; integrated water resource management; sustainable agriculture, forestry and conservation; and green and climate resilient rural settlements (Government of Rwanda, 2022). A few of these activities include, but are not limited to:

- Enhancing agro-ecology, crop variety development, and promoting climate resilience for local and export markets;
- Improved agricultural practices, e.g., farming systems and efficient irrigation;
- Developing agroforestry and soil management for sustainable agriculture and fruit production;
- Rehabilitation of degraded forest resources, e.g., reforestation and afforestation;
- Developing catchment management restoration and soil erosion control strategies.

The agricultural household survey (NISR, 2020a) provides information on the agricultural sector in Rwanda and highlights the adoption of many NbS at the national level. Importantly, surveys such as this can be used to track the uptake of NbS as implemented via several plans and strategies such as the GGCRS (Government of Rwanda, 2022). The 2020 survey results showed a significant increase in the implementation of erosion control measures and agroforestry. In the 2020 survey, 83.8% of agricultural families (an increase of 18.1% from the previous survey) protected their property against erosion and 46.2% of households planted agroforestry trees in their plots, up from 0% in 2017 (NISR, 2020a). Irrigation was only used by 14.6% of agricultural families and only 0.1% of agricultural households used mechanical equipment (NISR, 2020a). In the Southern Province the uptake of erosion control measures (85.3% of HH), irrigation (21.8% of HH), and mechanical equipment (0.2% of HH) is higher than the national level, and the use of agroforestry (44.1% of HH) is slightly lower than the national level.



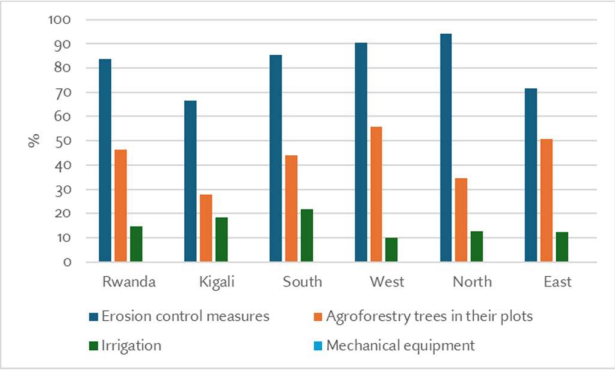


Figure 3-1: Percentage of households employing different agricultural practices by Province (left) and by sex of household head (right) (NISR, 2020a)

By integrating trees into agricultural landscapes, agroforestry systems act as carbon sinks, absorbing CO_2 from the atmosphere and storing it in biomass and organic matter found in the soil. This lowers carbon loss from agricultural areas and maintains soil organic carbon levels. In addition to fostering the conservation of biodiversity, these methods also improve soil health, water management, and resilience to climate change. Soil erosion can be prevented using erosion control techniques including terraces, trenches, and planting cover crops and grasses. **Table 3-1** shows that the most popular anti-erosion management techniques are trenches and cover plants/grasses, with 68.9% and 26.7% of applications, respectively. This is followed by progressive terraces at 11.1%.

Table 3-1: Percentage of agricultural households by types of erosion control measures (NISR, 2020a)

Types of erosion control	By Province					Rwanda	By HHH sex	
	Kigali	South	West	North	East		Male-headed	Female-headed
Radical terraces	4.5	6.3	12.4	16	5.3	9.2	9.8	7.6
Progressive terraces	12.4	15.6	5.6	19.1	5.4	11.1	11.2	10.9
Trenches	23.5	30.3	28.6	8.4	34.8	26.7	28.6	21.9
Trees/shelter belt	4.9	7.6	10.7	5.5	5.4	7.2	7.8	5.7
Cover plants/grasses	51.8	74	72.7	80.9	54.4	68.9	70	66.1
Water drainage	2.2	4.2	0.7	1.2	1.9	2.1	2.2	1.9
Mulching	1.3	1.8	1.4	1.2	5.8	2.7	3.2	1.4
Beds/ridges	2.1	3	10.6	18.2	0.6	6.9	7.2	6.2
Other	0.1	0.4	0	0.4		0.2	0.2	0.3
Number of HHs that are protected against soil erosion ('000)	**80**	**623**	**522**	**430**	**615**	**2 270**	**1 630**	**641**

Both **Figure 3-1** and **Table 3-1** highlight the fact that female headed households consistently practice fewer NbS-oriented agricultural practices and erosion control measures, despite the fact that they are typically more dependent on, and vulnerable to changes in, their surrounding natural resource base. **Section 3.2** explores some of the primary underlying causes and constraints to this.

3.1.1 Relevant Projects

Table 3-2 provides an overview of national initiatives to include NbS in landscape-level planning and management with the goals of preventing GHG emissions from changing land use and depleting natural resources and systems as well as enhancing the climate resilience of communities and lands.

Table 3-2: Review of current and prospective NbS projects implemented in Rwanda

Project name and description	Project value (US$) and source of funding, where known	NbS
Trillion Trees Since the early 2000s Trillion Trees partner WCS has worked with the Rwandan Development Board (RDB) to support the protection of the Nyungwe National Park and test different methods of habitat restoration. WCS has worked with communities in the surrounding Congo Nile Divide landscape of the Rwandan western highlands to promote sustainable alternatives to the unsustainable (and illegal) use of natural resources and to access to finance to boost income-generating alternatives to encroachment on natural forest. WCS has also helped to protect 100,000 hectares of afro-montane forest and piloted a model for restoration of areas degraded as a result of massive forest fires in the 1990s. In addition, WCS has supported nearly 35,000 families across the region with access to finance for income generating activities, energy efficiency cooking stoves, or agroforestry seedlings.	Wildlife Conservation Society (WCS) with contributions from Rwanda Development Board, The Body Shop and Reseau Interdiocesain de MicroFinance (RIM)	- Reforestation.
Forest Landscape Restoration in the Mayaga Region The project aims to secure current carbon stocks of 4 700 825 tCO_2e, increase agricultural productivity by at least 25% in five years, increase biodiversity management in 555 ha (including increased protection levels in 354 ha), and enable the use of forest landscape restoration as a strategy for increasing tree cover from the current low 5% to at least 10% (in 20 years). All of these goals will be achieved while simultaneously improving livelihood resilience through diversification of energy and income sources. By using an integrated approach to landscape management, multiple actors will be able to pursue their individual and joint interests while also establishing a stable and long-lasting system of landscape governance and robust institutional structures and decision-making processes. (UNDP, 2018)	US$32,7 million funded through: a) GEF Grant: US$6,2 million b) UNDP Grant: US$1 million Govt. of Rwanda: US$25.5 million	- Forest restoration; - Agroforestry; - Trenches (erosion control).
Restoring Forest Landscapes in Africa This project is targeting forest restoration of 23.6 hectares in Rwanda, Cameroon, Kenya, and Malawi under the Bonn Challenge. The program focuses on developing participatory approaches for forest landscape restoration in the partner countries.	US$25 million in four countries, estimated US$6 million in Rwanda	- Forest restoration.
Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province This proposed project aims to introduce an integrated approach to landscape management that will strengthen food and livelihood security under future climate conditions by building resilience across various sectors, landscapes, and value chains, with the goal of improving community climate resilience in Rwanda's Southern Province. By addressing the capacity requirements for localizing national climate initiatives, this integrated strategy will improve the conditions that for community adaptation to climate change. (GEF, 2023)	US$85 million funded through: (a) GEF LDCF Trust Fund Grant: US$18 million (b) UNDP Grant: US$10 million (c) Public investment from FAO and IFAD: US$10 million each (d) Public investments from District Governments (e) Public investments and in-kind contributions from the private sector (Kinazi, One Acre Fund, Private Sector Federation): US$10 million each In-kind contributions from Government of Rwanda	- Land management; - Afforestation; - Forest conservation and management; - Agroforestry; - Restoration of wetlands and watersheds; - Soil erosion control - Terraces - Landscape management; - Agricultural practices; - Buffer zones; - Clearing of alien invasive plants
Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration The goal of this project is to improve the climate resilience of communities through the expansion and preservation of natural forests and the strengthening of the capacity of the authorities and local communities for sustainable and climate responsive forest and landscape management (GCF, 2023).	US$50 million funded through: (a) GCF grant of US$39 million (b) RDB grant of US$5 million (c) RFA grant of US$831 307 (d) RWB grant of US$5 million (e) In kind contributions of US$112 272 from the MoE	- Forest restoration; - Improved management of protected areas; - Promoting silvopastoralism; - Protective forests on steep slopes; - Agro-forestry.
Green Gicumbi Project – Strengthening Climate Resilience of Rural Communities in Northern Rwanda Project This project aims to enhance climate resilience in rural communities in the Gicumbi District. Using an integrated landscape management model, the project involves restoring and enhancing ecosystems in degraded watersheds and increasing the capacity of communities to sustainably manage forest resources (GCF, 2018).	US$32 million as a grant from GCF with US$359 990 as co-financing.	- Reducing erosion through terracing and protective forestry to stabilize rivers, roadsides, and steep slopes; - Agro-forestry;

Project name and description	Project value (US$) and source of funding, where known	NbS
		- Supporting agro-ecological and climate resilient approaches; - Sustainable forest management and increased forest productivity; - Restoring degraded woodlots.
Reducing Vulnerability to Climate Change through Enhanced Community-based Biodiversity Conservation in the Eastern Province of Rwanda (COMBIO) COMBIO focuses on biodiversity conservation to reduce vulnerability to climate change in the Eastern Province of Rwanda. The project is complementary to the GCF Transforming Eastern Province through Adaptation and Mitigation which focuses on creating biodiversity linkages between ecosystems.	US$9.2 million	- Restoration and protection of biodiversity.
Ecosystem-Based Restoration Approach for Nyungwe-Ruhango Corridor (GEF-8) The GEF-8 program forms part of a set of wider initiatives in the country to catalyze the ecosystem restoration pillar of the National Green Growth and Climate Strategy, which was revised in 2022, with the aim of restoring and enhancing degraded landscapes and ecosystems while providing opportunities for local communities and mobilizing financial support from both public and private sector sources. The geographic focus of the project is the Nyamagabe, Nyanza and Ruhango Districts in the Southern Province.	US$10.15 million from GEF with US$453.4 million of co-financing	- Restoration of ecosystems; - Restoration of degraded natural forest landscapes, drylands, grasslands, and pastures; - Restoration of degraded agro-ecosystems; - Rangeland restoration.
Forest Investment Program (FIP) – Development of Agroforestry for Sustainable Agriculture (PRODAR) The project's objective is to improve Rwandan livelihoods and development that is robust to climate change by stabilizing and restoring landscapes using agroforestry systems that promote green growth and sustainable agriculture. The restoration of landscapes using agroforestry systems would assist sustainable agriculture towards green growth development in Rwanda during the short-to-medium-term, in accordance with the Forest Sector Strategic Plan (2018–2024). Strategic goals include; strengthening stabilization and restoration of the terrain; enhancing rural communities' standard of living by developing a sustainable agroforestry value chain; boosting community and institutional adaptability and capacities for the growth of agroforestry. (AfDB, 2023)	US$18 million financed through: a) Climate Investment Funds (CIF) Strategic Climate Fund: US$15 million (75% loan; 25% grant) b) Government of Rwanda: US$3 million (cash and in-kind)	- Agroforestry; - Radical terraces; - Restoration of river banks, streams, and gullies, flood-plains and marshes; - Planting fruit trees.
Volcanoes Community Resilience Project (VCRP) The goal of the proposed VCRP is to provide the groundwork for an all-encompassing, long-term program that will improve catchment management and climate resilience in the Volcanoes region. Reducing the likelihood of floods, enhancing watershed management, and enhancing the standard of living for residents in the project region are the specific goals. (World Bank, 2023)	US$172 million financed through: a) World Bank (IDA): US$50 million b) ProGreen: US$12 million c) European Investment Bank: US$120 million	- Flood control (terracing, hedgerows); - Forest restoration; - Agroforestry; - Wetlands rehabilitation; - Buffer zones; - Restoration of islands and lakeshores; - Rangeland management.
Sustainable Woodland Management and Natural Forest Restoration Project (PGReF) The goal of the project was to lessen poverty and deforestation in the Congo Basin. Its specific objectives are to: expand the area covered by forests and enhance the quality of life for those who depend on them, establish the fundamental requirements needed for Rwanda to be qualified for the advantages of the carbon market and the payment of ecosystem services. The goal of the project was pertinent to the nation's strategic forestry goals. These include expanding and diversifying the nation's agroforestry and forest resources; protecting and responsibly restoring these resources; evaluating the value of the products and services the forestry industry contributes to the national economy; and, finally, creating an agriculture sector that aims to protect the environment and natural resources. (AfDB, 2019)	US$5.3 million financed through: a) AfDB / Congo Basin Forest Fund: US$4.9 million b) Government of Rwanda: US$250k c) Other beneficiaries: US$107k	- Afforestation; - Forest rehabilitation; - Agroforestry; - Planting fruit trees; - Sustainable forest management; - Fencing for conservation; - Controlled woodlots.
Assessing the efficiency of alternative-based forest restoration approaches in contributing to climate change mitigation and adaptation, biodiversity conservation, and uplifting community livelihoods in Rwanda This project aims to determine the efficiency of alternative-based forest restoration approaches in contributing to climate change mitigation and adaptation, biodiversity	Not available	- Forest restoration; - Natural regeneration; - Agroforestry.

Project name and description	Project value (US$) and source of funding, where known	NbS
conservation, and uplifting community livelihoods in Rwanda. Agroforestry, assisted natural regeneration, and other livelihood alternatives will be put into practice between now and 2027 in an effort to create jobs, a transferable restoration model with suggestions for national policy and practice, restored landscapes and ecosystem services, and scientific documentation of the various stages of restoration. (Rurangwa, Nsengumuremyi, Mupenzi, Umumararungu, & Mudashamagira, 2022)		
ARCOS Landscape Restoration Funding to accelerate the restoration of two African landscapes critical for carbon sequestration, biodiversity and human wellbeing: the Greater Rift Valley in Kenya and the Lake Kivu and Rusizi River Basin in the Democratic Republic of Congo, Rwanda and Burundi Rwanda. This includes tree planting and landscape restoration and development of community livelihoods. The tree planting plays an important role in carbon sequestration, biodiversity protection and the provision of nutrients to the soil. Initiatives include the development of tree nurseries, including fruit trees, which provide important sources of income and food to the communities. The programme has included the development of female owned cooperatives. Arcos is scaling up their restoration work in the Mukura Forest – Lake Kivu Landscape in partnership with AFR100, which is an African led initiative supported by the Bezos Earth Fund.	Bezos Earth Fund $22.8 million	- Afforestation; - Forest rehabilitation; - Agroforestry; - Planting fruit trees; - Sustainable forest management; - Development of tree nurseries

There are a number of projects and programs with similar focuses to the activities proposed in this IP. As part of the Gap Analysis and Needs Assessment, completed, ongoing, and planned projects with similar objectives and initiatives were analyzed and reviewed in order to identify gaps, challenges, and potential opportunities to scale up successful or promising approaches and interventions. The key projects relevant to the Kaduha-Gitwe corridor are discussed in **Section 6.1** and summarized in **Appendix G**.

3.2 GESI WITHIN THE CONTEXT OF NBS

Drawing on the GESI analyses and progress reports produced under the projects highlighted above, as well as those referenced in **Appendix G**, along with stakeholder engagement[3], it is evident that gendered disparities persist within Rwanda's rural communities with regards to decision-making on, participation in, implementation of, and distribution of benefits delivered through NbS, ecosystem-based adaptation and rural landscape-based livelihood initiatives.

This is not unique to Rwanda. Despite clear evidence that women's leadership and involvement in NbS yields positive environmental and social results, many programs worldwide are still gender blind (WRI, 2023; ODI, 2016). And, even in instances where gender is considered, the benefits of NbS are often still unevenly distributed between men and women due to a range of external factors (WRI, 2023).

In rural Rwanda, the two primary external factors that drive these disparities are (REMA, 2014; USAID, 2015; FONERWA, 2023):

i) **The fact that societies are still predominantly patriarchal**, where clear hierarchy and delineation of roles and responsibilities between women and men exists – dictating differences in access to key natural and economic assets; and

[3] See **Appendix C**.

ii) **The lack of basic infrastructure and services in many areas** (such as water and electricity supply, roads and related transport infrastructure, accessible healthcare, childcare and educational facilities, and viable markets) which has major implications on women and youths' ability to participate in potentially income-generating activities beyond their immediate domestic and subsistence spheres.

These factors perpetuate a cycle of poverty, inequality, and an overreliance on men. As a result, women-led households and farms experience higher levels of poverty and vulnerability to climate shocks and natural hazards compared to those that are male-headed. This is directly linked to women's limited access to economic assets; education and capacity building (including on-the-job training and awareness raising on NbS); land ownership and inheritance; extension support focused on CSA practices; and value chain processes associated with export-crops (MoE & REMA, 2018; IUCN, 2021; FAO, 2017). Given these ingrained gendered differences, in the past, men have typically had greater access to, and control over, the monetary benefits resulting from livelihood projects in Rwanda (MoE & REMA, 2018).

Many rural communities comprise majority women and youth because of male migration to urban centers, in search of employment opportunities. This implies that these women and youth should inherently benefit from livelihood interventions in their locations. However, gender norms still tend to prevail. Women may be responsible for farming activities and decisions regarding home consumption of produce, but men still dictate sale of produce and use of proceeds from this, even from afar (AfDB, 2023). Moreover, when women and men are both engaged in commercial production activities like nurseries and agroforestry, women generally work at a lower level in the value chain and earn less (UNDP & GEF, 2018). As a result, most rural households display notable gender imbalances regarding use of earnings at a household level (IUCN, 2021).

These differences extend beyond the household and are also reflected in community-level dialogues and decisions related to agriculture and natural resource management. Women's representation in farmer platforms and forestry management is exceptionally low in many rural districts countrywide (IUCN, 2021; UNDP & GEF, 2018; AfDB, 2023). And, in some instances where women have been outspoken and proactive about conservation efforts, they have been chastised for prioritizing environmental protection campaigning over domestic chores (World Vision Rwanda, 2022). Women's organizations and networks at a grass-roots level therefore play a vital role in advocating for gender-responsive policies and programs related to climate change and environmental protection and these organizations are increasingly providing platforms for women to collaborate, share knowledge, and amplify their voices on issues that affect them disproportionately (Women for Women Rwanda, 2021).

Overcoming these challenges is complex. While the country's land registration and inheritance laws favor equal access to landownership, traditional norms prevail in most contexts whereby male family members make decisions around land-use regardless of whether their wife owns the land or not (AfDB, 2023). This means that women have limited say in whether land can be used as collateral to secure loans or insurance (UNDP & GEF, 2018).

Such access to savings, credit, and funds is a significant driver of development, particularly for agricultural households seeking to enhance production through the acquisition of agricultural inputs. However, women's economic activities, such as small-scale farming and informal businesses, do not meet the typical criteria set by banks for loan eligibility. Women also often require flexible repayment terms, smaller loan sizes, and non-traditional collateral options to accommodate their unique circumstances and business models. However, mainstream financial institutions frequently overlook these considerations, resulting in a mismatch between available financial products and women's needs (Oula, 2022). Insurance

products tailored to agricultural and environmental risks are also scarce, and those that do exist may be unaffordable or inaccessible to smallholder farmers – a demographic in which women are disproportionately represented (IUCN, 2023) .

This exclusion from formal financial systems restricts women's ability to invest in climate-resilient technologies, such as drought-resistant crops or renewable energy solutions, which could enhance their resilience to climate change impacts (United Nations Climate Change, 2018). To address these issues, various entities such as the National Bank of Rwanda (BNR) and the NISR are working with the GMO to ensure financial inclusion policies and products are designed, implemented, and informed by data on women's financial inclusion. This demand-side data is increasingly being used to inform government-led financial inclusion progress, which resulted in 86% of women having access to financial services in 2019 (compared to 90% of men) (Data 2x, 2019).

Furthermore, climate smart agriculture financiers are increasingly interested in supporting initiatives that include clear gender-responsive measures, that foster women's economic empowerment (World Bank et al, 2015) and several recent initiatives in Rwanda demonstrate innovative and effective approaches for supporting women-led enterprises. For example, the Joint Program on Rural Women Economic Empowerment (JP RWEE 2014-2021) helped establish 12 new cooperative groups in Rwanda (with an overall 78% women membership). These cooperatives were equipped with climate resilient improved seedlings, inputs and fertilizers, as well as technical capacity development (on topics like drought tolerant techniques), which resulted in increased productivity and income for over 1,000 households (UNWomen Africa, n.d.). Similarly, as of 2022, the Green Gicumbi Project – through the Community Adaptation Fund –supported 15 projects for 15 cooperatives, where half the members are women. Learnings from this indicate that beneficiaries from such support gained critical knowledge on sustainable business management, which increased their self - reliance and financial sustainability through community-based finance solutions (Green Climate Fund, 2022). UNWomen has also established the "Buy from Women" (BfW) Platform in Rwanda, which is an information and communications technology innovation designed to unlock climate smart agriculture business opportunities for women, across the agricultural value chain. The pilot in Rwanda has attracted global interest, as it aims to foster enhanced access to land, finance, information and markets (UNWomen, 2022).

The Business Development Fund (a government entity) and Access to Finance Rwanda (a private entity) both actively also promote women's financial access, even for those lacking collateral, in collaboration with Village Saving and Credit Cooperatives (SACCOs) and savings groups (Le Groupe-conceil-baastel-ltee, 2018; Data 2x, 2019). Such initiatives aimed at increasing financial inclusion through promotion of women's land rights, expansion of microfinance services and mobile money products, and providing financial literacy training, can empower women to access and manage financial resources more effectively. This has a significant effect on household income, as demonstrated through a recent study in the Southern Province, which also highlighted that such efforts need to be complemented with initiatives aimed at supporting diversified and increased income streams – such as access to vocational and entrepreneurship upskilling (Munyeshyaka & Luqman, 2024).

The European Investment Bank and the Bank of Kigali are developing a new targeted sustainable agriculture financing initiative, a climate resilience business finance scheme to support private sector investment in Rwanda. The scheme is expected to unlock EUR100 million in new climate investment for smallholder farmers and agribusiness, as well as improve access to finance by women-owned businesses. The gender gap in access to agricultural loans remains significant in Rwanda with 74.5% of men having access, compared to only 25.5% of women. Women owned or led agri-businesses are

disproportionately constrained despite the fact that about 71% of all women in employment work in agriculture in Rwanda (KT Press, 2023).

The new initiative will include dedicated financing for businesses owned and managed by women, as well as employing and serving women. The finance scheme will support investment to enhance agricultural productivity, enhancing better access to finance across the agriculture sector and economic empowerment of women.

At least 30% of the total financing under the new scheme will be dedicated for female entrepreneurs or businesses where a majority of employees are women.

3.3 INSTITUTIONAL FRAMEWORK FOR NBS

3.3.1 Laws, Policies, and Planning Instruments

As noted in **Section 2.4**, Rwanda's enabling environment is very supportive of NbS and climate change adaptation measures with several climate change-related laws, policies, and planning instruments being implemented in the country. Alongside Rwanda's international obligations (SDGs, the Paris Agreement, the Kyoto Protocol, etc.), the NST and the EDPRS, the GoR has developed legislation, policies, strategies, and plans to promote and coordinate climate change adaptation measures within government and across sectors in an integrated and holistic manner.

The Law on Environment (2018) is the primary piece of legislation that regulates climate change and natural resource management in the country. The Law determines modalities for protecting, conserving and promoting the environment against climate change and provides for the:

1) Conservation and the protection of the natural environment;
2) Obligations to the state, decentralized entities, and local communities with regard to the protection and promotion of the environment; and
3) Inspection and criminal investigation power in environmental matters (Climate Change Laws of the World, 2024).

The Law on Environment is supported by several other laws including those related to the prohibition of manufacturing, importation, use and sale of plastic carry bags and single-use plastic items; the use and management of water resources; biological diversity; land; urban planning and building management; utilization of forests; air quality and air pollution prevention; environmental audit procedures; strategic environmental assessment procedures; regulation of substances that deplete the ozone layer; and functions and missions of RGF and REMA. In January 2023, Rwanda promulgated a new law on governing national parks and nature reserves. The law determines modalities for establishment and management of national parks, nature reserves and their buffer zones and sets out a series of guiding principles, including the need to recognize and reinforce the role of local communities in environmental conservation (Government of Rwanda, 2023).

The National Environment and Climate Change Policy (2019) provides the overarching framework for climate change mitigation and adaptation in the country. Particular focus is placed on mainstreaming the environment and climate-proofing agenda into national development with the need to reinforce and integrate environmental and climate change issues in national and local planning and budgeting processes. Seven policy objectives are put forward, namely:

1) Greening economic transformation;

2) Enhancing functional natural ecosystems and managing biosafety;

3) Strengthening meteorological and early warning services;

4) Promoting climate change adaptation, mitigation and response;

5) Improving environmental well-being for Rwandans;

6) Strengthening environment and climate change governance; and

7) Promoting green foreign and domestic direct investment and other capital inflows (Ministry of Environment, 2019).

In addition to the National Environment and Climate Change Policy (2019), other relevant policies that touch on climate change include the National Forestry Policy (2018), National Investment Policy (2023), Rwanda Biodiversity Policy (2011), Rwanda Wildlife Policy (2013), Rwanda Energy Policy (2015), National Water Supply Policy (2016), National Sanitation Policy (2016), National Agricultural Policy (2018), National Land Policy (2004), and National Policy on Water Resources Management ((2011).

Of importance for adaptation measures in Rwanda are the National Adaptation Programs of Action to Climate Change (NAPA) (2006) and the more recent GGCRS (2022). The documents guide Rwanda's political decision makers and national planners on priority actions of adaptation to climate change as well as providing direction and guidance for the country to achieve its climate change-related goals in alignment with Vision 2050 (Ministry of Lands, Environment, Forestry, Water and Mines, 2006; Government of Rwanda, 2022). Four program areas are put forward in the GGCRS, specifically:

1) Green Industrialization and Trade;

2) Green Urban Transition and Integration;

3) Sustainable Land Use and Natural Resource Management; and

4) Vibrant, Resilient, Green Rural Livelihoods.

The strategy places strong emphasis on NbS with regards to urban greening, integration of built and ecological infrastructure, promotion of investments in NbS and integration of NbS and ecological infrastructure in urban plans and policies (Government of Rwanda, 2022).

Other relevant strategies and plans are presented in **Table 3-3** below:

Table 3-3: Other relevant strategies and plans with regards to climate change and adaptation.

Strategy / Plan	Description
Green Taxonomy Working Paper (2023)	• Serves as a framework that defines sustainability criteria, fosters shared understanding and trust on what constitutes a green investment, and prevents greenwashing. • Aims to mobilize capital in pursuit of a green transformation and establish Rwanda as a sustainable finance hub. • Being developed in phases based on economic sectors that significantly contribute to climate change mitigation or climate change adaptation. • First phase focuses on agriculture, construction, transport, and energy.
National Land Use and Development Master Plan (NLUDMP) 2020-2050	• Represents the country's national spatial plan that aims to find solutions for issues while also generating specific guidelines for the implementation and design of new and updated spatial structures for the country (Government of Rwanda, 2020). • Climate change and the environment are seen as critical elements in the plan with the need to develop appropriate urban infrastructure that integrates biodiversity conservation.
Sector Specific Guidelines for Mainstreaming Climate Change in the	• Seeks to mainstream adaptation and mitigation of climate change in the manufacturing industry and provide guidance to the tea, dairy, cement, cosmetics, plastics, tannery, textile, and steel industries.

Strategy / Plan	Description
Manufacturing Industry Sector in Rwanda (2015)	• Proposes sustainable actions such as technology innovation, capacity building, standardization, cooperation between stakeholders, communication and knowledge management, financing, and a monitoring and evaluation framework (Rwanda Environmental Management Authority, 2015)
Nyamagabe District Development Strategy 2018-2024	• A medium-term strategy to support implementation of the NST and guides different actors in the implementation of activities within the district. • Provides the vision for the Nyamagabe District which is "Nyamagabe, a home of citizen- centered services, welfare, high value crops and eco-based industry". • Notes the threat of climate change to the agriculture sector as well las the lack of mitigation and adaptation measures to climate change. • Recognizes the need to mainstream climate change and the environment especially through increasing forest cover. Focus is on rehabilitating degraded forest ecosystems through afforestation, re-afforestation and sustainable management of forestry resources. • Prioritizes compliance with environment conservation standards by the mining companies and conducting environmental impact assessments for agro-processing facilities. • Notes the linkages between climate change and disaster management and aims to upscale climate change adaption practices as well as the development of effective response to disasters for farm communities.
Nyanza District Development Strategy 2018-2024	• A medium-term strategy to support implementation of the NST and guides different actors in the implementation of activities within the district. • Provides the vision of the district which is to create a conducive environment for community development and social welfare of the population. • Recognizes the threat of climate change to agriculture sector and the natural environment. • Proposes greening and a well-coordinated management of mining. • Highlights the natural disasters faced by the district due to climate change such as floods, strong winds, lightening, landslides and droughts.
Ruhango District Development Strategy (2018-2024)	• A medium-term strategy to support implementation of the NST and guides different actors in the implementation of activities within the district. • Provides the vision for the district, which is to be a healthy, knowledge based productive society by the year 2050. • Notes the threat of climate change to agriculture in the district as well as increasing frequency and/or intensity of climate hazards such as longer dry seasons and floods. • Prioritizes afforestation and re-a forestation, rainwater harvesting, erosion control, limiting the use of chemical fertilizers, protection of lakes and rivers, development of a disaster management master plan, and protection of institutions against thunder and lightning among others
Nyamagabe, Nyanza and Ruhango Revised District Forest Management Plans (2018-2027)	• Proposes an intermediary period of 10 years to create a productive resource through rehabilitation or reconversion. After this period, silvicultural actions will aim at the continuity and sustainability of goods and services from forests. • Encourages the emergence of a wood industry, the transformation of wood for added value and the reduction in the use of wood as a source of energy, considering climatic characteristics. • Recommends forest management units covering between 200 and 250 ha and the development of strategy to implement the Forest Management Plan which would be based public-private partnerships.

3.3.2 Institutions

As noted in **Section 2.4**, the technical Ministry responsible for environmental management and climate change and natural resources in Rwanda is the MoE. To discharge its mandated responsibilities, Ministry coordinates its affiliate agencies that include Rwanda Green Fund (FONERWA), Rwanda Meteorology Agency (RMA), Rwanda Forest Authority (RFA), National Land Authority (NLA) and Rwanda Environment Management Authority (REMA). In addition, the Rwanda Forest Authority aims to ensure the growth of forest resources, including their management and protection for the purposes of sustainable development (Rwanda Forestry Authority, n.d.) while RGF is the country's vehicle for mobilizing and coordinating climate finance, and investing in public and private projects with the potential to create transformative change . Bearing in mind the cross-cutting nature of climate change and environmental management and protection, other relevant institutions include the National Land Authority, Rwanda Agriculture and Animal Resources Development Board, Rwanda Water Resources Board, and Rwanda Meteorology Agency. **Figure 3-2** illustrates the different institutions relevant to the climate change and environment space.

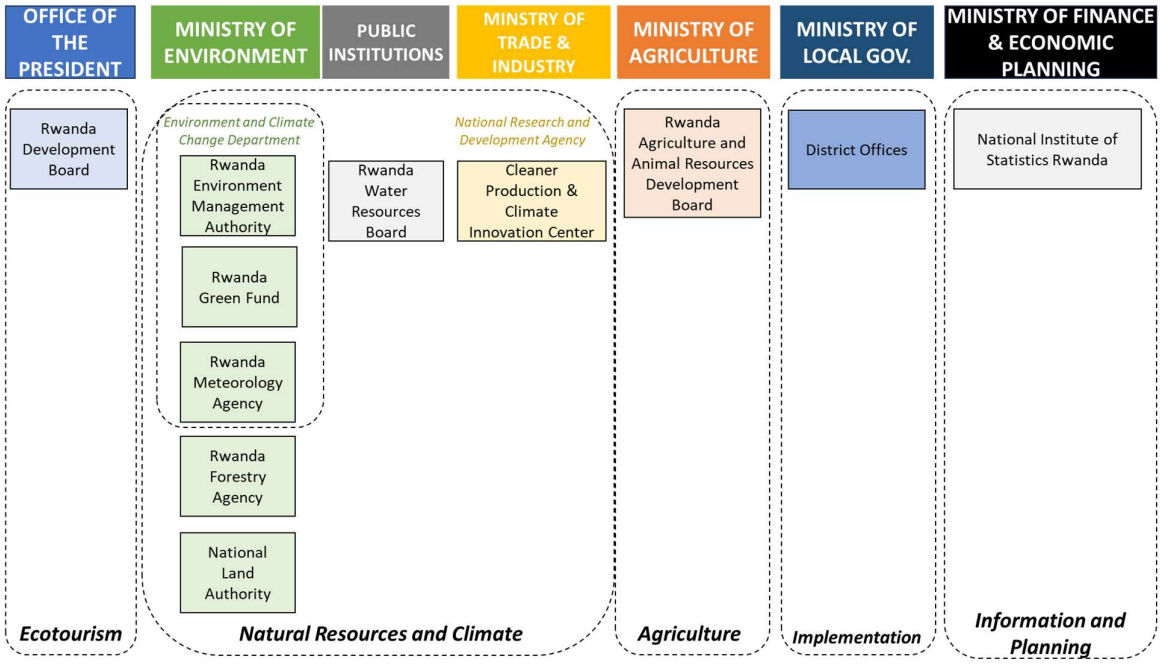


Figure 3-2: Institutional framework for climate change and the environment in Rwanda

3.3.3 Gaps and Challenges

Rwanda has shown strong political commitment to climate change and environmental conservation which is evidenced through its prioritization in several policies, strategies, and laws. In addition, institutions have been established to support the GoR in achieving its international and national climate change goals and targets. However, there are certain areas where improvements can be made, and these are described in more detail below:

- **Need for improved coordination across ministries, departments and sectors**

While the GoR has made great strides towards mainstreaming climate change adaptation in its enabling environment, there is still a need to improve intergovernmental and cross-sectoral coordination and collaboration. Underpinning any effective climate change program is the ability to coordinate interventions across different industries and sectors. As noted by Climate Action Tracker (2022), Rwanda does not possess an inter-ministerial coordination body to support coordination and collaboration between different sectoral entities. In this regard, the country has made progress with the establishment of the Taskforce on Access to Climate Finance which aims to align climate finance with national plans in collaboration with climate finance providers (NDC Partnership, 2024). This is supported by Rwanda's NDC Working Group which works with donors, government, and the private sector to create an enabling environment for investment in NDCs, raise awareness regarding blended finance opportunities, and prepare investment-ready NDC pipelines for private sector investors (Bartle, 2024). In addition, coordination of developmental aid in Rwanda is assisted by the Development Partners Coordination Group which comprises of the Government of Rwanda's Permanent Secretaries, heads of bilateral and multilateral donors and representatives from civil society and private sector. The Group is responsible for providing a forum for dialogue in the coordination of development aid to the country; harmonizing development partners' programs, projects, and budget support with the Government of Rwanda; and reviewing progress made in fulfillment of commitments undertaken by development partners in the 2003 Rome Declaration on Harmonization, the 2005 Paris Declaration on Aid Effectiveness, the 2008 Accra Agenda for Action, and the 2011 Busan Outcome Document (Rwanda Development Partners, 2024). Lastly,

MINECOFIN is in the process of establishing a Climate Finance and Green Growth Department that will lead most of the climate change-related coordination efforts. These efforts will support the Government of Rwanda in effectively aligning national and international goals as well as strengthening collaboration between central and local government. Furthermore, as noted in Section 2.4, MINECOFIN has been leading the development of a National Climate and Nature Finance Strategy 2024-2030 which includes consideration of the development and future positioning of key climate and nature finance coordination mechanisms to ensure their continued effectiveness and alignment with the broader institutional framework supporting successful implementation.

- **Gaps in certain policies, strategies, and plans**

There also remain several gaps in key policy documents. For example, the 2018 Agricultural Sector Plan does not provide indicators to track greenhouse gas emissions despite this being a key activity in the plan. In addition, the law establishing the Rwanda Forestry Authority does not make reference to climate change or carbon sinks. Forestry and land use (FOLU) is notably absent in the mitigation component of Rwanda's updated NDCs (Government of Rwanda, 2020), although it is noted that these sources may be included in future contributions subject to improved data availability and accuracy with which net emissions are measured, reported and verified within the GHG inventory. There is also no policy to support a just transition and the concept is not included in any policy documents (Climate Action Tracker, 2022). Additionally, while the National Land Use and Development Master Plan (NLUDMP) (2020-2050) outlines the long-term development vision for the country's land resources and sets out the overall land use framework for the country, there is also need for district-level land use plans to operationalize the NLUDMP and sectoral plans for different types of use (e.g. road infrastructure, agriculture, forests, protected areas etc.) that support sustainable use and management of land at the local level in line with climate change goals (World Bank, 2021). It should be noted that district-level plans setting out the development priorities for each district are currently being prepared by the National Land Authority with the target of 2035 (National Land Authority, 2024).

- **Absence of an overarching climate change law**

Although Rwanda possesses several laws that relate to climate change and environmental conservation, the country lacks an overarching climate change law to better align and integrate climate change across multiple sectors. This hampers the government's ability to mainstream climate change and promote an integrated and coordinated approach for implementation of mitigation and adaptation measures. Further to this, the environmental law is not consistent with the country's NDC targets and 2050 net zero CO_2 emissions goals (Climate Action Tracker, 2022).

- **Capacity challenges related to data collection and assessment**

Further to the above, capacity constraints impact the ability of the GoR to undertake monitoring of NDCs and data collection and assessment. The GoR is in the process of developing a revised NDC Implementation Framework which aims to assist with these issues. Ministries do not possess dedicated departments or staff to support with climate data collection with climate-related reporting not being integrated as a result (Climate Action Tracker, 2022). This was also noted in the WB's Climate Risk Country Profile for Rwanda where it was highlighted that capabilities for handling climate change data at the national, regional, and local levels need to be improved, including technical capacity to analyze hydro-met data and project impacts across sectors. To address some of these challenges, a revised NDC Implementation Framework is currently being developed that will capture specific programs and projects for each measure/priority identified in the updated NDC for the

period 2020 to 2025, specifying the timeframe, expected results, estimated or known budget, and the responsible entity (Partnership in Action, 2024). Additionally, capacity development within sectors (including sector experts) is needed to facilitate planning and continuous NDC monitoring – particularly with regards to climate adaptation, and the gendered benefits of these measures (World Bank, 2021). In response to the latter, a Climate Change Gender Action Plan (ccGAP) is currently under development, which will address this issue by identifying gender-specific actions aligned with the NDCs.

- **Need to improve compliance, monitoring and enforcement**

There is also the opportunity for Rwanda to strengthen compliance, monitoring and enforcement in alignment with its legislative and regulatory framework for environmental management and protection. This can be supported by awareness raising within government and other relevant stakeholders on the importance of integrating climate change and ensuring compliance in both the public and private space. This should be coupled with improved information exchange through enhanced technology transfer and capacities from national to local levels in Rwanda. This will help to promote public awareness regarding environmental protection and climate change mitigation and adaptation (World Bank, 2021).

3.4 A NBS APPROACH TO ADDRESS PROGRAM NEEDS

The development challenges described in the Country Context above show an antagonistic coupling of environmental and socio-economic systems in Rwanda to date, such that growing pressures from communities deplete and degrade the natural resources upon which they depend, leading to a negative feedback cycle. In such a cycle, efforts to reduce poverty levels are unlikely to materialize without encroaching on the country's critical natural resources or without exacerbating existing inequalities. The imperative is clear: break this negative ecological-economic cycle.

NbS, as argued in the preceding sub-chapters, present an opportunity to do this, and hence provide the basis of this IP. To ensure a targeted and effective IP that proactively builds adaptive capacity to climate change, reduces environment-degrading practices, and enhances livelihood opportunities in the Kaduha-Gitwe corridor, several key features of the NbS approach are highlighted here:

- An integrated approach that considers the interconnectedness of environmental, social, economic and governance factors is crucial for achieving sustainable development program goals. In this regard, poverty alleviation and environmental degradation need to be addressed simultaneously. This recognizes that any efforts to restore Rwanda's degraded ecosystems need to be accompanied by efforts to improve the livelihoods that depend on them, thereby removing the underlying drivers of impact.
- Land management practices that contribute to ecosystem degradation are unlikely to be curtailed unless community members have access to alternative sources of livelihood opportunities. Therefore, program efforts need to create and align community incentives that support the conservation of natural resources.
- Transformational impact will only be achieved if project activities are economically viable and self-sustaining in the long run. Leveraging private sector support and developing relevant agroforestry value chains that underpin community livelihood opportunities are critical in this regard.

3.5 BARRIERS TO THE PRIVATE SECTOR UPTAKE OF NBS

Due to competing priorities, the GoR has committed limited investment to developing NbS in the country. For this reason, the private sector has been identified as having significant potential for further driving of investment in NbS.

Private sector investment in NbS varies by sector in Rwanda's Southern Province. While hydropower and nature-based tourism offer considerable investment opportunities, agribusiness and climate-resilient agriculture have seen the most private sector engagement in recent years. Specifically, companies producing tea and coffee, including Rwanda Mountain Tea and Sustainable Growers Rwanda, have invested heavily in agroforestry practices. Though some private sector investment has been forthcoming, there are significant additional opportunities for private sector engagement in NbS in Rwanda through investment, innovation, and collaboration.

To ensure efficient resource use, sectors in which private investment is likely to have the greatest impact and be most feasible have been identified and are presented in **Table 9-13** in **Appendix D**. These sectors may be relevant either because they are of high economic importance (and therefore of particular concern to the private sector) or because they have a larger impact on relevant environmental issues.

While levels of private sector investment in NbS vary by sector, several common obstacles have been identified as preventing significant private sector investment in NbS within Rwanda. The most commonly encountered barriers are presented in **Table 9-14** in **Appendix D**.

3.6 LESSONS LEARNED

The projects implemented in Rwanda, ranging from forest rehabilitation and sustainable agriculture to climate resilience and biodiversity conservation, offer valuable insights into sustainable development approaches in the face of environmental challenges. Through these initiatives, several key lessons can be learnt.

Firstly, integrated approaches that consider the interconnectedness of environmental, social, and economic factors are crucial for achieving sustainable development goals in the country. Projects like the FIP and Sustainable Agricultural Productivity and Market Linkages (SAPMP) demonstrate the importance of integrating forestry, agriculture, and market access to improve livelihoods, while simultaneously preserving natural resources.

Secondly, community engagement and participation are essential elements for the success and sustainability of development initiatives in Rwanda. Projects such as the Green Gicumbi Project and VCRP highlight the significance of empowering local communities to identify their needs, contribute local knowledge, and take ownership of adaptation and resilience-building efforts.

Thirdly, it is evident from the above key projects that building community climate resilience requires a multifaceted approach that includes both mitigation and adaptation strategies. The SAPMP project, as well as the Rwanda Integrated Landscape Climate Resilient Management Program, underline the need for holistic approaches that address climate-related risks while enhancing agricultural productivity and ecosystem resilience.

In addition, the projects above highlight the importance of collaboration and partnership among various stakeholders, including government agencies, non-governmental organizations, local communities, and the private sector. Successful

initiatives such as the Reducing Vulnerability to Climate Change through enhanced Community-Based Biodiversity Conservation in the Eastern Province of Rwanda (COMBIO) project emphasize the value of collaborative governance mechanisms and knowledge-sharing platforms in achieving common objectives. This project also demonstrated the significance of leveraging indigenous knowledge and practices alongside scientific expertise to develop context-specific and culturally appropriate solutions. Integrating traditional ecological knowledge into biodiversity conservation efforts, as seen in the COMBIO project, enhances the effectiveness and sustainability of conservation initiatives.

Past projects also present valuable learnings from a GESI perspective, by demonstrating approaches that have led to tangible improvements for women and youth, and also identifying barriers that impeded attainment of dedicated GESI targets. Many projects attributed their success in advancing GESI to identifying and reducing time intensive, non-income generating burdens on women, girls and the youth to enable their meaningful and equitable participation. For example, the Landscape Approach to Forest Restoration and Conservation (LAFREC) project improved women's access to transport, farming technologies and alternative energy sources to free up their time. The Green Gicumbi Project, the Land Husbandry, Water Harvesting and Hillside Irrigation (LHW) project and the Adaptation Fund's project in North West Rwanda also all leveraged the central role that women played within their communities and within the agriculture sector, and used this as a basis for identifying the best avenues to sustainably empower them and alleviate existing burdens.

UNEP's project on Building Resilience of Communities Living in Degraded Wetlands, Forests and Savannas of Rwanda through an Ecosystem-based Adaptation Approach determined that setting quotas for women's employment and training could not be achieved without also tackling broader societal inequalities relating to women's positions within relevant institutions. This implies that development programs need to work hand-in-hand with government partners (from inception) to ensure that women employees and project staff are capacitated and empowered to participate in institutional and project-level efforts. The GEF & FAO's Transboundary Agro-Ecosystems Management for the Kagera River Basin multi-district project demonstrated the importance of designing tailored solutions that respond to localized, specific gender and social norms. That is, a blanket approach to addressing GESI issues across vast geographies is typically met with varied degrees of impact and effectiveness, given the nuanced – but often important factors (like baseline infrastructure and services, and gendered differences in access to markets, education and care facilities) - are overlooked.

More broadly, through engagements with stakeholders at the RGF, it was noted that districts and communities often do not have the skills and capacity to develop high quality funding proposals in order to access funding. Capacity building initiatives should be incorporated to help both communities and district officials develop these skills. Additionally, district representatives may not have the capacity and skills to undertake the project management and reporting associated with a successful funding application. Similarly, community members may lack the financial infrastructure (e.g., bank accounts) and capacity for financial reporting on funding received. These skills should also be incorporated into capacity building efforts. Another opportunity is to leverage the expertise of the private sector with regards to developing funding proposals and the project management through the formation of PPPs.

There are varying levels of private sector engagement in NbS. Common challenges for the private sector include financial constraints, small market size, limited market access, and technical knowledge gaps. Incorporating NbS into existing or bespoke investment facilities can help mitigate some of these challenges. For example Rwanda's green investment facility, Ireme Invest, is a novel investment facility that aims to address market gaps in the financing of green and climate resilient investment to promote sustainable and inclusive economic growth led by Rwanda's private sector. The facility's vision is to

enable and fast-track private sector-led green investments by offering a range of tailored financial products and services. It has two facilities that work together in an integrated fashion, including a Project Preparation Facility implemented by the Rwanda Green Fund and a Credit Facility implemented by the Development Bank of Rwanda (BRD). The facility targets investment in five priority areas: clean energy, smart mobility, sustainable cities, climate smart agriculture (including NbS), and waste & circular economy.

Capacity building, innovative financing models, and streamlined policy frameworks are crucial for enabling private sector involvement in climate and sustainability initiatives. Market development, value chain integration, and clear land use policies are essential components of fostering sustainable investment environments. By addressing these challenges and leveraging opportunities for private sector engagement, Rwanda can unlock the transformative potential of private investment in achieving its sustainability goals.

Overall, the lessons drawn from the key projects in Rwanda solidify the importance of holistic, participatory, and adaptive approaches to sustainable development in the face of environmental challenges. By integrating environmental conservation, climate resilience, community empowerment, and collaborative governance, these projects offer valuable insights and pathways for the implementation of this IP.

4 Program Description

4.1 OVERVIEW

The proposed IP aims to contribute to an integrated, system-wide SLM approach that reconciles competing uses of land and other natural resources to unlock the potential of nature for climate action, and simultaneously strengthen adaptive capacity and livelihoods of local communities. This will lead to improved health of the land and other ecosystems, reduced greenhouse gas emissions, and enhanced sustainability and climate resilience of livelihoods and businesses, thereby mobilizing additional public and private funding. The program is directly aligned with the GoR strategy for promoting green growth and enhancing climate resilience, which acts as a roadmap for Rwanda's transformation into a developed, climate-resilient, and low-carbon economy by 2050.

To realize this program, Rwanda's NPC IP was developed around two interlinked thematic focal areas:

1. Resilient Landscapes: Improved management of lands, forests, and wetland areas contributing to emissions reductions and climate resilience;
2. Resilient Livelihoods: Strengthened adaptive capacity and reduced exposure to climate risks.

These themes were used to guide the formulation of two project concepts that form the basis for the IP. Efforts they provide to restore Rwanda's degraded ecosystems and secure the ecosystem services over the long term need to be accompanied by efforts to improve the livelihoods that depend on them. The proposed project concepts thus combine a focus on implementing SLM and climate-resilient farming measures at the landscape level. Its measures aim to strengthen the capacity of local communities to design, implement and maintain nature-based solutions (including climate-resilient agricultural practices), to develop and strengthen value chains for climate-resilient farming and forestry practices, and to diversify livelihoods away from a direct reliance on the natural resource base.

Concept Briefs for each of the proposed projects are provided in **Appendix A**.

4.2 OBJECTIVES AND EXPECTED RESULTS

The overarching aim of Rwanda's NPC IP is to deliver a coordinated package of investments that unlock the potential of nature for climate and nature action, improve the health of the land and other ecosystems, reduce greenhouse gas emissions, and promote more inclusive, sustainable and climate-resilient livelihoods and businesses, while also mobilizing additional public and private funding. More specifically, the objectives of this IP are:

- To **restore degraded landscapes** and the ecosystem services and climate benefits they provide *(risk reduction, resilience and climate mitigation);*
- To **promote more sustainable management and use** of forests, wetlands and farmlands and **protect existing productive land** *(food, energy and water security);*
- To **improve and diversify rural livelihoods** so as to reduce pressures on the natural resource base and enhance adaptive capacity, with a particular focus on women and other vulnerable groups *(resilience building).*

- **To expand Rwanda's financial innovation efforts by deploying a capital market structured bond that channels private capital to protect Rwanda's charismatic wildlife and strengthen the resilience of its habitats.** The financial instrument is an important step towards Rwanda's long-term vision to re-establish habitats that connect key biodiversity hotspots in its protected areas (Nyungwe, Gishwati-Mukura and Volcanoes National Parks) and promote conservation investments on private and community land. The protection of conservation areas will safeguard the survival of flagship species and sustain ecosystem services critical to livelihoods of local communities and an important source of foreign exchange and revenue for Rwanda's economy.

The expected results of the program are:

- Increased adoption of agroforestry and climate-smart agriculture by smallholder farmers;
- Increased adoption of sustainable forestry practices by smallholder foresters;
- Preservation of remnant forests and restoration of riverine buffers and wetlands;
- Increased participation of women and youth in sustainable land management, climate-smart agriculture and forestry - related value chains and decision-making forums;
- Reduction in the rate of sedimentation and enhanced soil fertility;
- Improved water availability (increased infiltration leading to higher soil moisture content);
- Increased agricultural and forest productivity;
- Enhanced biodiversity and supply of ecosystem goods and services;
- Increased ability of rural communities to withstand the effects of climate change through diverse sources of income and livelihoods.

The following sections provide an overview of the project concepts. More detailed descriptions are presented in the concept briefs in **Appendix A**.

4.3 CATALYZING CLIMATE, NATURE AND PEOPLE INVESTMENTS FOR RESILIENT LANDSCAPES AND COMMUNITIES IN KADUHA-GITWE CORRIDOR

As outlined in **Section 2.3**, Rwanda faces an acute climate-development challenge. A predominantly rural population relies heavily on natural resources and subsistence agriculture for their livelihoods, making them vulnerable to the myriad of underlying drivers (such as climate change and an increasingly dense population) that impact the nation's ecosystems. The intensification of agriculture to meet the needs of a growing population has led to widespread adoption of unsustainable farming practices, including the cultivation of marginal lands[4]. This has resulted in the degradation of farmland and natural ecosystems which, in turn, adversely impacts land productivity and hydrological processes. This has led to declining crop yields, increased rainfall runoff and less infiltration, increased soil erosion, sedimentation of waterways, loss of wetland water storage capacity, increased flooding, and landslides.

The growing pressures on Rwanda's natural resources ultimately heighten the vulnerability of the country's predominantly rural population, which is exacerbated by the effects of a changing climate such as more intense yet more erratic precipitation and increased frequency of drought and floods. In the Kaduha-Gitwe Corridor area in particular, the combination of steep topography, inappropriate agricultural management practices (with frequent exposure of soil, often

[4] Approximately 90% of cropland in Rwanda is located on steep slopes, generating a national dependence on vulnerable landscapes (NISR, 2019).

on steep slopes) and high intensity rainfall mean that environmental pressures and impacts are exaggerated. Rwanda's 2019 Natural Capital Accounts for Ecosystems identifies the Upper Nyabarongo catchment as having experienced the greatest soil erosion[5] of all catchments in 2015 (NISR, MINECOFIN, MoE, 2019). These natural hazards are having a significant impact on the Corridor's already vulnerable population; up to 43% of households are female headed, 17.7% of households are in the Ubudehe Category 1 (extreme poverty) and the overall poverty rate of 50.5% is notably higher than the national average of 38.2% (FONERWA, 2023) (NISR, 2022). Youth make up 48.8% of the population and have limited access local tertiary education and off-farm employment prospects (FONERWA, 2023). This implies that initiatives that seek to address landscape and livelihood risks concurrently will provide significant benefits to communities in the area.

Alongside these challenges, unrealized opportunities exist. Agriculture remains relatively unproductive despite being the largest employer, reflecting a misallocation of labor and resources. Addressing these vulnerabilities and attaining economic potential is paramount to improving rural livelihoods in Rwanda. Yet, to do this requires overcoming several existing obstacles, especially in the context of agricultural and forestry activities. These include weak and underdeveloped value chains, limited access to inputs, equipment, and finance, as well as inadequate access to agricultural output and retail markets (characterized by weak trading relationships within the region and domestic market inefficiencies). Furthermore, there is a general lack of financial, technological and human capacity among rural communities to address environmentally degrading practices, or to identify and develop alternative income-generating activities. These obstacles are particularly burdensome for women, owing to their relatively higher participation in agriculture compared with men.

The aims and objectives of this project are therefore:

- To enhance the **resilience of landscapes** through measures to:
    - protect intact ecosystems, restore degraded ecosystems, and promote their sustainable management to improve their productivity; and
    - secure the ongoing provision of valuable ecosystem services that are critical to both climate adaptation and mitigation.
- To enhance the **resilience of livelihoods** through measures to:
    - reduce household vulnerability to climate change;
    - support the development and scaling of sustainable nature-based livelihood opportunities in a climate-resilient and gender-sensitive manner;
    - diversify livelihoods to reduce over-reliance on natural resources and build adaptive capacity.

To achieve these aims, four core components, each with an indicative suite of activities and sub-activities are proposed (see **Table 4-1**).

[5] In this area, amongst other impacts, the reduction in soil water infiltration reduces soil water available for crop production and reduces dry-season stream flow. The increased run-off, combined with limited vegetation cover and steep slopes, also results in increased erosion of topsoil, critically degrading scarce productive land and elevating downstream flooding risks.

Table 4-1: Project components and activities and how these support mitigation and adaptation

Project components and activities	Mitigation	Adaptation
Component 1: Integrated catchment and landscape restoration		
A: Increase forest productivity and sustainable forest management	✓	✓
1.A.1 Demarcation of potential investment forest zones and types.		
1.A.2 Support the provision of high-quality seed and plant genetic material through nationally available sources, most notably through the Tree Seed Centre in Huye.		✓
1.A.3 Conduct short term tests on new species and varieties and best practices on demonstration / trial forestry plots.		
1.A.4 Forest stand improvement - *Eucalyptus* and *Pinus* in public and private forests where production is a main objective.	✓	
1.A.5 Establish community tree nurseries and capacity support. Focus on growing optimal species and genetic material.		✓
1.A.6 Establish new or rejuvenate failing woodlots and build capacity in optimal woodlot management.	✓	
1.A.7 Stabilize rivers, roadsides and steep slopes (>55%) with protective forestry, perennial grasses and shrubs. Where possible utilize indigenous plant species to establish micro-habitats/corridors to support pollinators and other important biodiversity.	✓	✓
1.A.8 Sustainable management and protection of remnant indigenous forests and grasslands including reforesting and management of invasive alien species and implementing soil protection interventions in degraded areas. Consideration will also be given to the development and piloting of a system for Measurement, Reporting and Verification (MRV) of carbon storage and sequestration in forest habitats to support a recognized gap in the country's GHG inventory and in its mitigation NDCs.	✓	
B: Promote climate-resilient farming practices	✓	✓
1.B.1 Zoning of potential investment land for agriculture, pasture, perennial crops, etc., in consultation with RAB, district agronomists, land officers, and local communities.		
1.B.2 Introduction of soil and water conservation measures in cultivated areas: • Terraces including radical and progressive terracing depending on slope, • Contour banks (trenches) in high slope areas, • Cover cropping - tea and coffee plantations (important link to private sector investment), • Biological control measures such as mulching and intercropping, • Planting fodder grasses on bunds/ridges, • Use of improved vegetated fallows, • Introduction of minimal till agriculture, • Conversion from annual to perennial crops.	✓	✓
1.B.3 Matching of crops and permanent vegetation to soils and farming methods.		
1.B.4 Establish agro-forestry on suitable areas, particularly on steep and unprotected slopes.	✓	✓
1.B.5 Introduce low-regret adaptation interventions (water management (e.g. rainwater harvesting), crop diversification, grass strips, culverts, hedgerows and tree belts) to reduce exposure of smallholder farmers to climate variability and shocks.		✓
1.B.6 Introduce climate-resilient planning and practices for expansion of tea and coffee production and investigate the opportunity for utilizing areas with acidic soils.	✓	✓
1.B.7 Investigate and develop potential opportunities for public private partnerships for the development of opportunities related to tea, coffee, and other high value crops.	✓	
1.B.8 Development of a weather forecasting and early warning system to guide timing of planting and crop type, as well as providing early warning for flooding.		✓
Component 2 – Ecological restoration of priority conservation areas		
A: Restore and protect wetlands and riverine ecosystems	✓	✓

Project components and activities	Mitigation	Adaptation
2.A.1 Localized wetland master planning to identify areas for wetland development and/or rehabilitation to provide services such as water quality improvement and flood protection.		
2.A.2 Physical demarcation of riparian buffer zones for protection and revegetation (see 3.3).		
2.A.3 Rehabilitate degraded wetland areas identified in 3.1.	✓	✓
2.A.4 Rehabilitate riparian zones, as demarcated in 3.2, with vegetation that will generate livelihood opportunities to communities, as well as protecting river banks and riparian zones.	✓	✓
2.A.5 Develop opportunities for financing mechanisms in the corridor such as PES and green bonds.		
Component 3 – Livelihoods diversification		
A: Strengthen awareness, knowledge, and capacity of local communities, policy- and decision-makers to design, implement, and maintain natural solutions that enhance climate resilience	✓	✓
3.A.1 Vulnerability assessments with community participation, and community-based survey of project area and prioritization of interventions (with communities, water and agricultural experts and other stakeholders).		✓
3.A.2 Training of district officials and community volunteers in gender sensitive climate adaptation planning and role of NbS (training of trainers).		✓
3.A.3 Planning workshops involving district officials and local communities to develop local adaptation plans that mainstream NBS and that address local needs and consider gender roles and responsibilities, and to support the establishment and operation of community-based disaster risk reduction committees, ensuring gender-balanced representation.		✓
3.A.4 Establish a Community Adaptation Facility (CAF) through which districts and CSOs can access grant financing for ecosystem protection and restoration activities that deliver public goods.		✓
3.A.5 Strengthen knowledge of national and district officials in value of ecosystem services delivered by forests and wetlands so that these can be better reflected in decision- and policy-making.		
3.A.6 Support the development of an action plan to expand schemes in which providers of ecosystem services are paid by beneficiaries and support the roll-out of PES pilots to establish proof-of-concept and help scale up.	✓	✓
3.A.7 Establish a Technical Assistance Facility through which micro and small forest and farm enterprises can access business incubation services including technical support and early-stage financing for developing businesses focused on promoting the nature economy and alternative income-generating activities (IGAs) that use resources sustainably and that ultimately achieve climate-resilient landscapes and improved livelihoods.		✓
B: Promote income-generating activities that support more climate-resilient livelihoods associated with increased forest productivity and sustainable forest management	✓	✓
3.B.1 Design and deliver training to strengthen capacity of local extension services to support climate resilient practices in forestry (training of trainers).	✓	✓
3.B.2 Support the roll-out of technical training for forestry technicians in sustainable land management practices (e.g., soil management practices, erosion control).	✓	✓
3.B.3 Strengthen capacity (skills and knowledge) of forestry technicians to support specialization, intensification, diversification, and value addition.		
3.B.4 Support forest owners to establish Forest Management Units (FMUs), Forest Owners Associations (FOAs) or producer groups to promote economies of scale in operations and improve coherent forest management, in line with the aspirations of the DFMPs.		
3.B.5 Support local communities (through FMUs, FOAs, producer groups and MSMEs) to identify and establish the feasibility of developing income-generating opportunities (including woodfuel and beekeeping) and post-harvest value chains for timber and non-timber forest products from private forests.		
3.B.6 Support individual forest owners, FMUs, FOAs, or forest producer groups to access finance, insurance, and market linkages, including through the Technical Assistance Facility and Fund (see 1.4 and 1.7).		
3.B.7 Develop and implement standards / certification to secure improved market access, attract a price premium and promote more sustainable forest management practices.		
C: Develop post-harvest value chains associated with climate-resilient farming practices	✓	✓

Project components and activities	Mitigation	Adaptation
3.C.1 Support Farmer Field Schools (FFS) to promote the adoption of CSA practices within agricultural systems, including soil and water conservation.	✓	✓
3.C.2 Support the roll-out of technical training by local extension services for farmers in sustainable land management practices (e.g., soil management practices, erosion control).	✓	✓
3.C.3 Strengthen capacity (skills and knowledge) of farmers to support specialization, intensification, diversification and value addition.		
3.C.4 Establish cooperatives / producer groups (where these do not already exist) to promote economies of scale in operations and improve agricultural land management.		
3.C.5 Support local communities (through co-operatives / producer groups and MSMEs) to identify and develop post-harvest value chains for agricultural produce.		
3.C.6 Support individual smallholder farmers, co-operatives or producer groups to access finance, insurance, and market linkages, including through the Technical Assistance Facility and Fund (see 1.4 and 1.7).		
3.C.7 Develop and implement standards / certification for agricultural production to raise quality and attract private sector investment.		
D: Catalyze income-generating activities that support more climate-resilient livelihoods associated with restoration and protection of wetlands and riverine ecosystems		✓
3.D.1 Establish feasibility of, and develop markets around conservation farming in wetlands and riverine ecosystems including, for example, sustainable rice production and bamboo		✓
3.D.2 Establish cooperatives / producer groups to promote economies of scale in operations and support more sustainable management and use of wetland ecosystems.		✓
3.D.3 Support individual smallholder farmers, co-operatives or producer groups to access finance, insurance, and market linkages, including through the Technical Assistance Facility and Fund.		
3.D.4 Develop and implement standards / certification for wetland produce to raise quality and attract private sector investment.		
Component 4 – Project management, monitoring & evaluation, gender mainstreaming, and capacity building		
A. Project management and co-ordination		
B. Capacity building, M&R, and gender mainstreaming		

Resilient Landscapes

Interventions under the broad theme of '**Resilient Landscapes**' are aimed at firstly securing productive land through protective forestry practices, terracing and other soil conservation means, and then boosting and securing long term productivity of the land through implementing a range of sustainable agricultural and forestry methods. Further to this, the rehabilitation of wetlands and riparian zones, along with the upstream soil conservation measures, will improve water quality in the river systems and provide attenuation of high flows, thereby reducing flooding of existing productive land, while also providing habitat for improved biodiversity. This is to be realized through two separate but interlinked components:

Component 1 (integrated catchment and landscape restoration) works to simultaneously protect ecosystems and infrastructure from natural hazards such as erosion, landslides and flooding, to improve the output of forest stands by implementing an array of forest improvement and forestry-based protective measures (including afforestation, forest stand improvement, stabilizing roadsides and steep slopes with protective forestry and indigenous vegetation types), and to promote climate-resilient farming practices. The component will comprise two key activities:

1) Increase forest productivity and sustainable forest management – which encompasses a number of interventions that aim to improve the diversity of tree and shrub species employed in forest improvement and land stabilization activities. Trees and shrubs will be selected at a project level to match the geographic and climatic conditions, as well as the community needs and requirements. This will be based on existing projects elsewhere and on existing knowledge tools such as the Interactive Suitable Tree Species Selection and Management Tool for East Africa found here[6]. It will be necessary to provide a balance between productive woodlots for fuelwood and income generation using tree species that are familiar to the communities and have a shorter duration to reach maturity (e.g., Eucalypts and Pine), as well as indigenous trees that are less harmful to the environment and which offer certain cultural and biodiversity benefits. Furthermore, remnant indigenous forests, suitable riparian areas and other high-biodiversity areas will be identified and, where necessary, re-planted with appropriate indigenous tree and shrub species to re-establish micro-habitats to support pollinators and other important biodiversity. It will be critical to establish the appropriate seed nurseries to ensure sufficient quantity of the appropriate type of tree required.

On-the-ground interventions are to be supported and guided by actions to improve land use planning and decision making about which activities are appropriate in which areas. Interventions will aim to ensure that sensitive areas and areas providing crucial ecosystem services are included in local level land use planning, such that they are better protected and more effectively managed. Here support will be given to a participatory, people-centric process, ensuring that the interventions that are adopted are socially inclusive, well suited to the current country and local context and are sustainable in the long-term. Component 1 also includes activities aimed at developing sustainable financing mechanisms for the ongoing implementation of sustainable land management interventions in the corridor area.

2) Promote climate-resilient farming practices – which aims to work with local landowners to implement a range of soil protection measures and to encourage and enable local farmers to adopt sustainable farming practices that increase productivity, improve soil health, decrease soil erosion, and reduce climate risks. Key to this is the focus on supporting improved local level land use planning, including the zoning of agricultural land. Foundational soil protection measures,

[6] https://apps.worldagroforestry.org/suitable-tree/rwanda

including terracing and contour banking will be prioritized, while sustainable and climate smart agricultural measures will be implemented once soil protection measures are in place. This will include measures to improve soil health through mulching and inter cropping. Facilitating activities related to this include capacity-building programs for both farmers and extension services, technical assistance and support to build better access to agricultural cooperatives. A key innovation under this component is the development of weather forecasting mechanisms and systems that will aim to communicate long, medium and short-term forecasts to farmers in support of decision making and to provide early warning of floods and other climate related disasters. This will assist farmers to deal with change in timing of planting seasons as a result of climate change, as well as allowing them advance notice of potential flooding events to enable decisions to be made around harvesting of crops and removal of implements and even people from high flood risk areas.

Also covered under this activity is the development of potential opportunities for public private partnerships through the development of opportunities related particularly to tea and coffee production. These crops are seen to provide important services to reduce soil erosion as a cover crop, and also present a good opportunity to encourage private sector investment into the landscape.

Similar to Component 1, **Component 2 (restore and protect wetlands and riverine ecosystems)** activities also aim to stabilize vulnerable land and secure ecosystem services, but here are focused on water related services, targeting wetland and riverine ecosystems. This is acknowledging their pivotal role in regulating the flow of water through the catchment, supporting biodiversity, and offering vital ecosystem services including water purification and flood attenuation. Activities target the rehabilitation and protection of wetlands and riverine environments through earthworks (where necessary to re-establish wetland hydrology) and re-vegetation using indigenous species. These activities provide an important opportunity for private sector investment for the likes of hydropower generating companies (e.g., Prime Energy) who are interested in initiatives that will reduce sedimentation levels in the rivers, thereby reducing the costs of treatment and maintenance of their equipment. While wetlands may attenuate peak flows, they will ensure more sustainable flows during the dry season, which will also benefit the hydropower companies.

As with Component 1, work in this component will be supported by activities aimed at improving land use planning, here, particularly focused on participatory local / village level wetland and riparian area master planning and demarcation on the ground of areas for use and areas for protection. This will assist in raising awareness amongst the local communities about required buffer areas and the benefits associated with ensuring these areas are rehabilitated and/or protected. It is acknowledged that in order to ensure the “buy-in” of the local communities the riparian zones should be preferably be rehabilitated with vegetation that will generate livelihood opportunities to communities, as well as protecting river banks and riparian zones.

Both of these components include activities which aim to unlock financing for climate-resilient investments and private sector engagement in ecosystem restoration in the Kaduha-Gitwe corridor. It is envisaged that CIF funding will be used to lay the foundations for initiating private sector investment through supporting micro-, small- and medium-sized enterprises (MSMEs) to develop a viable pipeline of investible businesses, to seek opportunities to both enhance the scale and quality of farm and forest produce, and to raise awareness of the opportunities for the private sector to benefit from ecosystem restoration - all of which have been identified as barriers to private sector investment to date.

Target Areas

The GoR has placed a great deal of emphasis on SLM and NbS in their environmental and development policy and strategy. There has therefore been a growing emphasis on identifying areas vulnerable to erosion, landslides and flooding and areas where specific interventions are likely to be most effective. This emphasis has given rise to useful data sets that have been used to identify target areas in the Corridor for the implementation of the interventions proposed in this IP. The most important of these is the Catchment-based landscape Restoration Opportunity Mapping Decision Support System (CROM-DSS). The CROM-DSS is an automated tool which identifies risks, locates existing protection, assesses priority areas, and classifies land according to slope and soil depth – with the ultimate aim of identifying suitable restoration options (Mott-Macdonald 2024). This tool is well recognized by the GoR and has become an important component in decision making related to managing soil erosion and other land use related impacts. It has been used here for the purposes of scoping the potential in the Corridor for specific land management interventions such as, inter alia, terracing, afforestation, reforestation, agro-forestry and conversion to no-till agriculture. The CROM-DSS polygons for the Corridor have been extracted and are illustrated in a map in **Figure 4-1**. However, more detailed planning work is necessary at the detailed project design stage to exclude areas that have already been restored (or are undergoing restoration) through previous and ongoing projects that may not be reflected in the CROM-DSS data.

Furthermore, the CROM-DSS information does not address all NbS settings though, and so to augment this, mapping data for wetlands and rivers were sourced from the Rwanda National Spatial Data Infrastructure (NSDI). Wetlands in the Corridor are highly degraded as they represent fertile and flat land and are extensively cultivated. However, given the project timeframe (five years), it is recognized that it will not be possible to restore all wetlands in the project area and some wetland areas may be less degraded than others. For the purposes of investment planning, it was therefore assumed that around 30% of the total wetland area in target catchments would be restored, but this target will need to be discussed further with REMA and MINAGRI.

Riparian areas are likewise heavily degraded due to cultivation that is practiced right up to the riverbank in many areas. To scope the extent of the riparian area, a 20m buffer was placed around all river centerlines (i.e. 10m either side of the river). From these spatial data, an estimate was made of wetland and riparian area within the Corridor that could be targeted for rehabilitation. These areas are illustrated in **Figure 4-1**. In addition, a slope model was generated to point the proposed interventions towards areas of cultivation on land that is particularly steep, and to identify areas where soil protection interventions are urgently needed.

This initial scoping allows appropriate interventions to be considered and broadly costed for the purposes of this plan. It is however important that at the implementation stage, this information is scaled down through a participatory planning process to arrive at a detailed village or micro-catchment scale land use / rehabilitation plan for each area. An important step in this process will include targeted review and mapping of existing interventions and those already catered for through other approved projects. These plans should provide sufficient implementation detail to guide individual interventions spatially and regarding the nature of land use that is appropriate in a particular land parcel. It is proposed that the participatory nature of the development process be leveraged to build capacity in land users and extension services regarding long term land use planning and in sustainable land use management technologies.

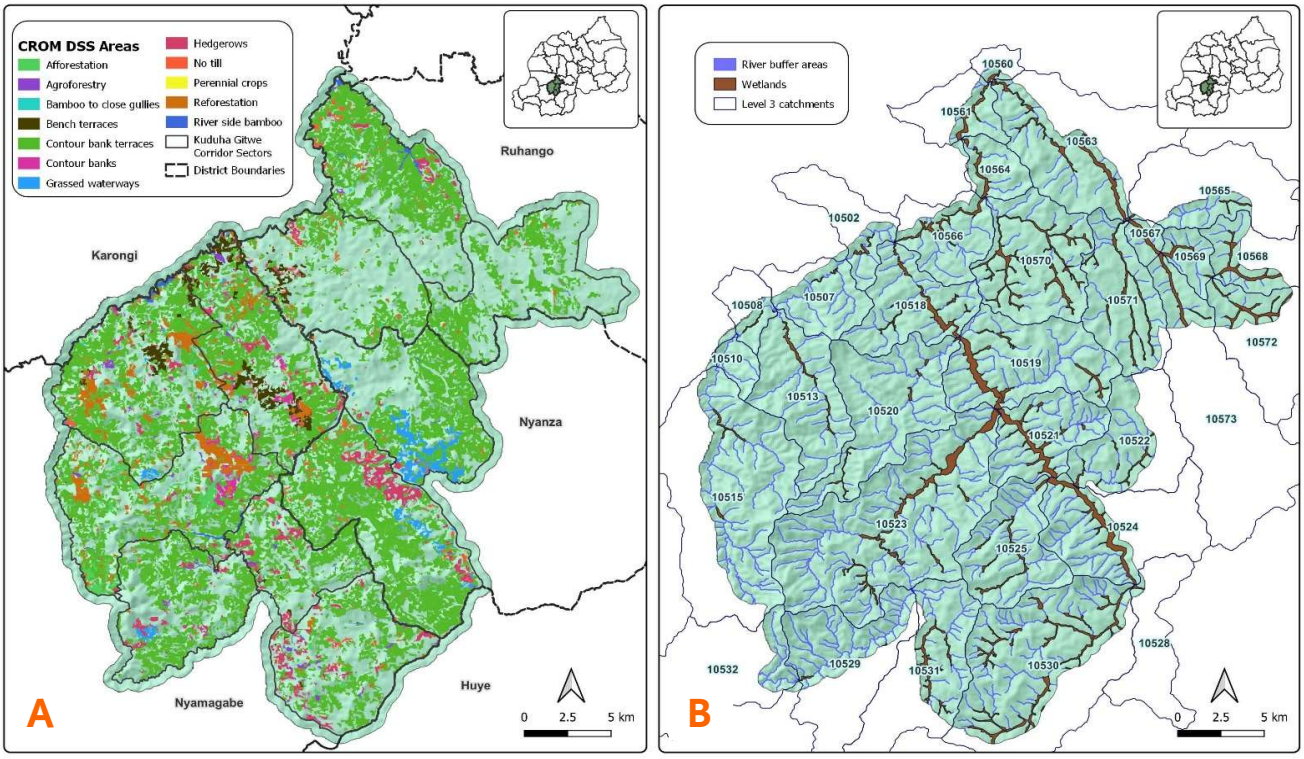


Figure 4-1: A) Potential Intervention Zones for Sustainable Land Management Interventions of Cultivated Areas, Forests and Grasslands identified by the CROM-DSS and B) Potential Intervention Zones for Sustainable Land Management Interventions for Rivers and Wetlands

Resilient Livelihoods

In relation to '**Resilient Livelihoods'**, the proposed concept will employ an economic livelihood development and diversification approach to address existing economic obstacles facing local communities utilizing nature-based resources in Rwanda's Kaduha-Gitwe Corridor, whilst simultaneously reducing their vulnerability to climate change. In undertaking these livelihood development and diversification activities, key community livelihood outcomes are achieved, which in turn realize the sub-program's overarching aim of developing sustainable, resilient and diversified nature-based local economies that improve rural livelihoods. Moreover, investment in these activities presents an opportunity to unlock the potential of nature to deliver transformative climate benefits and improve livelihoods through a systemic approach that directly addresses key pressures on critical ecosystems by incentivizing land stewardship and providing local communities with access to the financial, human and social capital needed to diversify and strengthen their livelihoods base.

The resilient livelihoods aspects of the project will be delivered through a series of interlinked activities (see **Table 4-1**) that aim to:

- Strengthen awareness, knowledge, and capacity of local communities, policy- and decision-makers to design, implement, and maintain natural solutions that enhance climate resilience
- Promote income-generating activities that support more climate-resilient livelihoods associated with increased forest productivity and sustainable forest management
- Promote the development of post-harvest value chains associated with climate-resilient farming practices

- Promote income-generating activities that support more climate-resilient livelihoods associated with restoration and protection of wetlands and riverine ecosystems

Undertaking these activities in an integrated manner enables local community members to better understand existing and future environmental challenges, incentivizes[7] them to manage them sustainably, capacitates them with the knowledge and skills to do so effectively, and strengthens and supports value chains and markets that enable meaningful livelihood development. In this way, nature-based livelihoods become more sustainable, resilient and diversified. Moreover, by assisting local communities to become economically viable and self-sustaining in the long run, the proposed approach stands to bear transformational impact beyond immediate climate impact funding. With a clear focus on empowering women and youth in particular (through upskilling, capacitation and access to finance, markets, inputs, etc.), the project will lead to broader, transformational economic and social multiplier effects within the target communities – including reduced impact of climate shocks from improved adaptive capacity, improved health and nutrition, resilient and diversified livelihoods, increased and more inclusive off-farm employment opportunities, and reduced number of deaths, incidences of Sexual and Gender Based Violence (SGBV), and livestock and crop losses associated with extreme weather events.

Finally, the fourth component of the project, which cuts across the Resilient Landscapes and Resilient Livelihoods themes, will focus on gender mainstreaming, monitoring & evaluation, capacity building and project management. While gender considerations cut across all the project components, specific provision has been made to cover the costs of a gender expert during the design phase and early implementation, working closely with REMA's Gender Focal Point.

4.4 WILDLIFE CONSERVATION BOND

Despite Rwanda's economic growth and poverty reduction efforts, persistent poverty remains, with economic gains threatened by inflation, particularly affecting the poor people. Given Rwanda's heavy reliance on natural resources (the majority of the population depends on subsistence agriculture, while there is an expanding eco-tourism sector), sustainable development is essential for the Rwandan government's mandate to scale economic gains.

Rwanda's biodiversity faces significant threats from rapid population growth and associated land use changes, particularly in agriculture and urbanization. Unsustainable land management practices like deforestation, soil erosion, and habitat fragmentation further degrade ecosystems, diminishing biodiversity. High-biodiversity areas are exposed to anthropogenic activities that threaten ecological processes and endanger biodiversity, including key species like the great apes, all of which are now critically endangered or endangered (IUCN, 2019). Climate change exacerbates these pressures, with altered precipitation patterns and increased frequency of extreme weather events disrupting ecosystems and threatening species survival. Rwanda's Country Climate and Development Report (2022) warns of a potential 5–7% GDP drop below baseline by 2050 due to climate risks.

[7] The proposed interventions aim to create awareness of the Total Economic Value (TEV) – an economic concept that refers to the value derived by people – of natural capital assets, which in turn supports the reward of private management practices that secure public goods, and which delivers benefits (or avoided costs) to private sector beneficiaries of those services.

Rwanda's biodiversity conservation efforts, including protected areas and reforestation, face implementation and enforcement challenges due to resource constraints and competing development priorities. Limited awareness and capacity among local communities also contribute to unsustainable resource use. Addressing these issues demands (i) integrating biodiversity conservation into development strategies; (ii) catalyzing and scaling private sector investment; (iii) directly and materially benefiting local communities, especially youth and women; (iv) enhancing community engagement; (v) strengthening enforcement of environmental regulations; and (vi) promoting sustainable land management.

The key aims of the Wildlife Conservation Bond (WCB) project are to:

- secure anchor habitats within protected areas (Nyungwe and Gishwati-Mukura National Parks) with the longer term goal of recreating a biodiversity corridor between these parks and Volcanoes National Park through the restoration of habitats on private and community lands outside of protected areas.
- provide opportunities to develop nature-based tourism in the Kaduha-Gitwe corridor in future as these habitats start to recover.
- to test an instrument which can be replicated elsewhere in Rwanda, supporting the country's long-term vision of establishing wildlife corridors to connect its national parks and increased conservation areas in private and community lands.

The WCB is an innovative financial instrument that leverages impact investments to deliver habitat and biodiversity conservation outcomes. The project raises funds from institutional investors, bringing a private sector approach to conservation and transfers risks of achieving outcomes from government or donors to investors. The innovative WCB structure has been successfully tested in South Africa, where the World Bank issued a US$150 million bond to raise ~US$10 million for black rhino conservation. WCB investors agree the ordinary bond coupon from the World Bank-issued bond to be diverted to finance conservation activities at the parks. There are various efforts underway to replicate the WCB for different species and landscapes. This instrument can be piloted in the Rwanda context, a first for an IDA country, and scaled across its growing conservation areas and reserves. An important feature of the WCB is that it raises conservation financing from private sector without increasing Rwanda's debt burden.

The project is structured around three components as shown in the table below.

Project components and activities
Component 1: Improve wildlife conservation management
A. Implement Park restoration activities
B. Enhance Park facilities
Component 2: Enhance community resilience
A. Support to local community enterprise development and livelihood interventions
B. Deploy nature-based tourism strategy
Component 3: Conservation success payment

4.5 PROPOSED CONTRIBUTION TO INITIATING TRANSFORMATIONAL CHANGE

The proposed investments under Rwanda's NPC Investment Program will deploy an adaptive sustainable landscape management approach to promote transformational investments that deliver systemic change with deployment of integrated climate resilience, sustainable livelihoods, and nature positive interventions. The integrated approach proposes employing a clearly defined suite of interventions targeted at initiating long term transformation by addressing identified challenges in land and forest management, supporting communities to adapt to climate change and also mitigate GHG emissions.

Furthermore, the WCB is intended to support Rwanda's financial innovation efforts and programmatic approach, leading to replication for other parks and species. It supports Rwanda's long-term vision of establishing wildlife corridors to connect its national parks and increased conservation areas in private and community lands. Securing the recently created GMNP national park, which is a UNESCO biosphere reserve, will allow for it to serve as an anchor in this connectivity drive, to eventually reconnect Volcanoes National Park, Gishwati-Mukura National Park, andNyungwe National Park. Piloting an outcome bond structure in Rwanda would complement its leadership efforts in collaborative management partnerships (with African Parks), grant investments with support from public and philanthropic donors, and emerging carbon credits and biodiversity certificates and private investments in nature-based tourism and natural capital. The WCB operation creates an outcome-bond to channel private capital for biodiversity conservation and climate resilience in Rwanda.

4.6 GESI APPROACHES FOR PROGRAM DESIGN AND IMPLEMENTATION

The Kaduha-Gitwe Corridor is characterized by poverty and livelihood insecurity; it lags behind other areas of the Southern Province in terms of job creation, education and other economic opportunities, all of which present a major challenge to women and youth, who make up the majority of the population. Up to 43% of households are female headed, 17.7% of households are in the Ubudehe Category 1 (extreme poverty) and the overall poverty rate of 50.5% is notably higher than the national average of 38.2% (FONERWA, 2023) (NISR, 2022). This situation is attributed to several factors, most of which link back to the natural resource base and climate impacts – including the high frequency of flooding and landslides, degraded water sources, soil erosion and soil acidity – all of which reduce land suitability for agriculture and food security. This implies that initiatives that seek to address these dual landscape and livelihood risks will provide significant benefits to communities in the area. The creation of economic opportunities that transpire from more sustainable land use practices is particularly pertinent for this area, given young people between the ages of 16-30 years old make up 48.8% of the population, and currently have limited access local tertiary education and off-farm employment prospects (FONERWA, 2023).

Vulnerable groups in the area (including female and youth -headed households and people with disability) are particularly susceptible to the impacts of climate change. Together with unsustainable land use practices and lack of access to basic services (e.g. roads, water and electricity), extreme weather events are increasingly degrading the natural base upon which these communities depend – perpetuating a cycle of pervasive poverty. The most prevalent GESI challenges in the area include:

- Women's limited access to resources, information[8], and financial support which confines them to the home, reduces their capacity to contribute to the development of themselves and their communities, lessens their ability to adapt to external shocks and stressors, and leads to an over-reliance on men (especially during extreme events, which is increasingly being linked to high rates of sexual and gender-based violence in the area).
- High degrees of vulnerability are experienced by women-headed households (widowed, or whose partners and sons have moved away), who bear heavy caregiving and domestic responsibilities and are unable to take advantage of new opportunities related to the environment, the economy, or society.
- Insufficient opportunities for youth to receive an education and seek employment, which either drives them to relocate or results in early pregnancies[9], SGBV, or youth delinquency (drug use, alcoholism, etc.).
- Patriarchal delineation of forestry activities, whereby men predominantly engage in the sector's income generating activities, whilst women rely on the forest ecosystems for food, handcrafts and fuel wood. This extends to decision-making forums, whereby women's representation in forest-related meetings is lacking. There is also a risk of women being chastised for prioritizing environmental protection and afforestation campaigning over domestic responsibilities.
- The Corridor's scattered settlement model, coupled with its mountainous terrain, means access to services and resources is challenging – and particularly burdensome for women, the elderly and people with disability.

It is within this context that a series of GESI-responsive approaches will be adopted and embedded within the Program's components and activities. These will be further detailed during the design phase, ensuring that – as appropriate – activities will be developed in a gender sensitive manner, with targeted gender-focused sub-activities included where necessary. Determining these sub-activities is reliant on the outcomes of socioeconomic and environmental analyses and engagements that will be conducted during the design phase, which will inform the identification of target locations in the Corridor.
These approaches have been proposed based on key learnings and recommendations from similar programs in Rwanda (described in brief in 3.6) and reflect both top-down (government and development partner-driven) and bottom-up (community driven and owned) elements:

- **Provide targeted capacity building, upskilling and on-the-job training**, to ensure that women and youth have access to the resources, technical support, and training that they need to fully engage in agroforestry and climate-smart agriculture practices. Such initiatives will be designed to specifically meet the needs of women and youth – many of whom lack secondary school education – and will factor in important considerations, like the proven benefits of providing women-to-women extension support, the need for women to earn income whilst growing their skills, and ensuring women's preferences are considered when selecting tree and crop species. This will be coupled with outreach and awareness campaigns that promote gender-equitable knowledge dissemination, to be delivered through women's rights and advocacy organizations (e.g. through NWC and Rwanda Women's Network) who will equip women with a clear understanding of Rwanda's gender-sensitive laws relevant to natural resource management and land.

[8] Across a broad range of topics, such as climate adaptation, external shocks (hazards, pandemics), training, business and market opportunities, etc.
[9] Early pregnancies lead to high school dropout rates for girls, meaning many young women in the area are uneducated.

- **Prioritize women and youth empowerment in decision-making platforms and income generating initiatives,** by offering them the opportunity to take on leadership roles, participate in decision-making forums, and generate income within community-based organizations, agricultural cooperatives and value chains. To enable this, targeted effort is required to alter pre-existing gender roles and stereotypes in the forestry and agriculture sectors through sensitization and awareness raising of male counterparts; district leadership and accountability in setting affirmative action targets; and education amongst women as to their rights (particularly as these pertain to finance and land). As a basis for determining appropriate avenues for stimulating such empowerment, it will first be critical to:
    - establish a clear understanding of the power dynamics within target communities – considering the roles, and existing make-up, of relevant decision-making authorities such as community-based disaster risk reduction committees, Forest Management Units (FMUs), and Forest Owners Associations (FOAs);
    - understand existing responsibilities of women and youth, and the impact that these may have on their ability to meaningfully participate and shape committee discussions without adding an additional time burden to their daily chores; and
    - map out and engage with influential local actors and agents of change, such as the Village Executive Committee, religious leaders, and female leaders, who can play pivotal roles in mobilizing support and facilitating transformative shifts in the way women are perceived within their communities.
- Aligned with the above, **sensitization of male community members** through targeted campaigns will be critical to ensuring that men and boys understand, respect and support women's involvement in livelihood opportunities (and the related economic opportunities that these offer) to avoid household conflicts or control over women's use of assets and funds. These will focus on educating men on the benefits that would be unlocked by supporting their partners or daughters to partake in livelihood diversification or education initiatives (and required capacity building support to do so), and will be coupled with support to both women and men on mediation options and grievance mechanisms that can be utilized, should household conflicts arise as a result of this Program.
- **Improve women's resource access and ownership, as a basis for securing financial support** (loans, insurance etc.), which will enable women's economic independence and decision-making authority within their homes and communities. Finance (together with capacity building, access to inputs, etc.) is a primary enabler for many of the activities proposed under this Program. Given land is an important a source of income or collateral for credit, the Program will work with Government entities to increase women's land tenure security by educating women and men on women's land rights and clarifying land titles in the target areas as per Rwandan law.
- **Tailor financial mechanisms, support women-led and youth-led micro savings groups and Village Savings and Loan Associations (VLSAs), and set targets for direct financial support to women and youth.** This includes ensuring micro finance institutions offer loans to women and youth to encourage them to own assets; ensuring a percentage of any Program-related grants go directly to women and youth -headed households; and offering behavioral change programs and financial literacy training to help women and youth be more responsive, transparent and accountable in order to maintain viable saving systems. Institutions who are actively working on such issues (including BDF, BNR and Access to Finance Rwanda) will be engaged early on to help co-create these mechanisms, platforms and outreach campaigns by considering effective affirmative action measures that have been applied elsewhere.

- **Establish, empower and support the growth of women-led cooperatives, and women members within mixed gender cooperatives**, through the aforementioned measures focused on upskilling women farmers; empowering them to invest in, and expand, their operations through appropriate financial mechanisms; facilitating their access to information and technology (on climate, markets, post-harvest processing facilities, financial products and literacy, etc.); and offering opportunities for learning by connecting newly established cooperatives with successful examples elsewhere in the Province.
- **Mobilize broader governmental and development partner initiatives**, such as the establishment of accessible Early Childhood Development Centers and / or Community-based Spaces that provide mothers with the assurance that their children will be safe and well-nourished while they engage in income-generating activities, simultaneously fostering women's economic empowerment and tackling malnutrition. This could also include the establishment of "Udukiriro" (an integrated Craft or Business Centre) which would seek to stimulate economic opportunities for a variety of trades people, and provide a space for women to sell goods without having to travel long distances to markets.

Importantly, these approaches will align with the CIF NPC Program's gender integration requirements and guidelines, contained in the Gender Integration Guidance Note, CIF NPC Investment Program Design Document, CIF Gender Policy and CIF Gender Action Plan Phase 3. Moreover, given the importance of aligning the components under this Program with the VCRP's programmatic approach and implementation arrangements, as well as the GEF-8 investments in the Corridor, care will be taken to ensure that the GESI approaches and interventions developed under this Investment Plan will align with those being carried out by the VCRP, and the GEF's Policy on Gender Equality as well as its Guidance to Enhance Gender Equality in GEF Projects and Programs.

Streamlining and ensuring complementarity of GESI efforts in the Corridor, alongside adaptive learning across similar programs across the country, will fall to the responsibility of a dedicated Gender Expert. This Expert will be responsible for carrying out the appropriate gender and social inclusion analyses during the design phase, which will serve as a basis for developing a Gender Action Plan (GAP) for the Program. As with other successful development programs in Rwanda[10], the GAP will go beyond setting quotas for women and youths' involvement in specific activities and also track qualitative changes such as: behavioral and attitudinal shifts in women and men, growth of female-led enterprises, changes in financial practices as a result of financial literacy training, etc.

The Gender Expert will also oversee implementation, monitoring of, and reporting on the GAP for at least the first three years of the Program's implementation, during which time a handover process will be facilitated with REMA's Gender Focal Point (or another suitably qualified individual embedded within a national or local institution) who will take on this GESI oversight role across investments in the Corridor.

4.7 ADDRESSING KEY CHALLENGES AND BARRIERS

The preceding chapters highlight the array of environmental, climatic, and socio-economic challenges confronting local communities. Addressing these challenges effectively requires an integrated approach that considers the

[10] such as the Green Gicumbi, the Land Husbandry, Water Harvesting and Hillside Irrigation Project, the Landscape Approach to Forest Restoration and Conservation and the Green Amayaga Project, to name a few.

interconnectedness of environmental, social, economic, and governance factors. In this regard, the Resilient Livelihoods and Resilient Landscapes sub-programs have specifically been designed to complement each other and intended to be implemented concurrently, recognizing that any efforts to restore Rwanda's degraded ecosystems need to be accompanied by efforts to improve the livelihoods that depend on them, thereby removing the underlying drivers of impact.

Resilient Landscapes' focuses primarily on implementing SLM and climate resilient farming and forestry measures at the landscape level that specifically address challenges stemming from unsustainable land management practices, agricultural encroachment and pollution. This will initiate transformation by protecting productive land and improving the management of natural resources (thereby securing sustainable agricultural productivity for the long term), as well as supporting communities to adapt to climate change and to mitigate GHG emissions. The 'Resilient Livelihoods' sub-program complements this by focusing on building capacity to ensure local farmers are included and trained to participate in the implementation of these measures and for the long term. Furthermore, the 'Resilient Livelihoods' sub-program aims to promote the long term sustainability of SLM and climate resilient farming and forestry practices by strengthening the value chains that underpin them (currently, value chains are underdeveloped, farmers face limited access to inputs, finance and markets, and local communities experience a knowledge and skills gap).

By undertaking both sub-programs together, immediate improvements in natural resource management can be achieved while fostering self-sustaining economic viability for communities in the long run, ultimately contributing to a more resilient and prosperous future for the Kaduha-Gitwe corridor and the Southern Province.

4.8 PROGRAM ALIGNMENT TO NPC INVESTMENT CRITERIA

The proposed program has been designed with close alignment to NPC's Investment Criteria. **Table 4-2** below summarizes this alignment.

Table 4-2: Program alignment to NPC Investment Criteria

CIF Criteria	Relevance to Program
1. Potential for Transformational Change	
Relevance	The program directly mirrors the aims for of CIF-NPC Program to deploy NBS that recognize the interdependence among land use, climate-change mitigation and adaptation, and the improvement of the sources of livelihoods of rural communities. The program has been designed to realize transformative change by addressing key challenges and needs in the Kaduha-Gitwe corridor of the Southern Province, focusing on restoring critical ecosystems, enhancing community resilience to climate change, and mitigating unsustainable land management practices. This is vital for the Southern Province, where climate-related threats like landslides and soil erosion are prevalent, and a significant portion of households rely on climate-sensitive agriculture, putting pressure on limited natural resources. The Southern Province is highly populated, dense, predominantly rural and experience higher than average poverty levels. Consequently, the dependence of communities to natural resources makes them especially vulnerable to a changing climate.
Systemic Change	The program has the potential to realize valuable co-benefits such as improved agricultural productivity and household income, habitats for biodiversity, water quality, and opportunities for eco-tourism and recreation, aligning with national efforts to achieve the UN SDGs. The project's targeted impact on enhancing and diversifying livelihood opportunities offers potential spillover effects benefiting surrounding communities in the long term. Notably, the program avoids negative impacts on existing livelihoods, especially for women and vulnerable groups. From a

	biodiversity perspective, the proposed project strategically leverages its location adjacent to the Congo-Nile Divide to enhance biodiversity by reconnecting fragmented habitats. This includes revegetating corridors along waterways to provide stepping-stone habitats for wildlife, supporting species adaptation to climate change.
Scale	The proposed program supports a broader aim to focus investments in Southern Province in order to achieve rapid and transformational impact by building on the foundations of ongoing projects such as the US$32 million Forest Landscape Restoration project in Mayaga region (presents opportunities for scaling up and out), leveraging resources of forthcoming GEF project to apply an ecosystem-based restoration approach for Nyungwe-Ruhango Corridor, a proposed $20 million GEF-LDCF project to Build Community Resilience and Transform Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province, as well as a CIF Forest Investment Program project on agroforestry covering Nyaraguru and Nyamagabe districts. While aligning with these existing projects, the proposed program aims to create additionality by focusing on specific locations, developing relevant agroforestry value chains and leveraging innovative finance schemes. The program has been designed to catalyze additional financing from other development partners and mobilize a variety of financial instruments and resources while also accounting for the differentiated needs and ambitions of different stakeholder groups. If implemented successfully, the program will provide a strong bases for replicability elsewhere. Furthermore, the investment builds on the VCRP which has been able to leverage US$132 million of investment (US$12 million from PROGREEN and US$120 million from EIB) and which applies a programmatic approach.
Speed	The 'Resilient Landscapes' activities offer immediate, tangible benefits in the form of targeted landscape rehabilitation efforts, enhancing the sustainability of critical ecosystem services upon which most local livelihoods depend. In conjunction with 'Resilient Livelihoods' activities, the program builds local capacity and develops broader agroforestry value chains aimed at improving adaptive capacity and economic viability in the long term.
Adaptive Sustainability	The program bridges existing knowledge and skills gaps by providing technical farmer / forestry technician training, as well as broader community level training and participation. This builds local adaptive capacity (thereby reducing vulnerability to climate-induced risks) and generates community buy-in for long term success. Moreover, the activities focused on awareness raising, training and skills development and which are integral to the program, will equip local communities with the knowledge and skills they need, and will continue to develop through experimentation and learning, to adapt their land management and use and livelihoods generation practices to meet their particular needs and in response to changing conditions.
2. Potential for GHG Reductions/Avoidance	
Contribution to Achieving Rwanda's NDC Goals	The proposed project is poised to support Rwanda's NDC goals by mitigating CO2 emissions through reduced deforestation and soil loss, preserving carbon storage capacity. This contributes to lowering overall emissions compared to a business-as-usual scenario. Additionally, community adaptation planning will identify added climate mitigation activities where possible, further enhancing the project's impact on achieving Rwanda's NDC targets.
3. Financial Effectiveness	
Value for Money	The proposed project is expected to offer positive value for money, delivering strong economic, social, and environmental returns on investment. It emphasizes creating self-sustaining enterprises within value chains, ensuring long-term impact and economic viability. Additionally, the project's spillover and income multipliers are significant, amplifying its overall value and contributing to sustainable development and prosperity in the region.
Potential for Mobilization	The proposed project holds strong potential for mobilization on multiple fronts. Firstly, its integrated approach appeals to diverse stakeholders, attracting both public and private investment. Secondly, it builds upon existing projects in Rwanda, leveraging established foundations. Thirdly, local stakeholders have already shown readiness to engage, as evidenced by district officials' commitment and community willingness to participate in ecosystem protection and climate-resilient agricultural practices, ensuring rapid impact and effective implementation.
4. Just Transition	
The proposed program demonstrates a strong potential for a just transition by prioritizing support for communities with high poverty levels and those most vulnerable to climate-induced risks. Additionally, it explicitly aims to empower women and marginalized groups,	

ensuring that they are included and supported throughout project implementation. This focus on equity and inclusivity enhances the program's ability to foster resilience and promote sustainable development in an equitable manner.

5. Gender Equality & Social Inclusion

In the Kaduha-Gitwe Corridor, vulnerable groups, such as female-headed households, youth, and individuals with disabilities, face heightened risks from climate change. This project aims to improve the lives and livelihoods of women and young people in the Corridor by actively engaging and supporting them through climate-smart and nature-based initiatives. The project incorporates gender-responsive measures to ensure meaningful participation and benefits for women, including increased access to climate finance, leadership opportunities, and capacity building tailored to gender and social inclusion. Additionally, the program emphasizes adaptive management and monitoring to address gender-specific barriers and promote inclusive outcomes.

6. Development Impact Potential

The proposed program holds positive potential for development impact through its integrated NBS approach. By reducing degradation activities and conserving key ecosystems, it contributes to environmental sustainability and resilience to climate-related risks like landslides and flooding. Additionally, the project promotes cleaner environments, enhances livelihood opportunities through capacity building, and fosters the development of agroforestry value chains. This not only diversifies economic opportunities but also boosts regional competitiveness, accelerates economic growth, and creates employment. Furthermore, by actively involving women, the project aims to reduce social inequalities and ensure inclusive development outcomes. It is also worth noting that a US$31 million investment in this part of the country is a major investment in comparison to the value of economic activities in the Districts.

4.9 OPPORTUNITIES FOR PRIVATE SECTOR INVOLVEMENT

Leveraging private sector involvement across NbS has, typically, been challenging given the limited links between motivations or incentives established in the public and the private sector. Rwanda has made considerable progress in unlocking private sector participation with some of the frameworks and initiatives (outlined below), though further adaptations or enhancements may provide for greater engagement and uptake by the private sector. In 2023-2024, the Ministry of Finance and Economic Planning has prepared a national Climate and Nature Finance Strategy 2024-2030 that aims to increase green investment by the public and private sectors and to enable the effective mobilisation of substantial financial resources dedicated to addressing climate change and conserving biodiversity in alignment with the country's development vision.

Opportunities identified for private sector involvement are as follows:

Enabling environmental regulatory landscape

Rwanda – as a participant in critical international environmental treaties (e.g., UNFCCC, Paris Agreement, Kyoto Protocol) – is obligated to comply with the environmental commitments in these agreements, creating the imperative for climate action. Rwanda has adopted local best practice environmental laws and regulations to create an environment that enables these treaties to be effective, execute climate-related risk reduction, and prioritize environmental protection.

Participation in international environmental treaties unlocks investment potential from the broader range of financial mechanisms which can support Rwanda's climate initiatives. It also provides regulatory support for the development of further legal and institutional frameworks to support climate finance such as the development of carbon markets.

Green taxonomy

Rwanda announced its new Green Taxonomy in December 2023 at COP 28. A green taxonomy can aid in identifying and inflowing climate finance funds by clarifying what qualifies as "green" and assist financial institutions looking to align investments with climate goals by flagging suitable opportunities. The Green Taxonomy itself requires that key economic activities of agriculture, transport, construction and energy (with the additional four sectors to be finalized by the end of 2024) must comply with the relevant Rwanda environmental legislation and international standards for their sector to be associated with the Green Taxonomy but otherwise, the document is not mandatory.

It is appropriate for the Green Taxonomy to initially not be mandatory as it is a technical document, and further capacity building is required before its proper application. However, for the Green Taxonomy to apply effectively in Rwanda as a medium-term project, further development on the regulatory adoption of the taxonomy in Rwanda is recommended.

For example, the EU has introduced regulations on its sustainable disclosure requirements for companies, which have been adapted for the Green Taxonomy. In the short term, other non-regulatory measures could be introduced to implement the green taxonomy in Rwanda, namely the alignment of the following with the green taxonomy:

- IREME Invest –a novel investment facility administered by RGF and the Rwanda Development Bank (BRD) that aims to address market gaps in the financing of green and climate-resilient investment to promote sustainable and inclusive economic growth led by Rwanda's private sector;
- Investment methodology of the RGF;
- Green budget tagging; and
- Listing requirements for green bonds and other ESG products on the RSX. Green bonds may target hydropower operations implementing NbS, PES schemes, and climate-smart agribusiness projects that provide opportunities for local entrepreneurs.

Principles of responsible investment and ESG criteria

The introduction of responsible investment and ESG initiatives places a greater emphasis on climate finance and sustainable investing in the private sector; this should aid the integration of ESG considerations into banking and investment practices. Although responsible investment principles have been developed for Rwanda's banking and capital markets sectors, **further work could be done to create a local code incorporated as part of Rwanda's investment policy**. It should be noted that although these guidelines or principles include a climate finance component, they are principle-based and not mandatory – therefore providing scope for non-compliance.

Tax initiatives and incentives

Most of the current measures identified that have been implemented are based on taxing non-compliance with environmental standards instead of tax incentives to encourage sustainable finance, which would be reviewed as an additional measure to promote climate finance. Some key aspects have been identified below:

- **Environmental Taxes:** Taxes are already in place on many known pollutants, including carbon, various plastics, and some packaging materials. These encourage a shift to more sustainable technologies and materials within the economy.
- **Incentives for Renewable Energy:** Rwanda provides tax incentives and exemptions to promote investment in renewable energy projects. These incentives may include tax holidays, reduced tax rates, or tax credits for businesses

engaged in the production or distribution of renewable energy sources such as solar, wind, and hydroelectric power. This is particularly relevant for our identified sector in hydroelectric power generation.

- **Incentives for NbS investments:** Investments in NbS, primarily from the hydropower and agribusiness sectors, could be eligible for tax credits or reduced tax rates. Investments could also be incentivized through mechanisms such as the forest resilience bond. This is needed as businesses see NbS as unnecessary business costs and, therefore, require further incentives to make the required investments. NbS could be incentivized by riverine restoration and terracing of rice paddies to reduce irrigation needs.

- **Incentives for climate-resilient cultivars:** Tax incentives may also be applied to the purchase of climate-resilient seeds or seedlings of maize, tea, coffee, rice, and trees. Encouraging the growth of these cultivars will enhance the resilience of smallholders and cooperatives against climate perturbations.

- **Tax Relief for Environmental Conservation:** Donations to environmental conservation projects or investments in eco-tourism initiatives may be eligible for tax deductions or exemptions. These incentives encourage private sector involvement in environmental conservation and support sustainable development objectives. Other examples include relief for investments in wetland-sensitive rice cultivation practices.

- **Other incentives:** These could include further incentivizing green instruments, with deductions for transaction costs, partial reductions for investment income inclusions, or exempting income to encourage participation from a broad set of investors, or developing payments for ecosystem services (PES) schemes that reward individuals, communities or co-operatives for land stewardship (e.g. expansion in forest cover, provision of wetland ecosystem services, etc.).

PPP legislation and strategies

The development of key PPP legislation and supporting regulations in Rwanda has enabled an increase in the flow of private funds into the climate finance sector.

- **Enhancing Reforestation Efforts** – Facilitate collaborative reforestation initiatives, combining government-led conservation efforts with private sector expertise and investment to restore degraded landscapes and protect biodiversity.

- **Scaling Up Sustainable Agriculture** – Promotion of sustainable agricultural practices, such as agroforestry and soil conservation, by providing technical assistance, access to finance, and market linkages to smallholder farmers, contributing to climate-smart food production and resilience.

- **Developing Green Infrastructure** – Support the development of green infrastructure projects, including sustainable energy generation, eco-friendly transportation systems, and resilient water management solutions, to reduce carbon emissions and enhance climate adaptation.

- **Facilitating Carbon Offsetting and Climate Finance** – Create mechanisms for carbon offsetting and climate finance through carbon trading schemes, where private sector entities invest in nature-based projects to mitigate their carbon footprint while generating revenue for conservation and community development. These schemes should be linked to tax incentives, providing a financial incentive to the private sector and promoting their inclusion.

- **Facilitating Payment for Ecosystem Services:** Mechanisms may be incubated and supported for landowners or resource managers to be paid by ecosystem service users (for example, hydropower companies) for carrying out land management practices that improve the provision of these services, therefore generating revenue for restoration and community development. This is needed as it incentivizes resource managers to restore land and reduces the risks of direct private investment in NbS by operators.

- **Sustainable Management of Protected Areas:** Potential to build on successful experiences of Collaborative management partnerships (CMP's), such as with African Parks, and other partners, to sustainably manage protected areas.

Lack of private incentives for investment

There do not appear to be any incentives in the regulations relating to **pension funds or insurance investments that drive sustainable investment practices. Although these are typically not mandatory, they are often initially imposed in the disclosure or reporting requirement, which then filters** through into driving sustainable investment practices. However, reporting and disclosure initiatives such as the Taskforce on Climate-Related Financial Disclosure (TCFD), Taskforce on Nature-related Financial Disclosure (TNFD), EU Corporate Social Responsibility Directive, and the US Securities and Exchange Commission (US SEC) are driving investment in more sustainable business practices.

No sustainability-linked listing criteria

There are currently no sustainability "labels" and related certification standards for listed Rwandan companies regarding listing criteria on the RSE. The green taxonomy could be utilized to develop listing criteria for "green, social or sustainability-linked" financial instruments.

Awareness raising for the private sector

A lack of awareness was noted in the private sector concerning the application of NbS, particularly in the hydropower sector, which saw this purely as a CSR expenditure rather than an investment in reducing maintenance costs. This highlights the need to raise awareness among potential investors about these activities. Awareness raising may include showcasing successful projects, such as PES's climate-smart agricultural operations for hydropower projects.

Formation of cooperatives

The agricultural sector of Rwanda is fragmented into numerous smallholder operations, meaning there is little ability to negotiate with suppliers and consumers. Encouraging the formation of cooperatives through awareness raising, capacity building, and technical assistance would allow for several key outcomes:

- **Knowledge transfer and best practice sharing** –Through collaboration between industry participants, skills and knowledge can be effectively transferred between individual producers, enhancing productivity, smart climate practices, and the use of NbS in agriculture. This may also allow cooperatives to attain certification from international bodies, enhancing the value of their products.
- **Collective bargaining** – Enabling greater bargaining power to producers for greater efficiencies and access to higher quality markets;
- **Access to more comprehensive financial products** – Greater output and cross-guarantee structures will provide both the diversification and scale many institutions require to provide debt facilities. The increased scale will open the door to both larger lenders, which are often cheaper, and a diversity of products, including working capital financial products.

4.10 PHASING OF COMPONENTS

Table 4-3 provides an indication of the phasing of the activities in the IP. In the phased implementation of the IP, several key considerations emerge. In the project design phase, understanding other complementary activities in the region will be key to avoid duplication of efforts and to align projects for collaboration and synergies. Following the acceptance of the IP, further consultations will be organized for the development of projects. In this phase of the process, engagements with local communities will be prioritized as the buy-in of the communities is crucial for the success of the IP. Community involvement and capacity building are fundamental throughout the entire process. Initiating community involvement and building working relationships between communities and project implementors early on is critical in order to foster buy-in and ensure that local perspectives and needs are integrated into project planning and execution.

Activities such as participatory zonation and land-use demarcation form the basis for the sustainability of interventions and should precede any on-the-ground implementation. Such participatory activities are predicated on strong interactive relationships between communities and the project implementors. This strategic approach provides a foundation for informed decision-making and ensures that interventions are aligned with community needs, landscape priorities and ecological sensitivities.

In particular, components 1 and 2 of the *Catalyzing climate, nature and people investments for resilient landscapes and communities in Kaduha-Gitwe corridor project* have been phased in order to prioritize interventions that stabilize vulnerable and productive landscapes. Thus, beyond zoning and planning, soil stabilization activities such as construction of terraces and contour banks are targeted to ensure that any subsequent investment into activities targeting improved agricultural productivity and sustainable livelihoods are supported by the preceding work and not put at risk by, for example, an eroding soil resource. Looking ahead towards longer-term initiatives in years 3-5, the development of financing opportunities to secure long-term investment into sustainable land use is important and is accommodated across components 1 to 3. Moreover, demonstrating successful implementation becomes crucial to attract private sector investment. Such demonstrations serve as tangible evidence of project feasibility and potential returns, incentivizing further financial support. The development of certifications and standards is envisioned to enhance project credibility and quality assurance, thereby catalyzing additional investment and promoting long-term sustainability. Through these steps, the phased implementation not only addresses immediate environmental challenges but also lays the groundwork for resilient and inclusive landscape management practices.

With respect to the Wildlife Conservation Bond project, activities are phased to reflect the fact that conservation success payments can only be made once conservation outcomes have been achieved. The initial phases of work are therefore focused on the design and launch of the bond, implementing restoration plans and establishing and deploying a robust M&E system that will be used to trigger payments to investors upon achievement of conservation outcomes in year 5 of the project that are independently verified. Once the bond has been issued, the foregone coupon payments will provide the funding necessary to undertake training and capacity building, procure equipment (e.g. for monitoring), construct/rehabilitate facilities, and implement the restoration plans. As habitats begin to recover and the primate population stabilizes and grows, support will be provided to local communities to develop enterprises focused around nature-based tourism. Finally, following third-party verification of changes in the biodiversity indicators, the conservation success payments will be made.

Table 4-3: Phasing of Activities

Project components and activities	Short-term (Years 1-2)	Medium term (Years 3-5)
Project 1: Catalyzing climate, nature and people investments for resilient landscapes and communities in Kaduha-Gitwe corridor		
Component 1: Integrated catchment and landscape restoration		
A: Increase forest productivity and sustainable forest management		
1.A.1 Demarcation of potential investment forest zones and types.		
1.A.2 Support the provision of high-quality seed and plant genetic material through nationally available sources, most notably through the Tree Seed Centre in Huye.		
1.A.3 Conduct short term tests on new species and varieties and best practices on demonstration / trial forestry plots.		
1.A.4 Forest stand improvement - *Eucalyptus* and *Pinus* in public and private forests where production is a main objective.		
1.A.5 Establish community tree nurseries and capacity support. Focus on growing optimal species and genetic material.		
1.A.6 Establish new or rejuvenate failing woodlots and build capacity in optimal woodlot management.		
1.A.7 Stabilize rivers, roadsides and steep slopes (>55%) with protective forestry, perennial grasses and shrubs. Where possible utilize indigenous plant species to establish micro-habitats/corridors to support pollinators and other important biodiversity.		
1.A.8 Sustainable management and protection of remnant indigenous forests and grasslands including reforesting and management of invasive alien species and implementing soil protection interventions in degraded areas. Consideration will also be given to the development and piloting of a system for Measurement, Reporting and Verification (MRV) of carbon storage and sequestration in forest habitats to support a recognized gap in the country's GHG inventory and in its mitigation NDCs.		
B: Promote climate-resilient farming practices		
1.B.1 Zoning of potential investment land for agriculture, pasture, perennial crops, etc., in consultation with RAB, district agronomists, land officers, and local communities.		
1.B.2 Introduction of soil and water conservation measures in cultivated areas: • Terraces including radical and progressive terracing depending on slope, • Contour banks (trenches) in high slope areas, • Cover cropping - tea and coffee plantations (important link to private sector investment), • Biological control measures such as mulching and intercropping, • Planting fodder grasses on bunds/ridges, • Use of improved vegetated fallows, • Introduction of minimal till agriculture, • Conversion from annual to perennial crops.		
1.B.3 Matching of crops and permanent vegetation to soils and farming methods.		
1.B.4 Establish agro-forestry on suitable areas, particularly on steep and unprotected slopes.		
1.B.5 Introduce low-regret adaptation interventions (water management (e.g. rainwater harvesting), crop diversification, grass strips, culverts, hedgerows and tree belts) to reduce exposure of smallholder farmers to climate variability and shocks.		
1.B.6 Introduce climate-resilient planning and practices for expansion of tea and coffee production and investigate the opportunity for utilizing areas with acidic soils.		
1.B.7 Investigate and develop potential opportunities for public private partnerships for the development of opportunities related to tea, coffee, and other high value crops.		
1.B.8 Development of a weather forecasting and early warning system to guide timing of planting and crop type, as well as providing early warning for flooding.		
Component 2 – Ecological restoration of priority conservation areas		

Project components and activities	Short-term (Years 1-2)	Medium term (Years 3-5)
A: Restore and protect wetlands and riverine ecosystems		
2.A.1 Localized wetland master planning to identify areas for wetland development and/or rehabilitation to provide services such as water quality improvement and flood protection.		
2.A.2 Physical demarcation of riparian buffer zones for protection and revegetation (see 3.3).		
2.A.3 Rehabilitate degraded wetland areas identified in 3.1.		
2.A.4 Rehabilitate riparian zones, as demarcated in 3.2, with vegetation that will generate livelihood opportunities to communities, as well as protecting river banks and riparian zones.		
2.A.5 Develop opportunities for financing mechanisms in the corridor such as PES and green bonds.		
Component 3 – Livelihoods diversification		
A: Strengthen awareness, knowledge, and capacity of local communities, policy- and decision-makers to design, implement, and maintain natural solutions that enhance climate resilience		
3.A.1 Vulnerability assessments with community participation, and community-based survey of project area and prioritization of interventions (with communities, water and agricultural experts and other stakeholders).		
3.A.2 Training of district officials and community volunteers in gender sensitive climate adaptation planning and role of NbS (training of trainers).		
3.A.3 Planning workshops involving district officials and local communities to develop local adaptation plans that mainstream NBS and that address local needs and consider gender roles and responsibilities, and to support the establishment and operation of community-based disaster risk reduction committees, ensuring gender-balanced representation.		
3.A.4 Establish a Community Adaptation Facility (CAF) through which districts and CSOs can access grant financing for ecosystem protection and restoration activities that deliver public goods.		
3.A.5 Strengthen knowledge of national and district officials in value of ecosystem services delivered by forests and wetlands so that these can be better reflected in decision- and policy-making.		
3.A.6 Support the development of an action plan to expand schemes in which providers of ecosystem services are paid by beneficiaries and support the roll-out of PES pilots to establish proof-of-concept and help scale up.		
3.A.7 Establish a Technical Assistance Facility through which micro and small forest and farm enterprises can access business incubation services including technical support and early-stage financing for developing businesses focused on promoting the nature economy and alternative income-generating activities (IGAs) that use resources sustainably and that ultimately achieve climate-resilient landscapes and improved livelihoods.		
B: Promote income-generating activities that support more climate-resilient livelihoods associated with increased forest productivity and sustainable forest management		
3.B.1 Design and deliver training to strengthen capacity of local extension services to support climate resilient practices in forestry (training of trainers).		
3.B.2 Support the roll-out of technical training for forestry technicians in sustainable land management practices (e.g., soil management practices, erosion control).		
3.B.3 Strengthen capacity (skills and knowledge) of forestry technicians to support specialization, intensification, diversification, and value addition.		
3.B.4 Support forest owners to establish Forest Management Units (FMUs), Forest Owners Associations (FOAs) or producer groups to promote economies of scale in operations and improve coherent forest management, in line with the aspirations of the DFMPs.		
3.B.5 Support local communities (through FMUs, FOAs, producer groups and MSMEs) to identify and establish the feasibility of developing income-generating opportunities (including woodfuel and beekeeping) and post-harvest value chains for timber and non-timber forest products from private forests.		

Project components and activities	Short-term (Years 1-2)	Medium term (Years 3-5)
3.B.6 Support individual forest owners, FMUs, FOAs, or forest producer groups to access finance, insurance, and market linkages, including through the Technical Assistance Facility and Fund (see 1.4 and 1.7).		
3.B.7 Develop and implement standards / certification to secure improved market access, attract a price premium and promote more sustainable forest management practices.		
C: Develop of post-harvest value chains associated with climate-resilient farming practices		
3.C.1 Support Farmer Field Schools (FFS) to promote the adoption of CSA practices within agricultural systems, including soil and water conservation.		
3.C.2 Support the roll-out of technical training by local extension services for farmers in sustainable land management practices (e.g., soil management practices, erosion control).		
3.C.3 Strengthen capacity (skills and knowledge) of farmers to support specialization, intensification, diversification and value addition.		
3.C.4 Establish cooperatives / producer groups (where these do not already exist) to promote economies of scale in operations and improve agricultural land management.		
3.C.5 Support local communities (through co-operatives / producer groups and MSMEs) to identify and develop post-harvest value chains for agricultural produce.		
3.C.6 Support individual smallholder farmers, co-operatives or producer groups to access finance, insurance, and market linkages, including through the Technical Assistance Facility and Fund (see 1.4 and 1.7).		
3.C.7 Develop and implement standards / certification for agricultural production to raise quality and attract private sector investment.		
D: Catalyze income-generating activities that support more climate-resilient livelihoods associated with restoration and protection of wetlands and riverine ecosystems		
3.D.1 Establish feasibility of, and develop markets around conservation farming in wetlands and riverine ecosystems including, for example, sustainable rice production and bamboo		
3.D.2 Establish cooperatives / producer groups to promote economies of scale in operations and support more sustainable management and use of wetland ecosystems.		
3.D.3 Support individual smallholder farmers, co-operatives or producer groups to access finance, insurance, and market linkages, including through the Technical Assistance Facility and Fund.		
3.D.4 Develop and implement standards / certification for wetland produce to raise quality and attract private sector investment.		
Component 4 – Project management, monitoring & evaluation, gender mainstreaming, and capacity building		
A. Project management and co-ordination		
B. Capacity building, M&R, and gender mainstreaming		
Project 2: Wildlife Conservation Bond		
Component 1: Improve wildlife conservation management		
A. Implement Park restoration activities		
B. Enhance Park facilities		
Component 2: Enhance community using WCB foregone coupon payments		
A. Support to local community enterprise development and livelihood interventions		
B. Deploy nature-based tourism strategy		
Component 3: Conservation success payment		

5 Financing Plan and Instruments

This section of the IP sets out the proposed financing plan for implementing the proposed activities to be supported through Rwanda's CIF-NPC investment program as identified in **Section 4** and which are elaborated in detail in **Appendix A.**

5.1 NPC COSTS AND SOURCES OF FUNDING

The investment plan covers two project proposals that will be funded through a combination of CIF finance (US$31 million) and co-finance that will be secured through efforts by the World Bank to engage with GoR and development partners to leverage additional investments as indicated in **Table 5-1**. Detailed costings (including additional co-financing and specific donor contributions) will be specified during the project preparation phase.

Table 5-1: Indicative Financing Plan

Program components and activities	Executing agencies	CIF NPC contribution (US$, million)	Potential Co-financing contribution (US$, million)
Catalyzing climate, nature and people investments for resilient landscapes and communities in Kaduha-Gitwe corridor			
Component 1: Integrated catchment and landscape restoration			
A. Increase forest productivity and sustainable forest management	RFA	2.37	137 (113 EIB; 17 IDA; 2 PROGREEN; 5 GEF-8)
B. Promote climate-resilient farming practices	RAB	15.2	
Component 2: Ecological restoration of priority conservation areas			
A. Restore and protect wetlands and riverine ecosystems	REMA	4.39	8 (2.5 IDA; 3.5 PROGREEN; 1 GEF-8; 1 GBFF)
Component 3: Livelihoods diversification			
A. Strengthen awareness, knowledge, and capacity of local communities, policy- and decision-makers to design, implement, and maintain natural solutions that enhance climate resilience	REMA / RWB / RAB / RFA	1.79	34.5 (27.5 IDA; 4 PROGREEN; 3 GEF-8)
B. Promote income-generating activities that support more climate-resilient livelihoods associated with increased forest productivity and sustainable forest management	RFA / RWB / RAB / REMA	1.66	
C. Develop post-harvest value chains associated with climate-resilient farming practices	NAEB / RAB	1.95	
D. Catalyze income-generating activities that support more climate-resilient livelihoods associated with restoration and protection of wetlands and riverine ecosystems	REMA / RWB	0.40	
Component 4: Project management, monitoring & evaluation, capacity building, and gender mainstreaming			
A. Project management and co-ordination	RGF		12.5 (3 IDA; 7 EIB; 2.5 PROGREEN)
B. Capacity building, M&R, and gender mainstreaming*	ALL	0.14	
Sub-Program Total	**57.61**	**29.00**	**192.00**
Wildlife Conservation Bond			
Component 1: Improve wildlife conservation management			
A. Implement Park restoration activities	RDB and African Parks		6.92 (WCB Foregone Coupons)

Program components and activities	Executing agencies	CIF NPC contribution (US$, million)	Potential Co-financing contribution (US$, million)
B. Enhance Park facilities			1.63 (WCB Foregone Coupons)
Component 2: Enhance community resilience			
A. Support to local community enterprise development and livelihood interventions	RDB and African Parks		4.45 (WCB Foregone Coupons)
B. Deploy nature-based tourism strategy			1.85 (WCB Foregone Coupons)
Component 3: Conservation success payment		2	
Sub-Program Total		**2.00**	**14.85**
Program Total		**31**	**206.85****

* Note that the cost of all gender interventions is embedded within the component costs and will be detailed during the design phase, as part of the Gender Action Plan development.

** Note that the potential amount of co-financing is sizeable, reflecting the aim to replicate investments and activities in areas beyond the Kaduha-Gitwe corridor, as part of the GoR's broader programmatic approach.

It is important to note that the NPC IP is situated within an overarching sustainable land management investment framework for the country, as well as a much broader program-based Investment Plan for the region. More specifically:

- It feeds directly into an emerging Sustainable Landscape Management Investment Framework for Rwanda (RSIF) which is currently under development, led by RGF with technical and financial support from the World Bank. The RSIF will provide a long-term strategy and coordination mechanism for investments in sustainable land management and will be used as a tool to identify gaps, opportunities and priorities for scaling up SLM interventions across the country. It is intended to serve the GoR in addressing current challenges through: (i) productive and protective landscape management; (ii) water management; (iii) enhanced rural-urban linkages; and (iv) preservation and sustainable management of natural assets. It will also serve to identify and develop the institutional and human capacity needs to respond to climate change impacts.
- The financing and implementation of activities within the NPC IP could potentially contribute to a broader program-based Investment Plan for the Kaduha-Gitwe corridor, published by the MoE in 2023, and which has been developed with the aim of raising and co-ordinating investment to support citizens in attaining a better quality of life by focusing on landscape restoration and catchment management, efficient utilization of natural resources, sustainable and resilient agriculture, secure and green settlements and enhanced sustainable livelihoods. The program development was informed by thematic areas 3 (Sustainable Land Use and Natural Resource Management) and 4 (Vibrant Resilient Green Rural Livelihoods) of the revised GGCRS which provided a strategic direction for programming and a guiding framework for the interventions, and is aligned with the second generation of the NST covering the period 2024-2028. Moreover, the investment plan for the Kaduha-Gitwe corridor is intended to be a pilot with potential to be extended to other areas of the Southern Province in future. The request for CIF funding for the project concepts outlined in the table above relate specifically to the development, implementation and monitoring of a program of catalytic investments in NbS that enhance resilience to climate risks and that contribute to climate change mitigation and climate resilient development within the Kaduha-Gitwe corridor. In contrast, the broader IP for the corridor, which indicates a total

investment need (as yet unrealized) of approximately US$422 million is comprises three sub-programs, including substantial investments (representing over half of total investment needs) in infrastructure:

  - Sustainable landscape restoration and catchment management (landscape stabilization, afforestation, reforestation, wetland rehabilitation and protection, and development of eco-tourism sites) – US$74 million
  - Sustainable and climate-resilient agriculture (including construction of irrigation systems, horticultural development, post-harvest and agro-processing facilities, construction of milk production centers, and establishment of tea and coffee plantations) – US$126 million
  - Green rural settlements livelihoods and resilience, which encompasses construction and rehabilitation of rural feeder roads, construction of health and educational facilities, providing households with access to water and electricity, and relocation of households located in areas at high risk of flooding and landslides – US$222 million.

- It complements a series of other related investments (see **Section 6**) that, together, are designed to tackle the triple challenges of climate change, nature loss, and achieving human prosperity and well-being in an area of the country that is most vulnerable to the effects of climate change, including increasing intensity and severity of flooding and landslides, exhibits some of the highest levels of poverty, and has suffered extensive biodiversity loss with recent findings indicating that most remnant habitats in Southern Province fall are characterized by vegetation types that are either critically endangered or endangered at a national level (SANBI, CoEB and REMA, 2022)

In this light, the CIF contribution will effectively act as seed funding to initiate a series of enabling activities and interventions designed to address the multiple drivers and impacts of climate change with an emphasis on flood risk management, catchment and landscape restoration, and promotion of improved and diversified livelihoods. These funds will be used to secure key natural and cultural resources, which can facilitate future investments in agricultural and forestry value chains and nature-based tourism. In particular, the NPC financing will be used to catalyze investments in prioritized catchments to enable scaling-up of best practices. By leveraging the VCRP donor coordination efforts, the CIF NPC financing will expand the established platform that brings together development partners and NGOs across Rwanda to share knowledge and good practices across climate, nature, and livelihood interventions. CIF NPC resources will also support piloting of an innovative sustainable financing mechanism in the form of a wildlife conservation bond.

As part of the process of preparing the IP, a program of activities designed to address the key issues and priority needs within the Kaduha-Gitwe corridor was developed. Indicative costs were then attributed to each of these activities to derive an estimate of the total financing need before identifying how those needs could be met through a combination of CIF and other potential sources of financing. The total initial investment need is estimated to be around US$50 million, around 60% of which will be covered by CIF and the remainder of which will be covered through co-financing arrangements which are described in more detail below.

5.1.1 Co-finance

There are a number of potential sources of co-financing for the proposed activities identified within this IP. These include, but are not limited to the following:

- The VCRP, which will be extended to support the activities proposed in this IP. The NPC financing will catalyze investments in prioritized catchments to enable scaling-up of best practices. By leveraging the VCRP donor

coordination efforts, the CIF NPC financing will expand the established platform that brings together development partners and NGOs across Rwanda to share knowledge and good practices across climate, nature, and livelihood interventions. The VCRP has already mobilized US$50 million of IDA, US$12 million of PROGREEN investments, GoR financing, and is expected to receive an additional US$120 million in EIB financing to reach needed scale. Other participant organizations include African Wildlife Foundation (AWF)) and Wilderness Holdings .

- The proposed GEF LDCF II project (Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province), with a total project budget of US$85 million, could also potentially provide a valuable source of co-financing . The project aims to improve the resilience of communities though landscape management, sustainable livelihoods, and improved access to finance. There are significant synergies between the proposed GEF LDCF II project and the *Catalyzing climate, nature and people investments for resilient landscapes and communities in Kaduha-Gitwe corridor* project within the NPC IP, presenting opportunities to not only co-ordinate activities within the small area of geographical overlap, but to also co-ordinate engagements with development partners and other donors to secure investments to scale best practices within and beyond the respective project areas.
- Another potential source of co-financing will be the GEF-8 Ecosystem-Based Restoration Approach for Nyungwe-Ruhango Corridor project. The project concept has been approved with a total value of US$10 million,. The objective of this project is to generate multiple environmental and social economic benefits by applying integrated approaches for restoration of degraded ecosystems in the same three districts of Southern Province (Nyamagabe, Nyanza and Ruhango). It is envisaged that the project will be structured around four components covering (1) Innovations in ecosystem restoration that generate global environmental benefits and increase resilience, (2) Leveraging financing to promote and scale-up ecosystem restoration, (3) Informed and inclusive policies and planning to enable restoration, and (4) Effective governance, adaptive management, knowledge exchange and capacity building to ensure successful implementation of the project.
- Co-financing is also expected for the Rwanda Wildlife Conservation Bond. This would include foregone coupons from investors in the expected ~US$200 million World Bank-issued bond[11], along with potential investments from WRI (US$1 million) and approximately US$13.76 million from the GEF Non-Grant Instrument (NGI) Program. The bond will support conservation in Rwanda, to build on the efforts already underway in VCRP, as well as through the prospective GEF-8 Nyungwe-Ruhango Corridor Ecosystem Restoration Project, and the CIF NPC. This investment would test a new financial instrument in Rwanda, with an initial focus on the implementation of conservation and adaptive management activities within protected areas and buffer zones, and gradually extending to private and community lands outside of protected areas. The investment activities are designed to support reforestation and sustainable forest management, improved livelihoods, and the protection and growth of primate populations.

A number of additional relevant projects and activities are being implemented in and around the project area. These are briefly profiled in **Section 6**.

[11] Bond size is dependent on many factors and will be confirmed at time of issuance.

5.1.2 Dedicated Grant Mechanism (DGM) for Indigenous Peoples and Local Communities

The programmatic approach is one of the core design elements of CIF's business model and integral to CIF's ambition to achieve transformational change. As an important part of this, the NPC program also implements a funding modality separate from the government-led IP, called the Dedicated Grant Mechanism (DGM) for Indigenous People and Local Communities. This dedicated window provides them with direct access to funding and, through their involvement in decision-making of the design and implementation of the DGM, local communities get the opportunity to actively improve the management of their land and their livelihoods, and to strengthen their capacity to participate in climate action.

The National DGM project will be led by the World Bank with a US$4 million budget. More than the size of its funding, the DGM is truly unique in its design and governance led by local communities at every level. They are both leaders and beneficiaries of DGM activities, ensuring DGM support is demand-driven and attuned to local interests to affect change from the ground up. Lessons learned from its implementation under the Forest Investment Program (FIP) clearly indicate the importance of having the DGM complement the CIF-NPC Investment Plan priorities, and of promoting collaboration between the IP projects and the DGM. The Government of Rwanda recognizes that the buy-in and engagement of local communities is critical to the success and long-term sustainability of the ecosystem protection and restoration activities that are included in the country's NPC IP. In particular, it recognizes the importance of engaging local communities and intended project beneficiaries at the earliest stages, ensuring that they have meaningful opportunities to contribute to project design, and that they are equipped with the knowledge and skills to make informed decisions about the way in which land and other natural resources are managed and used. Local stakeholders within the project area are aware that the NPC will provide them with direct access to the DGM funds through a separate project and that the GoR will participate as an observer . As per NPC policies, the process of engagement with local communities to start the preparation of the DGM project will start as soon as the IP has been approved.

5.1.3 Funding recipients

CIF-NPC resources will be allocated through the World Bank to the Rwanda Green Fund's account at the Central Bank of Rwanda and channeled to the relevant executing agencies as indicated in **Table 5-1**. For the Wildlife Conservation Bond project, CIF resources (along with the other conservation outcome payers), would be used to pay for conservation success payments upon completion of the project. The financial management procedures used for the South Africa Wildlife Conservation Bond (i.e., rhino bond) would be applied for this operation.

6 Additional Development Activities

There are a number of additional development activities that are complementary to the activities in this IP. These include both activities from other investors that strongly align with the focus-areas of this IP, and other complementary activities which are key to the success of the planned activates and for attracting investment, but may not necessarily include NbS. These activities are described in more detail in the following sections. Lessons learned from these projects are also presented.

6.1 COMPLEMENTARY NBS ACTIVITIES

Appendix G presents a list of key activities in the Kaduha-Gitwe corridor that are complementary to the activities presented in this IP. Some of these activities are completed or currently being implemented, and the learnings from these will be key in the development of the approach for this IP. It is also important that those responsible for implementing the projects are engaged during the detailed project design phase to ensure that overlaps can be avoided and potential synergies can be maximized.

There are also a number of key activities in the region that are in the early stages of development that will have similar aims and objectives to this project. There will be considerable benefit to aligning the activities from this CIF NPC IP with these projects to develop meaningful synergies and prevent duplication. Key projects that are will be implemented concurrently with this project and where there will be significant overlaps are described below.

6.1.1 Sustainable Landscape Management Investment Framework

This project is in the early stages of development and is supported by the World Bank. Sustainable landscape management is crucial for reversing land degradation and reducing vulnerability to climate risks while reinforcing and creating economic activities. However, identifying the areas where the biggest impact can be realized is a challenge. The program aims to develop a prioritization framework that can be used to identify areas with the greatest impact can be realized using a risk-based prioritization methodology. The framework will focus on opportunities to boost agricultural productivity, increase water and energy security, improve biodiversity and opportunities for tourism. The SLM framework will provide the overarching programmatic approach for SLM projects such as the CIF NPC program, the planned initiatives under GEF-8, GEF LDCF II, and other future projects.

6.1.2 Ecosystem-Based Restoration Approach for Nyungwe-Ruhango Corridor (GEF-8) – US$10.15 million

This project's primary goal is to accelerate Rwanda's National GGCRS ecosystem restoration pillar. Degraded natural ecosystems will be improved by strategic landscape restoration and biodiversity conservation initiatives (wetlands management, afforestation, reforestation, agro-forestry, etc.), which will have a positive impact on the environment and provide many livelihood benefits. With the help of this project, technical solutions and pilot funding will be scaled up to the landscape level, and a nationwide programmatic approach will be launched.

6.1.3 Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province (GEF LDCF II) – US$85 million

This proposed 6-year project will introduce an integrated approach to landscape management that will strengthen food and livelihood security under future climate conditions by building resilience across various sectors, landscapes, and value chains. The goal is to improve community climate resilience in the Southern Province. By addressing the capacity requirements for localizing national climate initiatives, this integrated strategy will improve the conditions that for community adaptation to climate change.

6.1.4 Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration (GCF) – US$50 million

This project focuses on enhancing the resilience of vulnerable communities in Rwanda's Congo Nile Divide region to climate variability through forest and landscape restoration. Project interventions include: improved climate-resilient management of 10 000 ha of land (forest and silvopastoral sites), improved agroforestry practices on 3 345 ha of on-farm plantations, and improving the climate resilience of the livelihoods of 1 254 242 people.

6.1.5 Incentive Mechanisms for Landscape Restoration and Nature-Based Solutions in the Congo-Nile Ridge Landscape of Rwanda – US$442,500

The focus of this project is to identify, design, and evaluate incentive mechanisms for NbS and sustainable land management in the Congo-Nile Ridge. The incentive mechanisms that are being developed as part of this project could also be applied in the Kaduha-Gitwe corridor. The learnings from this project will be valuable to the development of projects for this IP.

6.1.6 Scaling up of work undertaken in the GCF Green Gicumbi Project

The Green Gicumbi Project is a flagship project for the GoR. The projects that are developed through this IP will build on the successes from the Green Gicumbi project and take cognizance of the lessons learned. Successful initiatives related to reducing erosion, implementing climate smart agriculture, sustainable forest management, and knowledge transfer will be assessed for their potential for replication and scaling up in the Kaduha-Gitwe corridor.

6.1.7 Volcanoes Community Resilience Project (VCRP) – US$50 million (World Bank), US$12 million (PROGREEN), US$120 million (European Investment Bank)

The VCRP includes components that address flood risk management, landscape restoration, livelihood restoration, and capacity building and there are opportunities for synergies in these areas. The project area is located in the Northern, Western and Southern Provinces but does not currently extend into the Kaduha-Gitwe corridor. The World Bank is planning to expand the VCRP to support the activities proposed in this IP.

6.1.8 Forest Landscape Restoration in the Mayaga Region (Green Mayaga) – US$32 million

The Green Mayaga project is a 6 year project that commenced in 2020 and was launched with the start of tree planting in Nyanza District. The project aims to promote biodiversity, foster ecosystem services, increase agricultural productivity and reduce the vulnerability of people and ecosystems to the adverse effects of climate change.

6.1.9 Development of Agroforestry for Sustainable Agriculture in Rwanda (FIP PRODAR) – US$18 million

The aim of this project (which is one of three projects identified in the CIF-supported Rwanda FIP) is to enhance climate resilient development in Rwanda through the restoration and stabilization of landscapes with agroforestry systems to support sustainable agriculture and green growth. The Project's strategic objectives are to: 1) Enhance landscape restoration and stabilization, 2) Improve rural community livelihoods through sustainable agroforestry value chain development, and 3) Strengthen institutional and community adaptive skills and capacities for agroforestry development.

6.1.10 CSA Programmatic Approach

The IFC is working with the GoR to develop programmatic approach for implementing CSA in Rwanda. This approach will align with the GGCRS thematic area of Sustainable Land Use and Natural Resources Management. The program will consist of four components: sustainable land management; integrated water resources management; value chain development and post harvest management; and research and development, innovation and technology. **Figure 6-1** presents an overview of the various interventions included within these components. There is significant overlap between this IP and all four components.

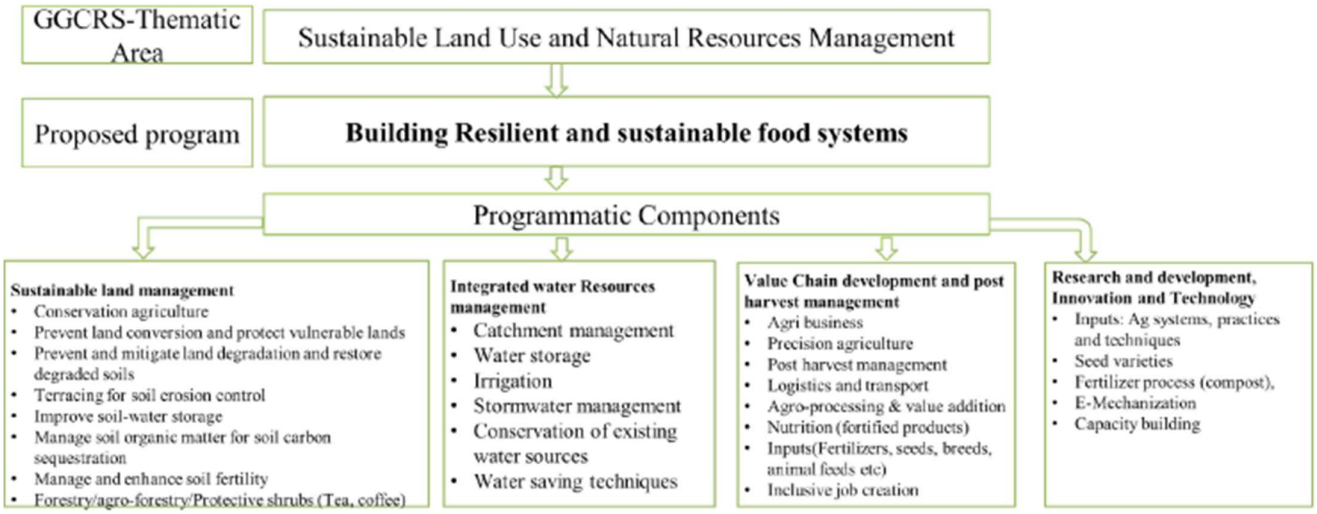


Figure 6-1: Overview of CSA Programmatic Approach (IFC, 2024)

6.1.11 Projects from Development Partners

There are a number of development partners that are working on projects in Rwanda which have similar aims and objectives to this objective plan. **Table 6-1** presents a list of these projects. Understanding the potential overlap and opportunities for synergies will be key during the project design phase and efforts will be made to identify any additional projects.

Table 6-1: Relevant ongoing projects from Development Partners

Project Title	Funders	Project Cost	Timeframe	Geographic Area
Restoring Forest Landscapes in Africa	IKI, GIZ, AUDA, FAO, IUCN, WRI, WWF	~US$ 6 million	2020-2025	Kirehe, Nyagatare
Reducing vulnerability to climate change through enhanced community-based biodiversity conservation in the Eastern Province of Rwanda (COMBIO)	SIDA, Enabel	US$ 9.2 million	2021-	Kirehe, Ngoma, Kayonza, Rwamagana, Bugesera, Gatsibo, Nyagatare

Project Title	Funders	Project Cost	Timeframe	Geographic Area
Promoting native tropical tree species for sustainable ecosystem services under climate change	SIDA	US$ 522,842	2022 -	
Sustainable Agricultural Productivity and Market Linkages (SAPMP)	Korea International Cooperation Agency, GoR, WFP	US$ 12.5 million	2020-2024	Gisagara, **Nyanza**
Rwanda Integrated Landscape Climate Resilient Management Program (Upper Nyabarongo Catchment and Muvumba catchment - Nyagatare District)	Embassy of the Kingdom of the Netherlands in Rwanda, GoR	US$ 2.2. million	2018-2024	Nyagatare

6.1.12 A Program Based IP for the Kaduha Gitwe Corridor, the Southern Province of Rwanda – US$422 million

The MoE published an IP for the Kaduha-Gitwe corridor in July 2023 which was supported by the 2050 Pathways Platform, Federal Ministry for Economic Affairs and Climate Action of Germany, and the International Climate Initiative (IKI). As noted in Section 5.1, around half (US$222 million) of the total estimated budget for this IP is allocated to construction and rehabilitation of rural feeder roads, construction of health and educational facilities, provision of water and electricity, and relocation of households located in areas at high risk of flooding and landslides. The NPC-IP and broader program-based IP both identify investment needs for landscape restoration and catchment management, and sustainable and climate-resilient agriculture. However, the program-based IP has not yet mobilized the investment needed and, as such, the NPC-IP could therefore make a valuable contribution in catalyzing investments in these areas.

Table 6-2: Sub-programs and Outputs for A Program Based Investment Plan for the Kaduha-Gitwe Corridor, the Southern Province of Rwanda (FONERWA, 2023)

1. Landscape restoration and catchment management	2. Sustainable and climate resilient agriculture	3. Green rural settlements, livelihoods, and resilience
Output 1: Erosion control practices implemented over 19 154 ha for progressive terracing and 7 787 ha for radical terracing and 149 km of gullies and ravines rehabilitated **Output 2:** 16 304 ha of rehabilitated landscape with forestry and agroforestry species (Trees) **Output 3:** 43 ha of abandoned mining sites are rehabilitated, and 150 000 trees planted **Output 4:** 650 ha of degraded or threatened wetlands are rehabilitated and 321km of water bodies and buffer zones/wetlands protected **Output 5:** 507.5 km of roads that are vulnerable to flooding and landslides are stabilized and rehabilitated **Output 6:** 7 potential ecotourism sites are developed within the Kaduha-Gitwe corridor	**Output 7:** 1 169.2 ha and 1 544 ha are covered by irrigation in marshlands and hillside irrigation respectively **Output 8:** Cash crop increase: 18 163.65 ha are planted with tea and 1 349 ha with coffee **Output 9:** An increase in the area covered by food crops: Banana (7 446 ha), maize (3 386 ha), wheat (50 ha), cassava (6 014 ha) and rice (618 ha) **Output 10:** The area covered by horticulture is increased: Pineapple (710 ha), Vegetables, e.g. cabbages, carrots, and onions (199 ha) and fruit trees (3 932 ha) **Output 11:** Post harvest (44) and agro processing facilities (25) are increased **Output 12:** 22 fishponds are established in the whole Kaduha-Gitwe corridor **Output 13:** The number of households with livestock is increased: cows (30 333), poultry (42 201), goats (31 538), beekeeping (2 346), pigs (15 585) and rabbits (21 236) **Output 14:** The number of milk collection centers will increase (12)	**Output 15:** 14 135 households living in high risk zones and scattered settlements are relocated and provided with safe and green shelter **Output 16:** Access to basic infrastructure and services (water, electricity, health facilities and education) is increased **Output 17:** Access to livelihood opportunities, social safety nets and financial services is increased

6.2 OTHER COMPLEMENTARY ACTIVITIES

Throughout the development of this IP, a number of other complementary activities that are not NbS have been identified which would contribute to the success of this project. The activities described in this section will not be funded through this IP but are key enabling activities. These include:

- The need for **feeder roads** in the Kaduha-Gitwe corridor was highlighted by the district officials and other stakeholders. This will also be key to unlocking private sector investment in the Corridor and for the development of agriculture and forestry value chains. This need is mirrored in the Program Based IP for the Kaduha-Gitwe Corridor published by the MoE in 2023 which includes under Output 17, activities to rehabilitate982 kms of existing feeder roads and construction of 754 kms of new feeder roads.
- The construction of **post-harvest facilities** to facilitate the development of agriculture value chains . Again, the Program-Based IP for the Kaduha-Gitwe Corridor includes provision for this under Output 11.
- In order for women to participate in a number of the activities in the IP, accessible **Early Childhood Development Centers** would enable them to attend workshops, trainings and the various income-generating livelihood initiatives within this IP. Other enablers of women's involvement include **more accessible and reliable water and electricity supply** for domestic use, and cleaner cooking alternatives. Water and firewood collection are physically and time intensive, and detract from women's ability to meaningfully participate in initiatives beyond domestic spheres. Output 16 of the Program-Based IP for the Kaduha-Gitwe Corridor includes activities for provision of water and electricity.
- The corridor lacks **market and skills centers**, like TVETs, Integrated Crafts Production Centers and Udukiriro. Such facilities would offer valuable capacity development opportunities, particularly for the area's youth who require such training and support to generate income and more actively participate in the local economy.
- There is also a need to attract more **financial and insurance institutions** to the area, so that local communities can easily access such facilities to better understand the options, and opportunities, available to them. With the pressing need for Rwanda's financial sector to develop more innovative and appropriate financing and insurance products for women and youth – who often lack the traditional scale / type of collateral used to secure loans, credit or insurance – there is value in locating branches in the Kaduha-Gitwe corridor, so that the financial sector can directly engage with and understand the target market in such locations, and adapt their offerings to suit the local context.

7 Implementation Potential with Risk Assessment

7.1 OVERVIEW

The overarching goal of the IP is to tackle the drivers and impacts of climate change resulting from the degradation of ecosystems and the regulating, provisioning and cultural services and benefits that these provide. More specifically, it seeks to promote efforts to restore degraded landscapes and the ecosystem services and benefits these provide, promote more sustainable management and use of land and other natural resources, and protect healthy, productive ecosystems in order to enhance the resilience of landscapes and reduce the vulnerability of people to the effects of a changing climate. This in turn requires an integrated and inclusive approach to natural resources management that addresses the direct drivers of ecosystem degradation, including over-exploitation, land use change, pollution, and climate change, as well as the underlying drivers associated with high and growing populations and associated demands for food, energy and other natural resources, poverty and the high dependence of rural livelihoods on natural resources. Moreover, it recognizes the barriers to uptake of, and investment in, more sustainable land management practices, including limited financing, weak or absent incentives, capacity and limited awareness of the value of regulating services provided by ecosystems.

To this end, the IP encompasses a range of interventions / activities aimed at promoting the functionality and productivity of three key ecosystems within the Kaduha-Gitwe corridor, whilst also supporting efforts to diversify livelihoods in order to both reduce pressures on the natural environment and strengthen the resilience of local communities to the effects of a changing climate. Specifically, the range of activities to be supported through the IP includes (but is not limited to):

- Interventions to improve the management and protection of productive farmlands, thereby promoting sustainable agricultural productivity over the long term. This is to be achieved through protective forestry practices, terracing, sustainable agricultural methods, and enhancing land use planning and decision-making processes. Capacity building among land users, especially women and youth, and the support for cooperative and farming groups, are crucial components for enabling an environment for sustainable land management practices and fostering a community-based approach to natural resource management.
- Activities that increase the productivity of commercial forests, restore local woodlots, expand indigenous forest cover, and expand coverage of protective forests that safeguard crops, housing and infrastructure against climate change-induced natural hazards, such as erosion and flooding. These efforts include afforestation, reforestation, forest conservation, and the promotion of a diversity of tree and shrub species to improve ecosystem resilience and provide local communities with valuable resources.
- Rehabilitation and protection of wetlands and riverine environments whilst simultaneously supporting livelihoods and the emergence of alternative income-generating opportunities underpins the project's holistic approach to enhancing ecosystem services, supporting biodiversity, and improving community livelihoods ultimately contributing to Rwanda's conservation, climate action, and inclusive economic growth objectives.

7.2 ABSORPTIVE CAPACITY FOR THE NPC PROGRAM

This section briefly describes Rwanda's absorptive capacity for the NPC program in terms of the wider macro-economic context and outlook, policy and institutional context, and capacity and experience to administer the investment and implement activities under the program. A more detailed analysis is presented in **Appendix E**.

Rwanda exhibits strong absorptive capacity for financing and implementation of the NPC program as reflected in the wider macro-economic context and outlook, the policy environment and institutional setup, and its experience in managing similar programs and investments in the past.

7.2.1 Macroeconomic context

The macro-economic environment is characterized by strong economic growth and development. Although a low-income country, Rwanda has been one of the fastest growing economies in Africa and an established track record of delivering large and complex projects, with an ambition to reach middle-income status by 2035. Despite the set-backs associated with the impact of COVID-19 and the floods of May 2023, the economy has been steadily expanding since 2021. The fiscal deficit is projected to continue declining due to ongoing fiscal consolidation and higher domestic revenue. Debt is projected to remain at moderate risk.

However, Rwanda's Country Climate and Development Report (2022) estimates that **if climate risks materialize, Rwanda's GDP levels could drop by 5–7 percent below baseline in multiple years by 2050** (World Bank, 2022). The May 2023 floods alone are estimated to have resulted in a decline in GDP (relative to the pre-disaster forecast for the year) of about 0.17 percent (World Bank, 2023).

Rwanda's GGCRS and its updated NDC (Government of Rwanda, 2020) define the country's vision to become a developed, climate-resilient, and low-carbon economy by 2050, with ambitious climate adaptation and mitigation interventions, at a cost of US$11 billion by 2030. However, **Rwanda faces challenges mobilizing private financing due to high upfront capital needs for key projects, financing costs from banks, and collateral requirements**. To address these challenges, it launched the Rwanda Green Investment Facility at the 2022 United Nations Climate Change Conference. Capitalized with US$104 million, the fund has been financing project preparation and providing concessional credit facility loans and guarantees to support small and medium enterprise investment in green projects. These investments are expected to crowd in at least US$364 million, create at least 372,000 jobs, and eliminate 1 million tons of carbon dioxide emissions by 2030.

Despite a softening in 2023, following a period of exceptional growth in 2021-2022, the medium term economic outlook for Rwanda is favorable. Economic growth is expected to regain momentum in 2024-2025.

7.2.2 Supportive policy environment and commitment to climate and nature action and inclusive growth

The GoR has demonstrated a strong commitment to climate and nature action in its national strategies, regulatory frameworks and institutional setup (see **Section 2.4**). In particular:

- **Rwanda's GGCRS** (Government of Rwanda, 2022) emphasizes the importance of fostering economic growth while simultaneously mitigating greenhouse gas emissions and enhancing adaptive capacities to climate change impacts. Key components of the GGCRS include promoting renewable energy sources, enhancing energy efficiency, sustainable land management practices, promoting green urbanization, and strengthening climate resilience in

vulnerable communities. Through the GGCRS, Rwanda seeks to achieve its development goals in a manner that is environmentally sustainable, socially inclusive, and resilient to climate change impacts, ultimately contributing to the global efforts to combat climate change and achieve sustainable development. Furthermore, the GGCRS reflects Rwanda's ambition and intent to use programmatic approaches to growth and development.

- **The National Strategy for Transformation** (NST) (Republic of Rwanda, 2017) outlines the country's vision and strategic priorities for socio-economic transformation. It emphasizes the promotion of inclusive growth, private sector development, human capital development, infrastructure improvement, and sustainable environmental management. It also highlights the contribution that natural solutions can make towards addressing climate both the causes and consequences of climate change.
- Rwanda's **National Climate Change and Environment Policy** provides a comprehensive roadmap for integrating climate considerations into various sectors, fostering resilience, and promoting low-carbon development pathways.

Rwanda's commitment to climate action, particularly through the use of NbS, is closely connected with the goals of the NPC IP, demonstrating the Government's commitment (at the highest level) to advancing the NPC IP's principles and objectives. The country's NDCs (Government of Rwanda, 2020) set ambitious goals for reducing GHG emissions and increasing climate resilience, with a particular emphasis on utilizing natural solutions including afforestation, reforestation, and sustainable land management.

7.2.3 Co-ordination and implementation capacity

Rwanda has made significant strides in enhancing its institutional capacity to address climate change challenges. The establishment of institutions such as the REMA and the RGF exemplifies the country's proactive approach. These institutions play pivotal roles in coordinating climate-related efforts, implementing adaptation and mitigation projects, and mobilizing resources for sustainable development initiatives. The GoR has a proven track record in administering international climate and environment finance and implementing large, complex programs and projects including, but not limited to:

- The GCF-funded **Strengthening climate resilience of rural communities in Northern Rwanda ('Green Gicumbi') project** (US$33 million) and **Transforming Eastern Province through Adaptation** (TREPA) project (US$49.6 million)
- The GEF-funded **Forest Landscape Restoration in the Mayaga Region** (Green Mayaga) project (US$30.7 million) and the **Rwanda Urban Development Project II** (US$ 158 million)
- The World Bank funded VCRP, the first phase of which is underway with a total budget of US$175 million. VCRP forms part of a much broader investment program that has been developed for the region, totaling some US$500 million. Through an initial IDA allocation of US$50 million, the GoR has leveraged additional financing from European Investment Bank, the Nordic Development Fund, the GEF and GoR counterpart funding that has more than tripled the initial investment.
- The US$9.53 million **Landscape Approach to Forest Restoration and Conservation** (LAFREC) project , funded by the World Bank and implemented by REMA.

- The GEF-funded project to **increase the capacity of vulnerable Rwandan communities to adapt to adverse effects of climate change** project, focused on livelihoods diversification and investment in rural infrastructure which was implemented by the AfDB and executed by the Energy, Water and Sanitation Authority (US$54 million)
- The AfDB -funded **Development of Agroforestry for Sustainable Agriculture in Rwanda** (PRODAR) project which falls under the Forest Investment Program and which is being implemented by the Rwanda Forestry Authority (US$18 million). The AfDB has contributed US$15 million to the program, of which 75% (US$11.25 million) is in the form of a concessional loan and 25% (US$3.75 million) is a grant. The Government of Rwanda is providing US$3 million as a counterpart contribution.

These projects have provided valuable learning and experience but, more importantly, have also resulted in the development of capacity and structures into which the NPC program can, and will, link. Through these institutional mechanisms, Rwanda continues to build its capacity to effectively respond to the complex challenges posed by climate change, positioning itself as a leader in climate resilience on the African continent. Furthermore, Rwanda's decentralized governance structure facilitates effective coordination and collaboration among national, provincial, and local authorities, strengthening the country's institutional capacity to carry out integration efforts at multiple levels.

At a more localized level, district officials are in strong support of the NPC program, recognizing the transformational potential of investments in ecosystem restoration and sustainable land management on local communities and their resilience to the effects of a changing climate.

7.3 COUNTRY / REGIONAL RISKS – INSTITUTIONAL, TECHNOLOGICAL, ENVIRONMENTAL, SOCIAL AND FINANCIAL

Identifying and addressing risks effectively is essential to the IP's long-term sustainability and impact. Managing risks involves a multifaceted approach, incorporating risk assessment, adaptive management, stakeholder engagement, capacity building, and financial planning. **Table 7-1** provides a summary of the identified risks and proposed mitigation measures proposed for the IP.

Table 7-1: Risk Reduction Measures

Area	Risk	Risk Reduction Measures
Institutional	Organizational capacity	• Ensure that organizational capacity to manage the project effectively exists within the institutional structures. This will include capacity for project planning, financial management, monitoring and evaluation, and stakeholder engagement. This will require additional human capacity is employed by the relevant ministries and that these individuals are given the necessary levels of responsibility to operate within the Institutional Structure for the implementation of the plan.
	Limited expertise	• Ensure that the implementing agencies have individuals with the necessary expertise in integrated natural resources management, climate adaptation strategies, sustainable agricultural practices and, gender, equality and social inclusion. This could include strengthening the capacity of existing Single Project Implementation Units (SPIUs) in the various implementing agencies.
	Ineffective inter-agency coordination	• Ensure that coordination between government departments, NGOs and international partners involved in the project are aligned so that there is

Area	Risk	Risk Reduction Measures
		limited overlapping of efforts and so that gaps in implementation are identified and the most effective use of resources are realized.
	Ineffective Community Engagement	• Ensure that community engagement is meaningful, effective and coordinated. Utilizing gender and socially sensitive approaches, gives voice to communities.
	Policy Changes	• Where possible, shifts in government policies or regulations should contribute to climate resilience, sustainable land management, and biodiversity conservation.
	Corruption and transparency issues	• Ensure transparency and appropriate governance structures are in place to ensure that the potential for undermining project efforts and diverting resources are limited.
	Land tenure disputes	• Ensure an effective community engagement process as mentioned above, ensure that land tenure systems and rights are fully understood at the inception of the project to identify potential land tenure issues as early as possible.
Technological	Limited access to technology	• Research and assess technological options and ensure mechanisms to access, use and maintain this technology exists.
	Resistance to change	• Effective and meaningful stakeholder engagement to be undertaken from the earliest stages of project design and development to promote the buy-in and ownership of local communities and other stakeholders who may be involved in the implementation of interventions and their ongoing maintenance.
Environmental	Low capacity of farmers and communities to invest in adaptation actions where public benefits dominate jeopardizes project objectives	• CAF; community planning and workshops.
Social	Limited knowledge, skills, and technical capacity of local communities for implementation	• The IP includes activities that focus on building capacity within the communities in order to develop the skills needed for the implementation of the proposed NbS activities.
	Inequalities (access to training)	• Safeguards in place.
	Women and vulnerable groups do not participate in, or benefit from, project.	• Women and vulnerable groups will be specifically targeted in awareness raising, capacity development, employment opportunities and demonstration works. The results framework includes gender disaggregated indicators and targets to ensure the equitable distribution of benefits. The project will invest in capacity strengthening for Central and Local Government staff and communities to achieve a gender balance in the value chain. All implementation arrangements and contracts will require suitable facilities for women and vulnerable groups. Complementary activities – which would further enable women and youth participation – but sit beyond the scope of this IP will be raised with relevant Government and development partners.
	Women face increased risk of SGBV or social ostracization by stepping out of traditional domestic roles	• Targeted and regular sensitization of male community members, to ensure men and boys understand, respect and support women's involvement in livelihood opportunities (and the related economic opportunities that these offer) to avoid household conflicts or control over women's use of assets and funds. • Established, easily accessible grievance mechanisms tailored to women's needs with clear protocols for escalation, transparency and accountability, and anonymity if desired.
	Lack of support for NbS approaches due to limited understanding of the benefits provided by ecosystems	• Activities are included to raise awareness of climate change issues and integrate climate-resilient practices into extension services.

Area	Risk	Risk Reduction Measures
Financial	Fiduciary risks	• Implement robust mechanisms for appraising and evaluating project investment decisions (ex ante and ex post) to ensure that investments (including procurement of goods and services) are efficient, effective and deliver value for money • Implement effective and transparent mechanisms for tracking expenditures
	Costs associated with continued implementation of activities	• The costs associated with maintaining and continuing the new approaches proposed in the IP may prevent communities from continuing to implement these going forward. To safeguard against this, the plan includes components focused on developing opportunities for sustainable finance and to develop the value chains for agriculture and forestry.
	Limited private finance (value chain)	• Component activities specifically aiming to engage private finance sector are planned. Wide range of potential options being considered (including certification).
	Local access to inputs, equipment, finance	• Same as above.
	Timeframe: insufficient time to prove benefits from interventions	• The focus of the projects is on low-regret options, and these provide immediate benefits in relation to productivity.

7.4 IMPLEMENTATION ARRANGEMENTS

The NPC Investment Program will be implemented in targeted sub-catchments across the Kaduha-Gitwe corridor. Interventions under the Program will be targeted at identified areas in a phased approach, starting with measures to stabilize the landscapes, before measures to enhance productivity are introduced. The IP will enhance capacities for institutional, investment, technical and activity implementation for ecosystem protection, restoration and sustainable management, making use of research, lessons learned, monitoring and evaluation as interlinked processes.

7.4.1 Institutional partners

Implementation of the NPC-IP will draw on existing institutional arrangements as far as possible to ensure that the program is streamlined into national processes. In view of the large number of actors in the agriculture, forestry, environment and water sectors, an institutional mechanism is necessary for coordinated planning and implementation of projects and activities and to improve the effectiveness of investments made. While the IP itself is government-owned and government-led, its successful delivery requires contributions from national, provincial and district governments, development partners, the private sector, research and training institutes, and civil society. This, in turn requires strong and efficient co-ordination, management and delivery mechanisms with clearly defined roles and responsibilities and a shared understanding of what each is working towards within the overall investment program.

Existing local and national level institutions that will be important partners in ensuring the success of the IP are outlined in the sub-sections below.

7.4.1.1 National Government Ministries and Authorities

Table 7-2 presents a summary of key National Government Ministries and Authorities whose involvement will be key for the successful implementation of this IP.

Table 7-2: National Government Ministries and Authorities involved in overseeing and/or implementation of the IP

Ministry	Organization	Description
MoE	MoE	The MoE is the lead actor regarding climate change and is responsible for developing climate change policies, strategies, and programs as well as monitoring and evaluating implementation of these across sectors. The ministry's mandate is to ensure the conservation, protection, and development of the environment and serves as the coordinating institution for the environment and natural resources sector. As noted on its website, the ministry is required to safeguard and promote green and climate resilient economic growth that ensures optimal, rational, and sustainable utilization of water resources, lands and forests (Ministry of Environment, n.d.).
	RGF	Established in 2012, the RGF has strong experience in investing in public and private environmental projects. With particular relevance to this proposed project, the RGF has supported / executed projects by incubating, accelerating and providing growth capital to high-impact green ventures.
	REMA	REMA is responsible for implementing climate mitigation measures as well as advising government on legislative and policy matters with regards to environmental management and monitoring compliance with environmental laws The mission of REMA is to supervise and monitor environmental management and ensure that issues relating to the environment receive attention in all national development plans.
	Rwanda Forestry Authority (RFA)	A Government institution mandated to ensuring the growth of forest resources, their management and protection for sustainable development purposes.
	National Land Authority (NLA)	The National Land Authority sits within the MoE and manages and administers land in Rwanda, including implementing land policy, land use planning, land registration, land consolidation, and management of land conflicts. Support from the NLA will be key to developing land management plans in the Districts.
	Rwanda Water Resources Board (RWB)	RWB is tasked with ensuring availability of water resources through sustainable and efficient management of water resources and is responsible for implementing national policies, strategies, and laws related to water resources; advising government regarding water resources; developing water resources strategies and plans to support efficient and sustainable planning, management, and use; establishing water storage infrastructure; promoting water use efficiency; and cooperating and collaborating with other regional and international institutions with a similar mission.
	Rwanda Meteorology Agency (METEO Rwanda)	METEO Rwanda aims to provide hydro-meteorological information such as weather forecasts, climate data, analysis, reanalysis, climate projections, early warnings of extreme weather events, advisories and any relevant meteorological information and related service for the benefit of all socio-economic development sectors. Further to this it aims to guide and assist public, private entities and individuals to integrate weather and climate information into their short and long-term investments for their productivity and sustainability
Office of the President	Rwanda Development Board (RDB)	A Government institution established in 2008, mandated to accelerate Rwanda's economic development by enabling private sector growth. Built with global expertise and modelled on international best practice, it primarily operates as a one-stop-shop for business and investments (including

Ministry	Organization	Description
		investment marketing, targeted labor market interventions and tourism and conservation).
Ministry of Agriculture and Animal Resources (MINAGRI)	MINAGRI	Has the mission of promoting modern, efficient and competitive agriculture and livestock sector, in order to ensure food security, agriculture export and diversification of the productions for the benefit of the farmer and the economy. MINAGRI has five directorates that supports agricultural programs.
	Rwanda Agriculture and Animal Resources Development Board (RAB)	The mission of RAB is to "develop agriculture and animal resources through research, agricultural extension and animal resources extension in order to increase agricultural and animal resources productivity and quality, as well as their derived products" (Rwanda Agriculture and Animal: Resources Development Board, n.d.).
	National Agricultural Export Development Board (NAEB)	The NAEB's mission is "to facilitate the growth of business to diversify agriculture and livestock commodity export revenues" (NAEB, 2019). It supports Rwanda companies to expand into global markets by providing market intelligence, practical advice, and business tools.
Ministry of Finance and Economic Planning (MINECOFIN)		Aims to support productivity of the economy, employment opportunities, the investment climate, and the quality of public investments. The MINECOFIN Special Project Implementation Unit (SPIU) is strategically positioned to manage projects, specifically translating sector strategic plans into development results. It further serves as repository of knowledge on lessons of experience accumulated in the course of implementing and closing completed projects.
Ministry of Local Government (MINALOC)		Ensures the coordination of good governance and high quality territorial administration programs that promote economic, social and political development throughout the nation. MINALOC's support will be key for streamlining implementation at local levels.
Gender Monitoring Office (GMO)		Monitors, evaluates, aggregates and reports on gender-related commitments and actions across public, private, non-governmental and religious institutions – including development plans and programs.
National Women's Council (NWC)		Responsible for advocacy, capacity building and social mobilization efforts targeted at women and girls, from village through to national level.

Other key government entities are summarized below:

- **Environment and Natural Resources Sector Working Group (ENR-SWG):** the ENR-SWG is chaired by the MoE and a development partner representative and includes representatives from MINECOFIN, MINAGRI, RAB, REMA, RGF, Meteo Rwanda, RFA, NLA, development partners, NGOs, academia, and the private sector. The ENR-SWG uses semi-annual Joint Sector Reviews (JSR) to monitor progress on the Sector Strategic Plan which includes tracking implementation progress on the NDC and reviews data collected through the Environment and Natural Resources Management Information System (ENR-MIS).

7.4.1.2 Provincial and District Governments

- **Provincial Governments:** Support from representatives of the Southern Province government will be key for the implementation of the IP.

- **District Governments:** District administrations have strong experience and local insight in managing project activities at the local level. For the implementation of this IP support from representatives from the Nyamagabe, Nyanza, and Ruhango Districts will be critical.
- **Joint Action Development Forum (JADF):** the JADF was established to promote the participation of citizens in decentralized and participatory governance and to improve service provision processes. The JADF comprises representatives from the public sector, private sector, and civil society.

7.4.2 Multi-lateral Development Banks

The GoR collaborated closely with the World Bank, African Development Bank, and the International Finance Corporation on the development of the IP, including on joint missions in Rwanda. The GoR requested the World Bank to support implementation of the CIF NPC-financed concept brief. The World Bank is an international financial institution that finances sustainable development projects in low- and middle-income countries . The World Bank currently provides investments and technical assistance to various initiatives, programs, and projects aligned to this IP. For example, the Landscape Approach to Forests Restoration and Conservation Project (LAFREC), the VCRP, Commercialization and De-Risking for Agricultural Transformation Project (CDAT), SAIP, and the LWH. The World Bank is also supporting GoR on the development of the Sustainable Land Management Framework, its national Climate and Nature Finance Strategy, and other urban and rural investments that include collaboration and co-financing with development partners.

7.4.3 Development Partners

There are many development partners involved in ecosystem protection and restoration, sustainable land management, and climate resilient agriculture in Rwanda, who will potentially be engaged in the implementation of the NPC IP. Development partners are likely to play a key role not only in contributing financial resources, but also in providing technical expertise, particularly where this is linked to other related ongoing or planned initiatives in which they are involved.

7.4.4 Private Sector

The private sector is actively involved in climate-resilient agriculture investments such as agroforestry, and will be key in supporting the development of value chains. In addition a number of private sector companies such as seed companies play a role in research and production of climate-smart agro inputs for different ecological conditions. The Private Sector Federation will be a key player as a coordinating body for private sector engagement.

7.4.5 NGOs and CSOs

NGOs and CSOs play an important role in advocacy work, capacity building and dissemination of technologies and practices. They also include community-based organizations such as water user associations (WUAs), farmer co-operatives, and forest owners associations (FOAs). Some of the NGOs and CSOs that could potentially be engaged include (but will not be limited to):

1. **Rwanda Climate Change and Development Network (RCCDN):** a member-driven civil society network that focuses on climate change and developmental challenges in Rwanda. The Network consists of 66 member organizations. The RCCDN has been identified as a key organization for engaging with civil society organizations.

2. **Action for Environment Protection and Promotion of Agricultural Sector (APEFA):** a non-governmental organization (NGO) with a clear environmental and economic development mandate that aligns with the aims of this proposed project. APEFA promotes projects that solve agroforestry and food security issues, especially amongst youth and women. To date, it has supported 42 projects benefitting 289 700 people

3. **International Union for Conservation of Nature (IUCN):** a well-respected global authority on the status of the natural world and the measures needed to safeguard natural resources. The IUCN is a membership Union that includes both government and civil society organizations that comprises more than 1 400 Member organizations and more that 15 000 experts. The IUCN office in Rwanda supports the GoR in its conservation and development objectives and has been involved in a number of projects such as, Transforming Eastern Province through Adaptation (TREPA), Embedding Integrated Water Resource Management in Rwanda (Sebeya Project), Improving resilience of farmers' livelihoods to climate change through innovative, research proven climate-smart agroforestry and efficient use of tree resources in the Eastern Province and peri-urban areas of Kigali City (DeSIRA), to name a few.

4. **World Resources Institute (WRI):** The WRI is a global research non-profit organization established in 1982. As part of their strategic approach they put three interconnected goals for people, nature and climate at the center of all they do. They seek systemic change through combatting the drivers of inequity, ecosystem degradation and climate change by transforming the way the world produces and uses food and energy and designs its cities. WRI has been working in Africa for more than 30 years, supporting local partners and Africa governments to advance forest protection, landscape restoration and sustainable cities.

5. The **Albertine Rift Conservation Society (ARCOS)** was founded in 1995 to promote biodiversity and natural resource management in the Albertine Rift region, which includes Uganda, Rwanda, the Great Lakes of Africa, and the African mountains. It focuses on capacity building, information sharing, networking, stakeholder engagement, and ecosystem-based management. It is currently implementing a project financed through the Bezos Earth Fund to expand community-led ecosystem restoration efforts in Rwanda and Burundi by building local community capacity in landscape restoration techniques, project management, and site monitoring, and through a grant from the TerraFund for AFR100, is engaged in an initiative to restore degraded ecosystems in Rwanda through agroforestry, afforestation, landscape restoration, soil prevention measures, community awareness, and empowerment.

6. **One Acre Fund** is a social enterprise that supplies smallholder farmers in Africa with asset-based financing and agriculture training services to reduce hunger and poverty. It has been operating (under the name Tubura) in Rwanda since 2007, working directly with farmers and in partnership with the GoR. Some of its key activities in Rwanda have included promoting youth entrepreneurship and creating job opportunities in the agricultural sector, piloting the Smallholder Resilience Fund (SRF), developed through a partnership with the Climate Finance Lab, to help create profitable opportunities for smallholders in climate-friendly crops, and creating the Seed Center of Excellence in partnership with RICA University, to make it easier for Rwandan seed companies to succeed.

7. **Rwanda Women's Network (RWN)** is an NGO that works with communities across the country to improve women and girl's access to GBV support, healthcare, and financial education. This is achieved through three dedicated programs, all of which have relevance to the barriers and needs identified in the Kaduha Gitwe Corridor, namely: **socioeconomic transformation**, focused on providing financial education and investing in women led SMEs; **advocacy and women's leadership** through capacity building; and **GBV prevention and support.** RWN has a track record of working in the corridor and is thus well-placed to support on-the-ground implementation of targeted gender initiatives.

7.4.6 Research and Capacity Building Institutions

Research and Development is required to support adoption of appropriate of sustainable land management practices, tackle land degradation and development of context-specific tools and technologies for promotion of SLM. Also, capacity building is conducted at all levels from national government to farm level. Thus technical capacity to support implementation of the IP and achievement of its intended outcomes is likely to be drawn from research institutes, universities, tertiary training institutes which are also sources of innovations and new technologies. International development and research organizations such as UNEP, UNDP, CIFOR-ICRAF, and ILRI operate a number of ecosystem research programs touching on land, water, agriculture and SLM in addition to financing government-led ecosystem restoration and other related projects in the different sectors.

7.5 ORGANIZATIONAL STRUCTURE FOR NPC-IP IMPLEMENTATION

The implementation of the NPC-IP requires guidance, involvement and collaboration from a number of different parties to ensure its successful and efficient implementation. **Figure 7-1** shows the proposed organizational structure for thus implementation.

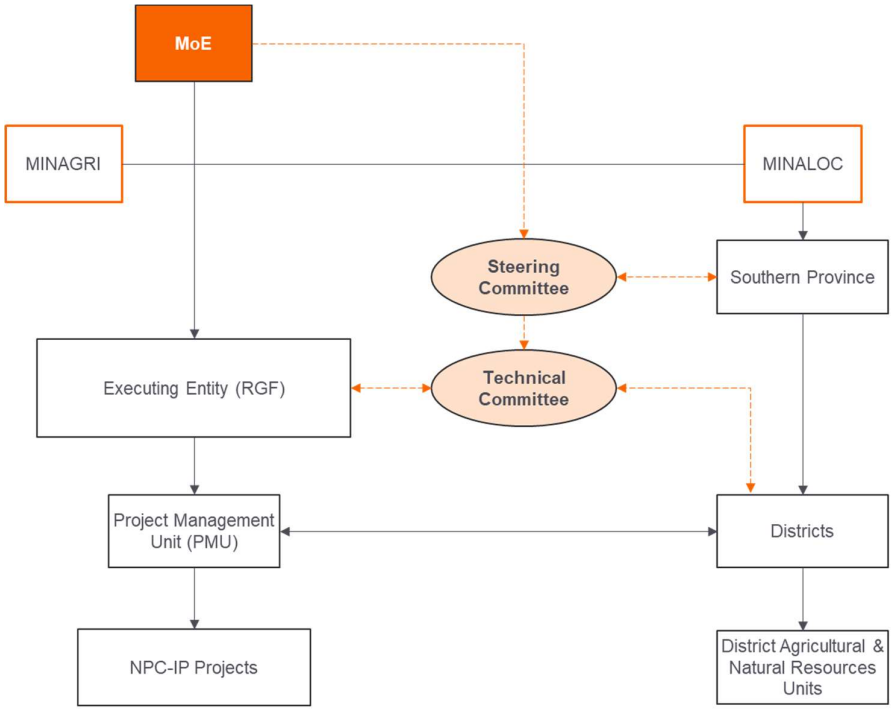


Figure 7-1: Organizational Structure for the CIF-NPC IP

Responsibility for the overall supervision of the IP will reside with the MoE which will work in close co-operation with MINAGRI and MINALOC. Delivery of the IP will be overseen by a Steering Committee at the national level, and district authorities at local level. The Steering Committee will be chaired by the MoE with RGF as the Secretariat and will comprise representatives from MINAGRI and MINALOC, key implementing agencies (RWB, RAB, RFA, REMA, RGF, NLA, NAEB and GMO), Rwanda Climate Change and Development Network (RCCDN) as a CSO body, Private Sector Federation (PSF) as a private sector representative, and governmental representation from the Southern Province. The Steering Committee will be supported by a Technical Committee which will provide technical oversight and advice to guide the implementation and monitoring and evaluation of projects. The Technical Committee will comprise technical staff from relevant agencies (RWB, RAB, RFA, REMA, RGF, NLA, NAEB, and NWC), as well as representatives from each of the district-level governments, and from academia (University of Rwanda). The RGF, with its governmental mandate and experience in executing other CIF programs, will act as the Executing Entity and will play a coordinating role for the Technical Committee. It will ensure that there is strategic co-ordination across the program and will support the integration and streamlined reporting for each project. Fiduciary and procurement issues will be handled by a dedicated Project Management Unit (PMU) established by RGF to serve as the link between the Executing Entity, the districts, and projects. Working closely with Project Implementation Units (PIUs) at district level, the PMU will be responsible for the day-to-day operation and management of the NPC program, including work planning, financial monitoring and reporting. The PIU will operate through the District Agricultural and Natural Resource Units.

At the project level, the World Bank will be the main implementing agency. RGF will provide the overall coordination of the executing agencies (REMA, RFA, RWB, RAB, NAEB, and MINAGRI) and district officials and local communities through a participatory process to identify catchment investments that deliver the greatest benefits through work in upper sub-catchments and work downstream in a sequential manner. Other agencies that may play a role in steering project activities

include the NLA, Meteo Rwanda, GMO, the NWC, NGOs and CSOs, other public and private sector partners (including the PSF) and academia.

These institutional mechanisms are already in use for the Volcanoes Community Resilience Project (VCRP) – comprising the Project Coordination Units (PCU), National Steering Committee, National Technical Advisory Committee, District Project Coordination Committee (DPCC), and Community Coordination Committee (CCC) – will coordinate CIF NPC project implementation. The CIF NPC IP will build on and align to VCRP institutional mechanisms to provide a robust governance structure, project management, and sharing of technical expertise and tools.

8 Monitoring, Evaluation and Learning

The Rwanda IP approach to project monitoring, evaluation and learning (MEL) will be guided by the CIF-NPC Integrated Results Framework (IRF) while also aligning with both the MDBs' own project-level monitoring and reporting systems and those already in use by the GoR to track progress against the country's green growth and climate resilient development objectives. At the project level, the approach is intended to generate empirical data that can be used to understand the progress made towards intended results, to reveal hidden benefits and unintended consequences, and inform adaptive management over the course of project delivery. In addition, the approach is intended to produce compelling evidence, knowledge and learning to support upscaling and the uptake of successful interventions elsewhere, while also capturing the impacts of project activities on cross-cutting issues such as gender inclusion, transformational change, just transition and contributions towards the Sustainable Development Goals. To this end, the MEL activities will focus on:

- **Measuring processes and performance** where the aim is to understand aspects of *process* (relevance, operation, efficiency, and equity) and *performance* (effectiveness, sustainability, and impact). Other aspects that can drive learning at the intervention level include capturing evidence on trade-offs, risks, and incentives.
- **Supporting reporting for decision-making** using relevant and verifiable indicators for measuring and reporting results (outcomes/impacts) by various stakeholders – including Rwandan government agencies at national, provincial and district level, the MDBs, and other development partners. Data recorded under such indicators could, for example, inform future investment decisions.
- **Facilitating adaptive management and learning**: In line with the CIF-NPC focus on real-time learning and enhancing collective understanding of the catalytic potential of climate finance across multiple dimensions, the project-level MEL system will seek to institute processes to communicate and share lessons in such a way that they can promote rapid developmental learning loops from MEL products to intervention design/delivery and foster knowledge exchange with local stakeholders.
- **Promoting a culture of ownership, inclusiveness, and empowerment**, by reflecting the voices/experiences of local communities, and particularly women and other vulnerable groups, in program design and decision-making. This will be done by instituting inclusive monitoring processes wherever possible. Regular engagement with local communities through meetings and field visits will allow feedback on project activities, identification of community needs, and fostering a sense of ownership and sustainability of project interventions. Additionally, other stakeholders, such as government agencies and private sector actors involved in natural resource management, will be engaged to facilitate collaboration, knowledge sharing, and alignment with national strategies.

Relevant project-level indicators will be developed during the process of detailed project design. At the same time, the project baseline will be defined to facilitate the measurement of progress and monitor the additionality delivered by the project activities. It is envisaged that a mix of direct, proxy and modelled indicators will be used and that data will be collected using quantitative and qualitative methods, including participatory methods. Insofar as possible, given availability of technologies and capacity, geospatial approaches will be adopted in order to obtain relatively low cost, spatially explicit data. Particular emphasis will be placed on collecting and analyzing data that is disaggregated according to gender to assess the extent to which interventions contribute to gender equality and social inclusion outcomes.

8.1 THEORY OF CHANGE

The Theory of Change is based on the recognition that under the current situation, many rural communities within the Kaduha-Gitwe corridor (and elsewhere in the country) are locked into a cycle of poverty and resource degradation. Heavy reliance on land and other natural resources exerts pressures on ecosystems through agricultural encroachment, over-exploitation and pollution, diminishing their functionality and capacity to deliver valuable ecosystem services and benefits, including regulating services such as flood and erosion control, carbon storage and sequestration, and water quality regulation. This situation is exacerbated by the effects of a changing climate, including more frequent and intense rainfall events, which contribute to erosion, landslides and flooding. Unless measures are taken to stabilize the landscape through ecosystem protection, restoration and sustainable management, the vulnerability of local communities to flooding, erosion and landslides will continue to grow. However, these measures will only be sustainable if local communities can realize their value through enhanced agricultural productivity, new or alternative livelihood opportunities, and other economic and financial incentives.

Each of the activities envisaged under this IP is aimed at addressing the most significant human-induced pressures and drivers of ecosystem degradation that in turn contribute to both greenhouse gas emissions and vulnerability to a changing climate, as well as specific obstacles to the uptake of, and investment in, natural solutions (ecosystem protection, restoration, and sustainable management) for climate action.

Prospective interventions were identified using an ecosystems approach[12] which was combined with root cause analysis to develop a series of impact pathways (drivers/pressures → impacts on ecosystem extent and condition → impact on ecosystem services) and simplified logic chains that show how the proposed interventions are intended to address the identified challenges (drivers/pressures) and barriers to action. The analysis also considered the alignment of the proposed responses with relevant Government strategies, policies and plans, GESI impacts and opportunities, and the potential to leverage private sector investment. The resulting Theory of Change is shown in **Table 8-1.**

The goal of this IP is for:

Investments based on an integrated system-wide approach can reconcile competing uses of land and other natural resources to unlock the potential of nature for climate and nature action. This would lead to improved health of the land and other ecosystems, reduced greenhouse gas emissions, and more inclusive, sustainable and climate-resilient livelihoods and businesses, thereby mobilizing additional public and private funding.

To achieve this goal, two projects are proposed: **Catalyzing climate, nature and people investments for resilient landscapes and communities in Kaduha-Gitwe corridor** and the **Wildlife Conservation Bond** which are synonymous with the long-term outcomes and which, together, contribute towards achievement of the goal or program impact. These

[12] The ecosystem approach is a conceptual framework for resolving ecosystem issues. It makes explicit the link between the extent and condition of ecosystems and the ecosystem services and benefits that support human well-being. It seeks to maintain the integrity and functioning of ecosystems as a whole to avoid rapid undesirable ecological change.

projects, and the components and indicative activities within them, are designed to address the specific challenges (pressures and drivers of ecosystem degradation and climate change vulnerability) and barriers (to ecosystem protection, restoration and sustainable management) that were identified through engagement with stakeholders and review of strategies, policy, and literature which was conducted during the Gap Analysis and Needs Assessment, and which are described in **Section 4.7**.

Table 8-1: Theory of Change for the Kaduha-Gitwe IP

GOAL	Investments based on an integrated system-wide approach can reconcile competing uses of land and other natural resources to unlock the potential of nature for climate and nature action. This would lead to improved health of the land and other ecosystems, reduced greenhouse gas emissions, and more inclusive, sustainable and climate-resilient livelihoods and businesses, thereby mobilizing additional public and private funding.									
PROGRAM IMPACT	Improved management of lands, forests, and wetland areas contributing to emissions reductions, climate resilience and reduced exposure to climate risks through strengthened adaptive capacity									
OUTCOMES	Natural forests protected, connected, more resilient to climate impacts and risks	Carbon sequestered	Climate-resilient food sources and livelihoods	Habitats for biodiversity created or improved	Improved flood attenuation, reduced erosion and siltation of rivers	Empowered women and youth	Incomes generated for rural livelihoods, reducing pressure on forests and other natural resources	Improved biodiversity	Support to community livelihoods and eco-tourism	Sustainable flows of finance generated
OUTPUTS	• Sustainable management of more productive forests • Adoption of climate-resilient farming practices • Improved biodiversity			• Protected and restored wetlands and riverine ecosystems		• Improved awareness and capacity for natural solutions for climate resilience • Diversified climate-resilient income streams • More resilient forest income streams • More resilient post-harvest value chains for farming • Incomes generated from protecting wetlands and riverine ecosystems		• Improved park management • Improved biodiversity	• Successful community enterprises • Improved tourism opportunities	• WCB operationalized with investors on board
THEMES	Resilient Landscapes					Resilient Livelihoods		Resilient Landscapes	Resilient Livelihoods	Both
PROJECTS	*Catalyzing climate, nature and people investments for resilient landscapes and communities in Kaduha-Gitwe corridor*							*Wildlife Conservation Bond*		
ACTIVITIES	**Component 1 – Integrated catchment and landscape restoration** A: Increase forest productivity and sustainable forest management B: Promote climate-resilient farming practices			**Component 2 – Ecological restoration of priority conservation areas** A: Restore and protect wetlands and riverine ecosystems		**Component 3 – Livelihoods diversification** A: Strengthen awareness, knowledge, and capacity of local communities, policy- and decision-makers to design, implement, and maintain natural solutions that enhance climate resilience B: Promote income-generating activities that support more climate-resilient livelihoods associated with increased forest productivity and sustainable forest management C: Develop post-harvest value chains associated with climate-resilient farming practices D: Catalyze income-generating activities that support more climate-resilient livelihoods associated with restoration and protection of wetlands and riverine ecosystems		**Component 1: Improve wildlife conservation management** A. Implement Park restoration activities B. Enhance Park facilities	**Component 2: Enhance community resilience** A. Support to local community enterprise development and livelihood interventions B. Deploy nature-based tourism strategy	**Component 3: Conservation Success Payment**
INPUTS	Technical expertise to develop fit-for-purpose solutions	Participatory land use planning with local communities	Country-led, programmatic, participatory approach	Willing local community	Consideration of the gender, equity, and social inclusion		Technical expertise to develop fit-for-purpose solutions	Conservation and tourism expertise	Opportunities for community enterprises	MDB technical expertise

8.2 INTEGRATED RESULTS FRAMEWORK

The Rwanda IP responds to CIF's integrated approach to results measurement, as presented within the NPC Integrated Results Framework (IRF) in **Table 8-2**. CIF's integrated approach combines essential monitoring and accountability functions with a holistic multi-level and multi-dimensional approach, including a complex systems orientation, and emergent learning opportunities. Within this integrated approach, measurement of program and project impacts are captured via the multiple dimensions of monitoring, evaluation, learning, gender, and other key crosscutting approaches, coalesced within the objective of delivering a nuanced and complete understanding of the program's progression, and thematic specificities, in delivering a complex and multifaceted program goal.

The left-side columns of the NPC IRF, tracking the key performance indicators of program and project performance, are captured within the Rwanda IRF (**Table 8-2**), wherein the program's performance is tracked via targeted, core indicators defined within the NPC IRF, in response to the NPC Theory of Change (**Table 8-1**) and its constituent objectives. The right-side columns of the NPC IRF, focused on evaluation of learning approaches (encompassing transformational change signals across dimensions, co-benefits/development impact evaluations, gender and social inclusion analytics, and other targeted evaluations and learning activities) are captured via CIF, country, and MDB-driven evaluations and studies responsive to the program's evidence needs and priorities, as outlined below. In sum, the approaches allow for a duality between systemized tracking and responsive research and evaluation, designed to complement each other, and leverage mixed methods approaches utilizing different tools, methods, and forms of evidence, but strategically combining them when applicable.

The Rwanda IP is therefore also structured to outline the program's results chain—from program-level activities, outputs, outcomes, and impacts (based on the anticipated investment pipeline and the related activities to be funded within the program, the overall program design described in **Section 4**, and the theory of change presented in **Section 8.1**) and incorporates elements related to (i) evaluation and learning, (ii) transformational change, (iii) gender and social inclusion, (iv) just transition, (v) SDGs, and (vi) development impacts/co-benefits in addition to the fundamental program results and corresponding indicators.

The framework highlights the interconnectedness of results related to landscape management, climate resilience, and socio-economic development, which emphasizes the integrated approach adopted by the IP. The IRF will be a tool to track progress against the targets relative to established baseline values (to be determined at project design stage). It will enable stakeholders, including the intended beneficiaries, to assess and understand the effectiveness of the interventions using a mix of results-based and participatory monitoring and evaluation approaches, and will be used by the Government of Rwanda, Development Partners and CIF, for accountability and transparency purposes and to enable evidence-based decision making throughout the implementation process.

The IP seeks to achieve a range of outcomes aligned to the CIF NPC IRF, the GoR's national policies and strategies, including the GGCRS program of actions, the updated NDCs, and the Sustainable Development Goals, and local districts' self-determined needs and priorities. The indicators outlined in the IP IRF (see **Table 8-2**) will enable the monitoring and assessment of progress based on the program's envisioned outcomes. However, it is important to note that the baseline

and targets have not yet been set for these indicators, as they will ultimately depend on where specifically (in which catchments) the interventions will be undertaken and the preferences of local stakeholders. The baseline and targets will therefore be developed during the process of detailed project design, which will include catchment prioritization and more detailed engagement with local stakeholders.

Related to the above, a mix of quantitative and qualitative methods will be used to assess the transformational potential of interventions, including case studies, surveys, and stakeholder consultations. Additionally, lessons from other similar programs and projects such as 'Green Gicumbi', will be utilized, to inform the development of a robust monitoring and evaluation system to track implementation. This will be done in collaboration with relevant government institutions including RGF, REMA, RFA, Research Institutions, and Civil Society Organizations to leverage expertise and resources for comprehensive monitoring and evaluation of program outcomes. The program will prioritize transparency, accountability, lesson learning and knowledge management during data collection, analysis and reporting to ensure that data on transformative change, just transition, and inclusivity aspects are readily accessible to all stakeholders.

Table 8-2: Integrated Results Framework for the CIF NPC IP

CIF Result Statement	Indicators	Unit	Data Source / Means of Verification	Frequency	Responsibility	Assumptions	Evaluation and Learning Approach Key Areas
RWANDA NPC IP PROGRAM LEVEL IMPACTS							
Improved use and management of land and other natural resources for low-carbon and climate-resilient livelihoods and businesses	Various impact proxies including: Poverty rates (%) Prevalence of moderate and severe food insecurity (%) National / territorial agricultural land (%) National / territorial rates of deforestation (ha per year) National / territorial rates of land degradation (ha per year) National / territorial rates of erosion (ha per year)	See column to the left	National statistics and MRV systems; macro-level indicators; World Bank (or other MDB) country data	Mid-term and lifetime	Government of Rwanda	To be tailored to the specific needs, demands and interests of the Government of Rwanda	Evaluation and learning activities will seek to measure how well the NPC program has addressed key barriers to effective climate-responsive land-use planning and management within and across stakeholder groups through, for example, assessing the level of participation / involvement in decision-making processes and changes in relative benefits / vulnerabilities among groups.
RWANDA NPC-IP PROGRAM LEVEL OUTCOMES							
A. Improved management of natural resources	**NPC CORE 1. Mitigation:** GHG emissions reduced or avoided or enhancement of carbon stocks	Mt CO_2e	Calculated using areas from NPC CORE 2 and MDB-approved methodologies	Annual	MoE	Avoided GHGs will need to be calculated using an agreed methodology using the land area from the various initiatives incorporated under NPC CORE 2.	The evaluation and learning function complements core indicators by filling strategic knowledge gaps. Evaluation and learning activities will be designed and integrated into projects under the program to respond to stakeholder demand, evidence gaps, and cross-learning opportunities.
	NPC CORE 2. Land Area: Area of land or other physical environments covered by climate-responsive natural resource management practices	ha	MDB project results data obtained via remote sensing reports, and other available spatial data	Annual	REMA, NLA	This will include initiatives related to forestry, CSA, and the rehabilitation of wetlands and the data will be disaggregated by ecosystem type and adaptation vs. mitigation.	
B. Increased adoption of sustainable supply chains	**NPC CORE 3. Sustainable Supply Chains:** Number of firms, enterprises, associations, or community groups that have adopted a sustainable supply or value chain approach (#)	#	MDB Project Reports	Annual	Project Implementation Unit	A thorough value chain analysis is conducted for potential agricultural and forestry products in the target area, considering market demand, existing infrastructure, and gender dynamics.	Reporting and analysis will also examine the extent to which supply chains are gender responsive, e.g. through the adoption of policies to ensure gender equity in value chains. Signals of transformational change and related learning activities might focus on the interlinkages of individual supply chains, such as those featuring commodity certification standards, with the broader landscape or ecosystem in which they operate. Special attention may also be given to how various forest, farm and wetland communities and households with limited access to productive assets stand to gain or lose in the process.
C. Strengthened enabling environment for sustainable uses of land and other natural resources	*OPTIONAL: Number of people from targeted institutions and communities trained in climate-responsive measures (women and men)*	#	MDB Project Reports	Annual	Project Implementation Unit	A comprehensive training program will be developed for communities that covers relevant climate-resilient practices for agriculture and forestry. This could include topics like drought-resistant crop varieties, water management techniques, integrated pest management, and sustainable forest management practices.	

CIF Result Statement	Indicators	Unit	Data Source / Means of Verification	Frequency	Responsibility	Assumptions	Evaluation and Learning Approach Key Areas
E. Mobilized public and private capital	**NPC CORE 5. Co-Finance:** Volume of co-finance leveraged	USD	MDB project financial data	Annual	Project Implementation Unit	The project successfully encourages and motivates financial institutions to enter the green finance market by addressing potential barriers. This indicator will be disaggregated by source of funding and adaptation vs. mitigation.	
F. Rural communities and Indigenous Peoples' sources of livelihoods improved	**NPC CORE 6. Livelihoods:** Number of people receiving livelihood benefits	#	MDB Project Reports	Annual	Project Implementation Unit	Data will be disaggregated by gender and adaptation vs. non-adaptation.	Just transition aspects of livelihoods related to distributional impacts or social inclusion may be incorporated in studies, evaluations, and analyses.
	NPC CORE 7. Jobs: Number of jobs created – direct and indirect	#	MDB Project Reports	Annual	Project Implementation Unit	Data will be disaggregated by gender.	Through both just transition and gender-responsive approaches, further evaluative and learning-oriented analyses may center on the types of jobs created (and lost), and which sub-populations are gaining (and losing) employment opportunities. For example, this might include generating evidence on decent jobs created and plans for addressing jobs lost through skills development and economic diversification activities. It could also include analyses of women's access to green employment opportunities and vocational training.
	OPTIONAL: Increase in annual mean household income/ consumption	RWF	Household Surveys	Mid-term and lifetime	MINECOFIN/ NISR	Data will be disaggregated by gender (i.e. female headed versus male headed households).	
	OPTIONAL: Reduction in moderate or severe food insecurity	#	Household Surveys	Mid-term and lifetime	MINECOFIN/ NISR		Where feasible, analysis of changes in food security in and across specific stakeholder groups
G. Business case for private sector investments demonstrated	**NPC CORE 8. Private Sector Investments:** Number (#) and value ($) of CIF-supported private sector investments in sustainable land or natural resource management – mitigation/ adaptation	#, USD	Project Reports	Annual	Project Implementation Unit	Investors perceive climate-smart projects as financially attractive, offering competitive risk-adjusted returns and potential for long-term growth.	Evaluation and learning activities may build on the tracking of private sector investments for mitigation vs. adaptation to generate lessons on increasing the deployment of private sector adaptation financing toward the Paris Goal of 50/50 parity in total climate financing.
H. Fostered innovation	**NPC CORE 9. Innovation:** Number of innovative businesses, entrepreneurs, technologies, and other ventures demonstrating a strengthened climate-responsive business model	#	Project Reports	Annual	Project Implementation Unit	The project facilitates the formation or strengthening of farmers' cooperatives or producer groups that cater to the specific needs of agricultural and forestry producers in the target area.	
	OPTIONAL: Number of innovative products, services, technologies, and processes that have entered a new market context	#	Project Reports	Annual	Project Implementation Unit		
RWANDA NPC IP PROGRAM LEVEL CO-BENEFITS							
G. Social, Economic, and Environmental Development Co- Benefits	CO-BENEFIT 1. Green Growth: Economic growth of targeted sectors or industries within the landscape or ecosystem *Indictors such as:*	# and type	District / provincial statistics, MDB project estimates	Mid-term and lifetime	Implementing Agencies	Assumes that it will be possible to ascertain the contribution that NPC projects have made to emergence of green growth, e.g., through value chain	Specific co-benefit indicators in this area will feed into evaluative and learning-based analyses of transformational change at the landscape level.

CIF Result Statement	Indicators	Unit	Data Source / Means of Verification	Frequency	Responsibility	Assumptions	Evaluation and Learning Approach Key Areas
	• Number of co-operatives or producer groups established or strengthened, with a focus on ensuring women's participation in leadership and decision-making • Number of new or strengthened value chains established • Increase in the volume of agricultural and forestry products sold through market channels, disaggregated by gender of producers **Tourism development:** • Improved access for tourism (km roads, airstrips, etc.) • Improved facilities for tourism (no. beds and % increase in revenues, US$ revenue)					development or emergence of nature-positive business enterprises.	
	CO-BENEFIT 2. Just Transition: Social Inclusion and Distributional Impacts *Indictors such as:* • Number of extension workers trained on climate-resilient practices for high-value crops and forestry, disaggregated by gender • Number of people receiving livelihood co-benefits (monetary or non-monetary) • Improved livelihoods of communities directly surrounding the parks/forested areas (no interventions, % increase in earnings, livelihood increase indicator) • Development of community enterprise development (no. enterprises, increased earnings) • Benefit sharing with increased tourism (% shared, $ value, no. beneficiaries)		District / provincial statistics, MDB project estimates	Mid-term and lifetime	Implementing Agencies		TBD

CIF Result Statement	Indicators	Unit	Data Source / Means of Verification	Frequency	Responsibility	Assumptions	Evaluation and Learning Approach Key Areas
	• Developed human-wildlife conflict (HWC) plan (plan exists, no. HWC cases decrease) • People reporting satisfaction with conservation actions and associated opportunities, Informed by socio-economic household survey						
	CO-BENEFIT 5. Biodiversity *Indictors such as:* **Improved habitat:** • Removal of exotics (no. ha increased) • Improvement of indigenous trees to provide palatable fruit and food (no. trees & no. ha covered) • Extension of park (ha extended) to new areas and corridors to ensure connectivity • Forest cover: NDVI (Normalized Difference Vegetation Index); measure forest cover change (e.g., density, aka increasingly closed canopy); hectares of farmland in the project landscapes with increased tree density • Hectares of biologically significant area demonstrating improved biophysical condition • Number and size, shape of forest patches • Hectares of ecologically important land in the project landscape under restoration **Chimpanzees:** • Chimpanzee population growth rate • Reduction in infant mortality (no. or % reduction) • Improved genetics (translocation of chimps to	TBD	District / provincial statistics, MDB project estimates	Mid-term and lifetime	Implementing Agencies		TBD

CIF Result Statement	Indicators	Unit	Data Source / Means of Verification	Frequency	Responsibility	Assumptions	Evaluation and Learning Approach Key Areas
	and from areas) (no. translocated) • Establish and update baseline biodiversity assessments & increased monitoring & evaluation (no. studies, no. man hours M&E, M&E reports) • Abundance of other primate populations (interim)						
RWANDA NPC IP PROGRAM LEVEL OUTPUTS							
(A) Integrated sustainable land and natural resource investments implemented (B) Enhanced access/availability of climate solutions (C) New climate finance instruments piloted (D) Indigenous People, women, and local communities provided direct access to finance to develop their own projects	OPTIONAL: Number and type of solutions deployed in agriculture and food systems	#	MDB Monitoring Reports	Lifetime	Implementing Agencies	Will include: - climate-smart and climate-resilient agricultural techniques (agroforestry, intercropping, etc.) - early warning systems for extreme weather events	Specific evaluation and learning activities will support output-level learning and assessment. Monitoring data from the output level will also feed into the evidence base for transformational change signals and other higher-level analyses related to NPC implementation in Rwanda. Projects will also track trainings designed to address particular gender considerations such as training on financial literacy, and skills that enable women to access finance, employment opportunities and to develop and grow nature-based enterprises.
	OPTIONAL: Number and type of solutions deployed in forests and other ecosystems	#	MDB Monitoring Reports	Lifetime	Implementing Agencies	Includes reforestation / forest restoration, wetland restoration, sustainable timber value chain development, restoration of high-carbon ecosystems, community-based natural resources management systems, and creation of enterprises employing nature-based products and services	
	OPTIONAL: Number of policies, regulations, codes, standards, or community-led plans related to climate-responsive land and ecosystem management that have been supported	#	MDB Monitoring Reports	Lifetime	Implementing Agencies	Will include policy and regulatory enhancements to align with pre-existing mechanisms at community, local, district and national levels, land and resources management frameworks, and land use regulation	
	OPTIONAL: Number of private-sector and/or community-based business models or financing modalities piloted	#	MDB Monitoring Reports	Lifetime	Implementing Agencies	To be disaggregated by type	
	OPTIONAL: Number of people provided with direct access to finance for project development	#	MDB Monitoring Reports	Lifetime	Implementing Agencies	To be disaggregated by gender (where feasible) and stakeholder group	

8.3 MONITORING AND REPORTING

8.3.1 Ecosystem-wide analysis

The IRF serves as the primary instrument through which Rwanda's NPC program is defined using measurable indicators and, in due course, targets. The IRF thus links the program's theoretical objectives with the measurable outcome-level results anticipated through each of the projects and their respective components as described in **Section 4** of this IP.

The projects, components and activities that have been identified for support under the NPC program have been defined through a comprehensive assessment of national and regional-level challenges, gaps and needs with respect to the extent and condition of ecosystems, the services and benefits they provide, livelihoods and the resilience of local communities to the effects of a changing climate. The assessment has been informed by an analysis of national and local strategies and policy priorities, evaluation of the impact and effectiveness of project activities and interventions aimed at landscape-scale reforestation, sustainable land management and strengthening communities' resilience to climate change elsewhere in the country, and discussions with district officials and other stakeholders regarding the specific challenges and barriers they face, and their needs and priorities.

As the IP is developed collaboratively among the Government, implementing MDB partners, and other stakeholders, the process of defining project level aims and objectives, as well as the related results set out in the IRF therefore reflect the integrated, ecosystem-wide approach on the coherence of and between interventions, and on accountability between proposed goal statements and pragmatic results estimations, and that ultimately can reconcile competing uses of land and other natural resources to unlock the potential of nature for climate action.

8.3.2 Anticipated Program-level Impacts

Rwanda's NPC-IP currently expects to deliver on 8 of the 9 core objectives of the NPC Investment Program. The country's IRF therefore tracks core indicators relating to each of these outcomes. Target values will be established during the detailed project design process, and will represent the combined outcomes from each of the two projects within the program pipeline. Each target value will be further disaggregated to show the relative contribution of each project towards that target, thereby allowing for a differentiated analyses of the varying levels of impacts, vis-à-vis investment volumes and targeted approaches. As such, the IRF will be responsive to any changing dynamics within individual projects, and under- or over-achievement of program-level results will allow for learning and adaptation based on challenging or opportune investment environments.

The intended impact of Rwanda's NPC investment program are as follows:

Improved management of lands, forests, and wetland areas contributing to emissions reductions, climate resilience and reduced exposure to climate risks through strengthened adaptive capacity.

8.3.3 Protocols for Tracking

The monitoring and reporting of results will be a collaborative process among all stakeholders. Country focal points and implementing agencies, with support from the CIF Secretariat Monitoring and Reporting (M&R) team, will lead on tracking the country IP impact indicators set out at IP approval. Implementing MDBs will monitor, and report annually to the CIF

Secretariat, all outcome-level core indicators relevant to each approved project, in accordance with the methodologies, reporting requirements and timelines set out within the NPC IRF, and within the NPC M&R Toolkit.[13] As such, MDBs will be responsible for incorporating these outcome-level indicators into the monitoring and reporting frameworks and mechanisms for each implemented project, alongside any optional outcome indicators and at least one co-indicator per project, also in accordance with the NPC IRF and NPC M&R Toolkit. Country IP M&R workshops, anticipated at inception, midterm, and IP-conclusions along with any, as needed, interim country M&R workshops, will allow for multi-stakeholder cross-sectoral consensus on indictor progress, targets, methodologies, and related gaps, lessons, or enhancements, in accordance with the guidance set out by the CIF Secretariat for the NPC investment program.

8.3.4 Tracking and evaluating transformational change, just transition and inclusivity

The IP and associated activities present an important opportunity for learning through an evaluative lens on key themes and goals related to transformational change and just transition. As per the right-hand side of the IRF, in addition to the MDBs own evaluation processes through their independent evaluation offices or other efforts, the MDB and country counterparts will participate in evaluation activities of the CIF. This includes independent program level mid and end-term evaluations and evaluations on key themes, such as transformational change and just transition. Evaluative insights could also relate to diagnostic, design, implementation, economic value, and synthesis evaluations of programs and projects. Any evaluation effort will not replicate existing country evaluation systems but will aim to reflect them as part of the overall approach, drawing data from all existing, credible sources.

Any evaluation on transformational change will use the dimensions of transformational change as identified through the transformational change learning partnership (TCLP) and documented in the program design documents and evaluation guidance provided. Similarly, any evaluation of just transition will consider the CIF just transition framework and its associated dimensions. The guidance and questions provided in the NPC design document related to just transition, transformational change and gender will be used to structure both formative and summative evaluative processes. Key questions to consider include:

- Who is involved and empowered during transition processes? (Procedural Justice)
- Who benefits and who loses in transition processes? (Distributional Justice)
- What is needed, what is planned and are they aligned? (Relevance)
- What systems need to be changed and how? (Systemic Change)
- What is the relationship between urgency and complexity and how is this being managed? (Speed)
- What scaling is required/ was achieved? (Scale)
- What capacity is being built to achieve sustainable development pathways? (Adaptive Sustainability)

A variety of evaluation methodologies may be deployed with a particular emphasis on enhancing participation in evaluation and learning processes as well as ensuring the rapid use of information for learning and course correction where required.

[13] The NPC M&R Toolkit translates the NPC IRF into a practical and detailed guide which sets out definitions of indicators, measuring methods/approaches and frequency, roles, and responsibilities etc.

The implementation of the proposed NPC-IP aims to bring about transformational change, foster a just transition, and promote inclusivity. These outcomes will be evidenced by more widespread uptake of natural solutions (ecosystem protection, restoration and sustainable management), more resilient and sustainable landscapes, and more diverse and sustainable livelihoods for local communities.

NbS are considered a cost-effective, multi-functional, and broadly applicable approach to deal with global change challenges compared with those relying on built infrastructure (Cohen-Shacham, Walters, Janzen, & Maginnis, 2016). Due to their contributions to nature conservation and human livelihoods and well-being (Keesstra, et al., 2018), the potential of NbS to deliver transformative long-term pathways to sustainability, as long as they can integrate nature conservation with socio-economic benefits, is increasingly recognized[14]. Evaluating **the transformative change** delivered by natural solutions thus requires an understanding of not only the physical changes in the landscape, but also changes in socio-ecological systems. These changes can be assessed in terms of:

- Restructuring or stabilization of the landscape, e.g., through restoration of forests and wetlands, reintroduction of indigenous species, etc.;
- Social restructuring through reorganizing stakeholder networks, e.g., through establishment of co-operative structures and public-private partnerships;
- Path-shifting transformations in the ecological system through reduced deforestation, improvements in water quality, etc.;
- Path-shifting transformations in social systems through, for example, increased household incomes and empowerment of vulnerable smallholder farming communities;
- Ecological innovation through the introduction of new technologies, crop varieties and tree species that are resilient to climate change, and social innovation through the creation of novel funding mechanisms or alternative sources of income (e.g. through the emergence of payments for ecosystem services schemes or conservation bonds);
- The adoption of system-wide perspectives in policy, planning and decision-making, e.g. in terms of better reflecting the linkages between upstream land management activities and downstream impacts;
- The level of involvement of local communities in the planning, design, implementation and maintenance of natural solutions, which points to their longer-term durability.

The implementation of natural solutions and support to develop alternative and more diverse sources of livelihood have the potential to generate social transformation by providing new opportunities to improve the quality of life of rural, smallholder farmers who are highly dependent on natural resources and thus also highly vulnerable to the effects of climate change and extreme weather events. The program will closely monitor and evaluate **just transition activities**, with a particular focus on tracking progress in three key areas:

[14] See, for example, Palomo, et al., 2021 and Welden, et al., 2021.

i) The creation of new jobs and opportunities, ensuring that women, youth and other vulnerable groups receive training and meaningful employment opportunities through the projects implemented within their communities, such that no one is left behind;

ii) The development and use of measures to incubate and support enterprises and co-operatives working towards ecosystem protection, restoration and sustainable management;

iii) Keeping track of the number of households that may lose productive land (e.g. where currently cultivating in riverine and wetland buffer zones) but who are then trained and employed to participate in economic diversification, and/or benefit from reduced flood risk and higher productivity from other land parcels that they own or manage.

In the context of the NPC-IP, **social inclusion** is understood to mean how vulnerable, marginalized and under-represented voices are included (rather than excluded) in processes and practices to plan, design, implement and maintain the natural solutions and other supporting measures that investments are intended to support. The program will monitor and evaluate gender mainstreaming during the implementation of the proposed interventions, including but not limited to employment opportunities for women as part of gender mainstreaming and promoting local content in terms of supply of locally produced materials and local labor, including both skilled and unskilled services. Indicators for tracking social inclusion will include:

- Percentage of women, youth and other vulnerable groups involved in planning, design, implementation and maintenance, and monitoring of project interventions;
- Number of training and capacity building activities targeted specifically at women, the youth and other vulnerable groups;
- Number of female-headed and youth enterprises or community groups that receive technical and financial assistance for enterprise development opportunities.

Reporting shall also help verify which adopted interventions/programs have mainstreamed gender in their implementation process and provide adequate safeguards during the same period.

Moreover, project and program-level indicators included in the results framework will be disaggregated by gender, age, and socio-economic status as far as possible.

The execution process of the IP shall be transparent, with information relating to all processes made available to all potential stakeholders, with a clear feedback mechanism development for adaptive learning and future improvement purposes.

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APPENDIX A Project Concept Briefs

A 1. Catalyzing Climate, Nature and People Investments for Resilient Landscapes and Communities in Kaduha-Gitwe Corridor

A 1.1. Problem Statement

Rwanda is the most densely populated country in continental Africa (World Bank, 2022) with the current population growth rate at 2.3%. Approximately 72% of the nation's population is rural (NISR, 2022) and heavily reliant on natural resources and subsistence agriculture for their livelihoods[15]. The expansion of agriculture to meet the needs of a growing population on increasingly scarce land has led to widespread adoption of unsustainable farming practices, including the cultivation of marginal lands[16]. This has resulted in the degradation of farmland and natural ecosystems which, in turn, adversely impacts land productivity and hydrological processes. This has led to declining crop yields, increased rainfall runoff and less infiltration, increased soil erosion, sedimentation of waterways, loss of wetland water storage capacity, increased flooding, and landslides. The growing pressures on Rwanda's natural resources ultimately heighten the vulnerability of the country's predominantly rural population, which is exacerbated by the effects of a changing climate such as more intense yet more erratic precipitation and increased frequency of drought and floods. In the Kaduha-Gitwe Corridor area in particular, the combination of steep topography, inappropriate agricultural management practices (with frequent exposure of soil, often on steep slopes) and high intensity rainfall mean that environmental pressures and impacts are exaggerated. Rwanda's 2019 Natural Capital Accounts for Ecosystems identifies the Upper Nyabarongo catchment as having experienced the greatest soil erosion[17] of all catchments in 2015 (NISR, MINECOFIN, MoE, 2019). These natural hazards are having a significant impact on the Corridor's already vulnerable population; up to 43% of households are female headed, 17.7% of households are in the Ubudehe Category 1 (extreme poverty) and the overall poverty rate of 50.5% is notably higher than the national average of 38.2% (FONERWA, 2023; NISR, 2022). Youth make up 48.8% of the population and have limited access local tertiary education and off-farm employment prospects (FONERWA, 2023; NISR, 2022). This implies that initiatives that seek to address landscape and livelihood risks concurrently will provide significant benefits to communities in the area.

Alongside these challenges, unrealized opportunities exist. Agriculture remains relatively unproductive despite being the largest employer, reflecting a misallocation of labor and resources. Addressing these vulnerabilities and attaining economic potential is paramount to improving rural livelihoods in Rwanda. Yet to do this requires overcoming several existing obstacles, especially in the context of agricultural and forestry activities. These include weak and underdeveloped value chains, limited access to inputs, equipment, and finance, as well as inadequate access to agricultural output and retail markets (characterized by weak trading relationships within the region and domestic market inefficiencies). Furthermore, there is a general lack of financial, technological and human capacity among rural communities to address environmentally

[15] It is estimated that 69% of all households are engaged in crop or livestock production, and the sector engages 55 percent of the labor force and almost 80% of the female labor force (WFP Rwanda Country Brief, April 2023).
[16] Approximately 90% of cropland in Rwanda is located on steep slopes, generating a national dependence on vulnerable landscapes (NISR, 2019).
[17] In this area, amongst other impacts, the reduction in soil water infiltration reduces soil water available for crop production and reduces dry-season stream flow. The increased run-off, combined with limited vegetation cover and steep slopes, also results in increased erosion of topsoil, critically degrading scarce productive land and elevating downstream flooding risks.

degrading practices, or to identify and develop alternative income-generating activities. These obstacles are particularly burdensome for women, owing to their relatively higher participation in agriculture compared with men.

A 1.2. Proposed contribution to initiating transformational change

The proposed investments under this project will deploy an adaptive sustainable landscape management approach to promote transformational investments that deliver systemic change with deployment of integrated climate resilience, sustainable livelihoods, and nature positive interventions. To achieve this aim, four core components, each with an indicative suite of activities and sub-activities are proposed (see **Table 9-1**).

Interventions that fall under the broad theme of 'Resilient Landscapes' are aimed at firstly securing productive land through protective forestry practices, terracing and other means and then implementing a range of sustainable agricultural methods. On-the-ground interventions are to be supported by actions to improve land use planning and decision making about which activities are appropriate in the various areas. Here support will be given to a participatory process developing local level long-term land use plans, aiming to match appropriate farming methods and crops to areas of different soil types and topographical vulnerability. Planning will also focus on wetlands, indigenous forests and other natural or near-natural habitats where different use category areas will be mapped out, together with buffer areas to be rehabilitated and protected. A further critical component of the integrated approach is initiating transformation through building capacity amongst land users (particularly women and youth) and extension services through the transfer of knowledge and skills around sustainable/alternative land management practices and through supporting the development and functionality of co-operatives and farming focus groups.

Another important aim of the proposed project is to unlock financing for climate-resilient investments and private sector engagement in ecosystem restoration in the Kaduha-Gitwe corridor. This may include, for example, operationalizing proposed project interventions under existing financing facilities such as Ireme Invest and the Community Adaptation Fund (CAF) under the RGF to improve climate-resilient livelihood options (e.g., bee-keeping, agriculture and food processing, and agroforestry value chains, or the design and implementation of other innovative and sustainable financing mechanisms such as payments for ecosystem services (PES), green bonds and forest resilience bonds. Moreover, it is envisaged that CIF funding will be used to lay the foundations for unlocking private sector investment through supporting micro-, small- and medium-sized enterprises (MSMEs) to develop a viable pipeline of investible businesses, to seek opportunities to both enhance the scale and quality of farm and forest produce, and to raise awareness of the opportunities for the private sector to benefit from ecosystem restoration - all of which have been identified as barriers to private sector investment to date.

In relation to 'Resilient Livelihoods', the proposed concept aims to employ an economic livelihood development and diversification approach to address existing economic obstacles facing local communities utilizing nature-based resources in Rwanda's Kaduha-Gitwe Corridor, whilst simultaneously reducing their vulnerability to climate change. In undertaking these livelihood development and diversification activities, key community livelihood outcomes are achieved, which in turn realize the sub-program's overarching aim of developing sustainable, resilient and diversified nature-based local economies that improve rural livelihoods. Moreover, investment in these activities presents an opportunity to unlock the potential of nature to deliver transformative climate benefits and improve livelihoods through a systemic approach that directly addresses key pressures on critical ecosystems by incentivizing land stewardship and providing local communities with access to the financial, human and social capital needed to diversify and strengthen their livelihoods base.

Undertaking these activities in an integrated manner enables local community members to better understand existing environmental challenges, incentives[18] them to manage them sustainably, capacitates them with the knowledge and skills to do so effectively, and strengthens and supports value chains and markets that enable meaningful livelihood development. In this way, nature-based livelihoods become more sustainable, resilient and diversified. Moreover, by assisting local communities to become economically viable and self-sustaining in the long run, the proposed approach stands to bear transformational impact beyond immediate climate impact funding. With a clear focus on empowering women and youth in particular (through upskilling, capacitation and access to finance, markets, inputs, etc.), the project will lead to broader, transformational economic and social multiplier effects within the target communities – including reduced impact of climate shocks from improved adaptive capacity, improved health and nutrition, resilient and diversified livelihoods, increased and more inclusive off-farm employment opportunities, and reduced number of deaths, incidences of Sexual and Gender Based Violence (SGBV), and livestock and crop losses associated with extreme weather events.

[18] The proposed interventions aim to create awareness of the Total Economic Value (TEV) – an economic concept that refers to the value derived by people – of natural capital assets, which in turn supports the reward of private management practices that secure public goods, and which delivers benefits (or avoided costs) to private sector beneficiaries of those services.

Table 9-1: Proposed project components and indicative activities and sub-activities

Activities	Collaboration and coherence with other programs/initiatives	Cross cutting activities*
Component 1 – Integrated catchment and landscape restoration		
A: Increase forest productivity and sustainable forest management		
1.A.1 Demarcation of potential investment forest zones and types.	• National Land Policy (2004). • NLUDMP: 2020-2050. • Revised GGCRS (2022). • District Forest Management Plans (2018-2027). • Rwanda National Land Use Planning Guidelines (2017)	• Participatory planning.
1.A.2 Support the provision of high-quality seed and plant genetic material through nationally available sources, most notably through the Tree Seed Centre in Huye.	Alignment with: • Forest Investment Program for Rwanda • District Forest Management Plans (2018-2027) • Volcanoes Community Resilience Project.	• Establishment of forestry focus groups / farmer field schools (FFS) and build capacity of extension services. • Capacity building amongst extension services, focus groups and cooperatives.
1.A.3 Conduct short term tests on new species and varieties and best practices on demonstration / trial forestry plots.	Intervention locations will be guided by the Rwanda Water Resources Board – CROM, the 2017 Rwanda National Land Use Planning Guidelines and other existing Rwandan SLM planning.	• Capacity building amongst extension services, focus groups and cooperatives. • Increase access to finance, e.g. through the RGF CAF and incubation services.
1.A.4 Forest stand improvement - *Eucalyptus* and *Pinus* in public and private forests where production is a main objective.	Good practice examples and lessons learnt can be drawn from similar initiatives implemented elsewhere in the country including: • Green Gicumbi Project. • Various RFA projects such as the AREECA Project	• Support the participatory development of village level land use plans identifying inter alia, areas for forest renewal and the zoning of forest types and uses. • Capacity building amongst extension services, focus groups and cooperatives. • Increase access to finance, e.g. through the CAF and incubation services. • Support the implementation of activities relating to forest product certification through international certification initiatives. • Capacity development on silviculture and utilization to RFA and DFOs
1.A.5 Establish community tree nurseries and capacity support. Focus on growing optimal species and genetic material.		• Increase access to finance, e.g. through the CAF and incubation services. • Capacity building amongst extension services, focus groups and cooperatives. • Support the establishment of cooperatives and focus groups/ FFS and build capacity of extension services. • Support the participatory development of village level land use plans identifying inter alia, areas for forest renewal and the zoning of forest types and uses.
1.A.6 Establish new or rejuvenate failing woodlots and build capacity in optimal woodlot management.		

Activities	Collaboration and coherence with other programs/initiatives	Cross cutting activities*
		• Implement sustainable, climate-resilient land use planning. • Increase access to finance e.g., through CAF and incubation services.
1.A.7 Stabilize rivers, roadsides and steep slopes (>55%) with protective forestry, perennial grasses and shrubs. Where possible utilize indigenous plant species to establish micro-habitats/corridors to support pollinators and other important biodiversity.		• Support the participatory development of village level land use plans identifying, inter alia, buffer zones and other sensitive areas for protection • Capacity building amongst land users and extension services.
1.A.8 Sustainable management and protection of remnant indigenous forests and grasslands including reforesting and management of invasive alien species and implementing soil protection interventions in degraded areas. Consideration will also be given to the development and piloting of a system for Measurement, Reporting and Verification (MRV) of carbon storage and sequestration in forest habitats to support a recognized gap in the country's GHG inventory and in its mitigation NDCs.	Alignment with: • Landscape Approach to Forest Restoration and Conservation (LAFREC) Project. • Rwanda Natural Capital Accounts – Ecosystems. • Rwanda National Land Use Planning Guidelines (2017).	• Support the participatory development of village level land use plans identifying, inter alia, buffer zones and other sensitive areas for protection. • Support the capacity of NFA in forest demarcation, inventory and preparation of management plans for identified forest areas. • Support RWB to facilitate the implementation of sustainable landscape interventions relevant to soil and water conservation in the intervention areas.
B: Promote climate-resilient farming practices		
1.B.1 Zoning of potential investment land for agriculture, pasture, perennial crops, etc., in consultation with RAB, district agronomists, land officers, and local communities.	Alignment with: • National Land Policy (2004). • NLUDMP: 2020-2050. • Revised GGCRS (2022). • Watershed Management Plans.	• Participatory planning.
1.B.2 Introduction of soil and water conservation measures in cultivated areas: • Terraces including radical and progressive terracing depending on slope, • Contour banks (trenches) in high slope areas, • Cover cropping - tea and coffee plantations (important link to private sector investment), • Biological control measures such as mulching and intercropping, • Planting fodder grasses on bunds/ridges, • Use of improved vegetated fallows, • Introduction of minimal till agriculture, • Conversion from annual to perennial crops.	Strongly complements other ongoing and planned initiatives in the landscape including: • Green Amayaga • GEF-8 (the Nyungwe-Ruhango corridor restoration). • GEF LDCF Building community resilience and transforming livelihoods in the Southern Province. • PRODAR. • The Congo-Nile Divide Project. • Sebeya Project. Intervention locations will be guided by the CROM database.	• Support the participatory development of village level land use plans identifying inter alia, areas suited for different farming methods and crops. • Establish farmer focus groups / FFS and cooperatives. • Capacity building amongst extension services, focus groups and cooperatives. • Support RWB to facilitate the implementation of sustainable landscape interventions relevant to soil and water conservation in the intervention areas.
1.B.3 Matching of crops and permanent vegetation to soils and farming methods.		• Support the participatory development of village level land use plans identifying inter alia, areas suited for different farming methods and crops.
1.B.4 Establish agro-forestry on suitable areas, particularly on steep and unprotected slopes.		• Support the participatory development of village level land use plans identifying inter alia, highly

Activities	Collaboration and coherence with other programs/initiatives	Cross cutting activities*
		• sensitive areas suited for agro-forestry and other light touch farming methods. • Increase access to finance e.g., through CAF and incubation services.
1.B.5 Introduce low-regret adaptation interventions (water management (e.g. rainwater harvesting), crop diversification, grass strips, culverts, hedgerows and tree belts) to reduce exposure of smallholder farmers to climate variability and shocks.		
1.B.6 Introduce climate-resilient planning and practices for expansion of tea and coffee production and investigate the opportunity for utilizing areas with acidic soils.		• Support the participatory development of village level land use plans identifying inter alia, areas suited for different farming methods and crops. • Establish farmer focus groups / FFS and cooperatives and build capacity of extension services.
1.B.7 Investigate and develop potential opportunities for public private partnerships for the development of opportunities related to tea, coffee, and other high value crops.	• Forest Investment Program. • Commercialization and de-risking for Agriculture Transformation Project. • Promoting Smallholder Agro-export Competitiveness Project. • Sustainable Agricultural Intensification and Food Security Project.	• Linkages with private and public sector. • Increase access to finance e.g., through CAF, Ireme Invest (for climate-smart agriculture) and incubation services. • Gender and youth mainstreaming.
1.B.8 Development of a weather forecasting and early warning system to guide timing of planting and crop type, as well as providing early warning for flooding.	• Early warning climate forecasting project (REMA, 2015) • Early warning to climate-resilient agricultural development in Africa (Coffey, et al., 2014)	• Support the participatory development of village level land use plans identifying inter alia, areas prone to flooding for integration of climate risk management considerations. • Engagement with local stakeholders (traditional leaders, women and youth) for data collection. • Capacity building for local farmers and extension officers (implementing adaptive agricultural practices). •
Component 2: Restore and protect wetlands and riverine ecosystems		
A: Restore and protect wetlands and riverine ecosystems		
2.A.1 Localized wetland master planning to identify areas for wetland development and/or rehabilitation to provide services such as water quality improvement and flood protection.	Alignment with projects: • Green Amayaga. • GEF-8 (the Nyungwe-Ruhango corridor restoration). • GEF LDCF Building community resilience and transforming livelihoods in the Southern Province. • PRODAR. • The Congo-Nile Divide Project. • Sebeya Project. • The ARCOS.	• Participatory planning.
2.A.2 Physical demarcation of riparian buffer zones for protection and revegetation (see 3.3).		
2.A.3 Rehabilitate degraded wetland areas identified in 3.1.		• Support the participatory development of village level wetland master plans identifying wetland use areas, wetland and riparian buffer areas and other sensitive areas to be protected.
2.A.4 Rehabilitate riparian zones, as demarcated in 3.2, with vegetation that will generate livelihood opportunities to		

Activities	Collaboration and coherence with other programs/initiatives	Cross cutting activities*
communities, as well as protecting river banks and riparian zones.	Alignment with Plans/Policies/Strategies: • National Land Policy (2004). • NLUDMP: 2020-2050. • Revised GGCRS (2022). • Watershed Management Plans.	
2.A.5 Develop opportunities for financing mechanisms in the corridor such as PES and green bonds.		• Linkages with financial institutions.
Component 3 – Livelihoods diversification		
A: Strengthen awareness, knowledge, and capacity of local communities, policy- and decision-makers to design, implement, and maintain natural solutions that enhance climate resilience		
3.A.1 Vulnerability assessments with community participation, and community-based survey of project area and prioritization of interventions (with communities, water and agricultural experts and other stakeholders).	• VCRP • Green Gicumbi	• Participatory planning • Gender and youth mainstreaming • Links to prioritization of Resilient Landscapes activities
3.A.2 Training of district officials and community volunteers in gender sensitive climate adaptation planning and role of NbS (training of trainers).	• Forest Investment Program • Green Amayaga • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • Green Gicumbi	• Capacity building • Gender and youth mainstreaming
3.A.3 Planning workshops involving district officials and local communities to develop local adaptation plans that mainstream NBS and that address local needs and consider gender roles and responsibilities, and to support the establishment and operation of community-based disaster risk reduction committees, ensuring gender-balanced representation.	• Forest Investment Program • Green Amayaga • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • VCRP • LAFREC • Green Gicumbi • Sebeya Project	• Participatory planning • Gender and youth mainstreaming
3.A.4 Establish a Community Adaptation Facility (CAF) through which districts and CSOs can access grant financing for ecosystem protection and restoration activities that deliver public goods.	• Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • Green Gicumbi	• Increase access to finance e.g., through CAF and incubation services
3.A.5 Strengthen knowledge of national and district officials in value of ecosystem services delivered by forests and wetlands so that these can be better reflected in decision- and policy-making.	• Forest Investment Program • Green Amayaga • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • LAFREC	• Participatory planning • Gender and youth mainstreaming

3.A.6 Support the development of an action plan to expand schemes in which providers of ecosystem services are paid by beneficiaries and support the roll-out of PES pilots to establish proof-of-concept and help scale up.	• FIP - PRODAR	• Linkages with financial institutions
3.A.7 Establish a Technical Assistance Facility through which micro and small forest and farm enterprises can access business incubation services including technical support and early-stage financing for developing businesses focused on promoting the nature economy and alternative income-generating activities (IGAs) that use resources sustainably and that ultimately achieve climate-resilient landscapes and improved livelihoods.		• Linkages with private and public sector • Capacity building • Increase access to finance e.g., through CAF and incubation services • Gender and youth mainstreaming
B: Promote income-generating activities that support more climate-resilient livelihoods associated with increased forest productivity and sustainable forest management		
3.B.1 Design and deliver training to strengthen capacity of local extension services to support climate resilient practices in forestry (training of trainers).	• Forest Investment Program • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • Green Gicumbi	• Linkages with private and public sector • Capacity building • Increase access to finance e.g., through CAF and incubation services
3.B.2 Support the roll-out of technical training for forestry technicians in sustainable land management practices (e.g., soil management practices, erosion control).	• Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration • LAFREC • Green Gicumbi	• Capacity building • Gender and youth mainstreaming
3.B.3 Strengthen capacity (skills and knowledge) of forestry technicians to support specialization, intensification, diversification, and value addition.	• Forestry Investment Program • Commercialization and de-risking for Agriculture Transformation Project • Promoting Smallholder Agroexport Competitiveness Project • Sustainable Agricultural Intensification and Food Security Project • Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration • VCRP • Green Gicumbi • Sebeya Project	• Linkages with private and public sector • Capacity building • Increase access to finance e.g., through CAF and incubation services • Gender and youth mainstreaming
3.B.4 Support forest owners to establish Forest Management Units (FMUs), Forest Owners Associations (FOAs) or producer groups to promote economies of scale in operations and improve coherent forest management, in line with the aspirations of the DFMPs.	• Forest Investment Program • Promoting Smallholder Agroexport Competitiveness Project • Sustainable Agricultural Intensification and Food Security Project • LAFREC	• Gender and youth mainstreaming
3.B.5 Support local communities (through FMUs, FOAs, producer groups and MSMEs) to identify and establish the feasibility of developing income-generating opportunities (including woodfuel and beekeeping) and post-harvest value chains for timber and non-timber forest products from private forests.	• Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration • VCRP • LAFREC	• Increase access to finance e.g., through CAF and incubation services • Gender and youth mainstreaming

3.B.6 Support individual forest owners, FMUs, FOAs, or forest producer groups to access finance, insurance, and market linkages, including through the Technical Assistance Facility and Fund (see 1.4 and 1.7).	• Forest Investment Program • Commercialization and de-risking for Agriculture Transformation Project • Promoting Smallholder Agroexport Competitiveness Project • Sustainable Agricultural Intensification and Food Security Project • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration • VCRP • LAFREC • Sebeya Project	• Linkages with private and public sector • Increase access to finance e.g., through CAF and incubation services • Gender and youth mainstreaming
3.B.7 Develop and implement standards / certification to secure improved market access, attract a price premium and promote more sustainable forest management practices.	• Commercialization and de-risking for Agriculture Transformation Project	• Linkages with private and public sector
C: Develop post-harvest value chains associated with climate-resilient farming practices		
3.C.1 Support Farmer Field Schools (FFS) to promote the adoption of CSA practices within agricultural systems, including soil and water conservation.	• Forest Investment Program • Commercialization and de-risking for Agriculture Transformation Project • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • Green Gicumbi	• Linkages with private and public sector • Capacity building • Increase access to finance e.g., through CAF and incubation services
3.C.2 Support the roll-out of technical training by local extension services for farmers in sustainable land management practices (e.g., soil management practices, erosion control).	• Forest Investment Program • Green Amayaga • Commercialization and de-risking for Agriculture Transformation Project • Ecosystem-Based Restoration Approach for Nyungwe-Ruhango Corridor • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration • LAFREC • Green Gicumbi • Sebeya Project	• Capacity building • Gender and youth mainstreaming
3.C.3 Strengthen capacity (skills and knowledge) of farmers to support specialization, intensification, diversification and value addition.	• Forest Investment Program • Commercialization and de-risking for Agriculture Transformation Project • Promoting Smallholder Agroexport Competitiveness Project	• Linkages with private and public sector • Capacity building • Increase access to finance e.g., through CAF and incubation services

	• Sustainable Agricultural Intensification and Food Security Project • Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration • VCRP • Green Gicumbi	• Gender and youth mainstreaming
3.C.4 Establish cooperatives / producer groups (where these do not already exist) to promote economies of scale in operations and improve agricultural land management.	• Forest Investment Program • Promoting Smallholder Agroexport Competitiveness Project • Sustainable Agricultural Intensification and Food Security Project	• Gender and youth mainstreaming
3.C.5 Support local communities (through co-operatives / producer groups and MSMEs) to identify and develop post-harvest value chains for agricultural produce.	• Forest Investment Program • Commercialization and de-risking for Agriculture Transformation Project • Promoting Smallholder Agroexport Competitiveness Project • Sustainable Agricultural Intensification and Food Security Project • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • LAFREC	• Linkages with private and public sector • Increase access to finance e.g., through CAF and incubation services
3.C.6 Support individual smallholder farmers, co-operatives or producer groups to access finance, insurance, and market linkages, including through the Technical Assistance Facility and Fund (see 1.4 and 1.7).	• Forest Investment Program • Commercialization and de-risking for Agriculture Transformation Project • Promoting Smallholder Agroexport Competitiveness Project • Sustainable Agricultural Intensification and Food Security Project • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration • VCRP • LAFREC • Sebeya Project	• Linkages with private and public sector • Increase access to finance e.g., through CAF and incubation services • Gender and youth mainstreaming
3.C.7 Develop and implement standards / certification for agricultural production to raise quality and attract private sector investment.	• Commercialization and de-risking for Agriculture Transformation Project	• Linkages with private and public sector
D: Catalyze income-generating activities that support more climate-resilient livelihoods associated with restoration and protection of wetlands and riverine ecosystems		
3.D.1 Establish feasibility of, and develop markets around conservation farming in wetlands and riverine ecosystems including, for example, sustainable rice production and bamboo	• RWCA wetland restoration around Rugezi RAMSAR Protected Marsh and at Umusambi Village (Kigali) • Sebeya Project • Kirehe Community-based Watershed Management Project	• Linkages with private and public sector • Increase access to finance e.g., through CAF and incubation services

3.D.2 Establish cooperatives / producer groups to promote economies of scale in operations and support more sustainable management and use of wetland ecosystems.	• Forest Investment Program • Promoting Smallholder Agroexport Competitiveness Project • Sustainable Agricultural Intensification and Food Security Project • LAFREC	• Gender and youth mainstreaming
3.D.3 Support individual smallholder farmers, co-operatives or producer groups to access finance, insurance, and market linkages, including through the Technical Assistance Facility and Fund.	• Forest Investment Program • Commercialization and de-risking for Agriculture Transformation Project • Promoting Smallholder Agroexport Competitiveness Project • Sustainable Agricultural Intensification and Food Security Project • Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province • Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration • VCRP • LAFREC • Sebeya Project	• Linkages with private and public sector • Increase access to finance e.g., through CAF and incubation services • Gender and youth mainstreaming
3.D.4 Develop and implement standards / certification for wetland produce to raise quality and attract private sector investment.	• Commercialization and de-risking for Agriculture Transformation Project	• Linkages with private and public sector
Component 4 - Project management, monitoring & evaluation, capacity building, and gender mainstreaming		
A: Project management and co-ordination		
B: Capacity building, M&R, and gender mainstreaming		

This integrated programmatic approach will be delivered at speed by leveraging the coordination and institutional mechanisms developed under the Volcanoes Community Resilience Project (VCRP) project. The VCRP has already mobilized US$50M of IDA, US$12M of PROGREEN investments, GoR financing, and is expected to receive an additional US$120M in EIB financing to reach needed scale. The VCRP programmatic approach enables crowding-in of additional public and private investments. This integrated investment program reduces community climate change vulnerability, promotes nature-based solutions that deliver jobs and income generation in underdeveloped rural areas. This project will be processed together with the Global Environment Facility (GEF-8) US$9M investment in the same target area. Additional IDA and other co-financing will be explored to achieve larger scale across the target area and Southern Province.

A 1.3. Implementation readiness

Rwanda exhibits strong absorptive capacity for financing and implementation of this sub-program as part of the NPC program, as reflected in the wider macro-economic context and outlook, the policy environment and institutional setup, and its experience in managing similar programs and investments in the past.

This CIF NPC investment **leverages financing and technical capacity of other Bank-funded projects REMA is implementing** related to livelihood development, biodiversity conservation, climate resilience, and climate smart agriculture. This **phased approach will allow for scaling of interventions** as additional funds are secured.

The implementation arrangements under this CIF NPC investment will use and build on existing arrangements and governance structure under the VCRP – a programmatic approach that enables streamlined implementation. The investment will be **processed as additional financing under the VCRP** through established procurement, financial management, contract management, processes, and policies already under use. The institutional mechanisms already in use for the VCRP – comprising the Project Coordination Units (PCU), National Steering Committee, National Technical Advisory Committee, District Project Coordination Committee (DPCC), and Community Coordination Committee (CCC) – will coordinate CIF NPC project implementation. These VCRP institutional mechanisms are intended to link to (sharing project progress and technical input) the governance structure proposed as part of the CIF NPC Investment Plan (**Figure 7-1**). It is envisioned that the Investment Plan's Project Management Unit (PMU) will be the primary point of contact for the VCRP's PCU. Relevant technical information and findings, as well as opportunities for collaboration and knowledge sharing, can then be escalated by the PMU to the Investment Plan's Executing Entity (RGF), Technical Committee, Steering Committee, and finally the MoE (who holds responsibility for overall supervision of the Investment Plan).

A 1.4. Potential implementing partners

REMA will lead execution of most of the activities related to resilient landscapes and livelihoods, including ecological restoration of priority catchment areas. REMA will work closely with other agencies (RFA, RWB, RAB, NAEB, and MINAGRI) and district officials and local communities through a participatory process to identify catchment investments that deliver the greatest benefits through work in upper sub-catchments and work downstream in a sequential manner. Other agencies that may play a role in steering project activities include the NLA, Meteo Rwanda, GMO, the NWC, NGOs and CSOs, other public and private sector partners (including the PSF) and academia. As stated above, the Project Coordination Units (PCU)

and institutional mechanisms[19] already in use for the VCRP will coordinate CIF NPC project implementation. Beneficiary communities will execute activities aimed at reducing flood risk and catchments/landscapes restoration. It will support establishment and strengthening of existing community structures to ensure strong community engagement.

A 1.5. Rationale for NPC financing

The CIF NPC brings added value to sustainable landscape management in Rwanda. The highly concessional financing (50% loan/50% grant) allows scaling-up of VCRP funded activities in area of Rwanda with high risk of soil erosion, nature degradation, and an urgent need for nature-based investments. It serves as an anchor investment to address the multiple drivers and impacts of climate change with an emphasis on flood risk management, catchment and landscape restoration, and promotion of improved and diversified livelihoods. These funds secure key natural and cultural resources, which can facilitate future nature-based tourism investments. The NPC financing can catalyze investments in prioritized catchments to enable scaling-up of best practices. By leveraging the VCRP donor coordination efforts, the CIF NPC financing will expand the established platform that brings together development partners and NGOs across Rwanda to share knowledge and good practices across climate, nature, and livelihood interventions. As highlighted in a separate but related concept brief, CIF NPC resources will also support piloting of a wildlife conservation bond and other financial instruments.

A 1.6. Monitoring and evaluation (M&E)

The CIF NPC investments developed for the Kaduha-Gitwe corridor are well aligned with VCRP, specifically *Component 2: Landscape restoration and catchment management*. The VCRP M&E system is robust and adequate for continued use with the CIF NPC investment, especially considering their alignment with CIF NPC Core Indicators. However, this M&E system will also be designed to be integrated within the programmatic M&E approach and mechanisms outlined in Section 8 (namely, the IP's proposed Integrated Results Framework). An overview of key activities and indicators and alignment with the VCRP results framework is outlined in **Table 9-2**. The list of indicators will be refined during project preparation.

Table 9-2: Proposed Results Indicators as aligned with the existing VCRP results framework.

Components and sub-programs	Indicators
VCRP Component 2: Landscape restoration and catchment management • CIF Investment sub-programs	**CIF NPC AF Indicator** • Intermediate Indicator
2.1: Integrated catchment and landscape restoration • Sustainable landscape management • Increase forest productivity and sustainable forest management	• Adoption of National Sustainable landscape management framework **Area of landscapes under sustainable land management in production systems (Hectare (Ha) - *NPC Core 2*)** • Areas under afforestation and reforestation (Hectare (Ha)) • Households adopting sustainable and climate-smart/resilient land management practices (Number)

[19] These mechanisms comprise the National Steering Committee, National Technical Advisory Committee, District Project Coordination Committee (DPCC); Community Coordination Committee (CCC).

Components and sub-programs	Indicators
• Promote climate-resilient farming practices	**Cumulative impact on net greenhouse gas emissions (Metric tons CO_2-eq) (Number) - *NPC CORE 1***
2.2. Ecological restoration of priority conservation areas • Restore and protect wetlands and riverine ecosystems	• Area of wetlands under restoration (Hectare (Ha)) • Area of river and wetland buffer zones under restoration (Hectare (Ha))
2.3: Livelihoods diversification • Support for livelihood diversification	**People benefiting from improved livelihoods (Number), disaggregated female – *NPC Core 6*** • People benefiting from income generating activities in project intervention areas (Number)

A 1.7. Financing Plan, Including Financial Instruments

Table 9-3 summarizes the financing plan for the Kaduha-Gitwe corridor. VCRP co-financing is indicated, and GoR and World Bank will continue to engage development partners to leverage additional investments.

Table 9-3: Indicative Funding plan

Program components and activities	Executing agencies	CIF NPC contribution (US$, million)	Potential Co-financing contribution (US$, million)
Catalyzing climate, nature and people investments for resilient landscapes and communities in Kaduha-Gitwe corridor			
Component 1: Integrated catchment and landscape restoration			
A. Increase forest productivity and sustainable forest management	RFA	2.37	137 (113 EIB; 17 IDA; 2 PROGREEN; 5 GEF-8)
B. Promote climate-resilient farming practices	RAB	15.2	
Component 2: Ecological restoration of priority conservation areas			
A. Restore and protect wetlands and riverine ecosystems	REMA	4.39	8 (2.5 IDA; 3.5 PROGREEN; 1 GEF-8; 1 GBFF)
Component 3: Livelihoods diversification			
A. Strengthen awareness, knowledge, and capacity of local communities, policy- and decision-makers to design, implement, and maintain natural solutions that enhance climate resilience	REMA/ RWB / RAB / RFA	1.79	34.5 (27.5 IDA; 4 PROGREEN; 3 GEF-8)
B. Promote income-generating activities that support more climate-resilient livelihoods associated with increased forest productivity and sustainable forest management	RFA / RWB / RAB / REMA	1.66	

Program components and activities	Executing agencies	CIF NPC contribution (US$, million)	Potential Co-financing contribution (US$, million)
C. Develop post-harvest value chains associated with climate-resilient farming practices	NAEB / RAB	1.95	
D. Catalyze income-generating activities that support more climate-resilient livelihoods associated with restoration and protection of wetlands and riverine ecosystems	REMA / RWB	0.40	
Component 4: Project management, monitoring & evaluation, capacity building, and gender mainstreaming			
A. Project management and co-ordination	RGF		12.5 (3 IDA; 7 EIB; 2.5 PROGREEN)
B. Capacity building, M&R, and gender mainstreaming*	All	0.14	
Total	57.61	29.00	192.00

* Note that the cost of all gender interventions is embedded within the component costs and will be detailed during the design phase, as part of the Gender Action Plan development.

A 1.8. Environmental and Social Risk Management

To ensure the project upholds environmental and social standards, robust risk management will be implemented to avoid or mitigate adverse impacts throughout all phases of implementation. Potential Environmental and Social risks and impacts will be identified, screened, assessed and managed in accordance with Rwanda's laws and the World Bank's Environmental and Social Framework and instruments. Social specialists will be key team members in the PIUs.

A 1.9. Full Project preparation timetable

As the CIF NPC investments are to be processed as additional finance under the VCRP, the project preparation is expected to be completed in 6 months starting in January 2025 (after GEF CEO Endorsement for GEF-8 project which will be processed together with CIF NPC). **Table 9-4** provides an overview of the proposed timeline.

Table 9-4: Project preparation timeline

Stage	Steps	Deliverables	Date (2025)
1. **Concept**	A. Concept approval	Concept Memorandum with risk template; updated ESF instruments	January
2. **Appraisal**	B. Decision review	Additional finance (AF) restructuring paper (includes details on economic, financial, technical, institutional, fiduciary, and ESF)	March
3. **Negotiations**	C. Complete negotiations package D. Conduct negotiations	Negotiations package Signed minutes of negotiations	May

Stage	Steps	Deliverables	Date (2025)
4. Approval	E. CIF Committee (GCAP Committee) approval	Investment Plan	May
	F. WB Board approval	Final project AF paper with all Annexes and clearances	June

A 1.10. Requests, if any, for investment preparation funding

The World Bank will not request funding for project preparation. VCRP implementation efforts, including PROGREEN investments and the ongoing support to GoR to prepare a Substitutable Land Management Framework for the country, will provide the analytical and stakeholder engagement efforts and prioritization of catchments in the Kaduha-Gitwe corridor. This includes mapping of existing interventions and participatory zonation and land-use demarcation in consultation with local communities. Such early planning and participatory activities will provide a strong foundation for informed decision-making to ensure that interventions are aligned with community needs, landscape priorities and ecological sensitivities.

A 2. Wildlife Conservation Bond

A 2.1. Problem Statement

Despite Rwanda's economic growth and poverty reduction efforts, persistent poverty remains, with economic gains threatened by inflation, particularly affecting the poor people. Given Rwanda's heavy reliance on natural resources (the majority of the population depends on subsistence agriculture, while there is an expanding eco-tourism sector), sustainable development is essential for the Rwandan government's mandate to scale economic gains.

Rwanda's biodiversity faces significant threats from rapid population growth and associated land use changes, particularly in agriculture and urbanization. Unsustainable land management practices like deforestation, soil erosion, and habitat fragmentation further degrade ecosystems, diminishing biodiversity. High-biodiversity areas are exposed to anthropogenic activities that threaten ecological processes and endanger biodiversity, including key species like the great apes, all of which are now critically endangered or endangered (IUCN, 2019). Climate change exacerbates these pressures, with altered precipitation patterns and increased frequency of extreme weather events disrupting ecosystems and threatening species survival. Rwanda's Country Climate and Development Report (2022) warns of a potential 5–7% GDP drop below baseline by 2050 due to climate risks.

Rwanda's biodiversity conservation efforts, including protected areas and reforestation, face implementation and enforcement challenges due to resource constraints and competing development priorities. Limited awareness and capacity among local communities also contribute to unsustainable resource use. Addressing these issues demands (i) integrating biodiversity conservation into development strategies; (ii) catalyzing and scaling private sector investment; (iii) directly and materially benefiting local communities, especially youth and women; (iv) enhancing community engagement; (v) strengthening enforcement of environmental regulations; and (vi) promoting sustainable land management.

A 2.2. Proposed contribution to initiating transformational change

Overview

This project aims to channel new and additional resources through issuance of a World Bank-issued Wildlife Conservation Bond (WCB) to enhance conservation outcomes in Rwanda's Kaduha-Gitwe Corridor while supporting local livelihoods and encouraging private sector investment in conservation. WCBs are an innovative financial instrument that leverages impact and ESG-focused investments from institutional investors to achieve conservation goals, transferring risk from the government or donors to investors. Successfully piloted in South Africa in 2022, where a US$150 million World Bank-issued bond raised overUS$10 million for black rhino conservation, the WCB investors forego bond coupon payments that are used to finance conservation activities. Various efforts are underway to replicate the WCB for other species and landscapes, including an opportunity for piloting in the Rwanda context – a first for an IDA country – and scaling across its growing conservation areas and reserves. An important feature of the WCB is that it raises conservation financing from the private sector without increasing Rwanda's debt burden.

The proposed Rwandan bond will support conservation and adaptive management activities targeting chimpanzees and broader conservation of two of Rwanda's biodiversity hotspots. Project funding will be used to implement conservation and adaptive management activities within protected areas and in buffer zones around these areas. IUCN's Eastern Chimpanzee

Conservation Action Plan highlights *chimpanzees are an excellent flagship species for conservation*. Readiness and monitoring baseline and targeting activities are currently underway, with focus to consider chimpanzee populations as the key performance indicator for the bond. Additional discussions with outcome payers and other partners, including USAID, WCS, WRI, and biodiversity and ape specialists will guide the development of the optimal bond structure to maximize bioidiversity and livelihood impacts[20]. The Rwanda WCB is intended to support Rwanda's financial innovation efforts and programmatic approach, which could be replicated in other parks and for other nature and climate outcomes. It supports Rwanda's long-term vision of establishing wildlife corridors to connect its national parks and increased conservation areas in private and community lands.

The WCB would unlock significant and additional new funding to support biodiversity conservation and nature-based tourism, which would have broader benefits and application beyond the parks and buffer zones targeted. These biodiversity hotspots are key to support Rwanda's long-term vision to connect biodiversity corridors across the country linking its core national parks which are the biodiversity hotspots. Communities and enterprises in the Kaduha-Gitwe corridor would benefit from increased investments and nature-based tourism to these parks. Experiences gained with this innovative investment would also support replication in the Kaduha-Gitwe Corridor and across the country. The improvement of livelihoods of the people living in the areas adjacent to, and surrounding, the protected areas is inherently linked to the survival of species living within the protected areas. Investment in these protected areas and the encouragement of eco-based tourism will assist in developing livelihood opportunities for the people within the Kaduha-Gitwe Corridor.

Conservation payments will be tied to achieving pre-determined conservation outcomes, such as chimpanzee population growth (or other biodiversity / ecosystems outcomes) over five years. For example, an index of biodiversity and other core sustainable development outcomes could be considered, including the number of people receiving livelihood benefits, and/or increased observed tree cover.

Bond Structure

This WCB aims to channel investment to the Gishwati-Mukura National Park (GMNP) and the Nyungwe National Park (including Cyamudongo, a small remnant forest patch in Nyungwe).

The WCB leverages the World Bank's Aaa/AAA-rated balance sheet to offer investors a principal-protected investment that allows for direct participation in a nature conservation investment in Rwanda. The WB will issue a structured bond and use the principal for sustainable development investments while investors agree to forego coupon payments which are used for conservation activities in Rwanda. If conservation outcomes are achieved, funds from the outcome payers are used to pay investors an outcome conservation success payment.

Timeline: Five years

Box 1 - Rwanda Wildlife Conservation Bond (WCB) Benefits Overview
A. Pilot a new financial instrument in Rwanda that passes project risks to capital market investors, allowing donors to pay only for successful outcomes, and links investment returns to conservation KPIs, measured in this case expected to be measured by the growth of primate populations, beneficiaries, and native trees planted.
B. Raise conservation financing from the private sector without increasing Rwanda's debt burden. In this innovative structure, investors agree to a full/partial ordinary bond coupon from the Development Bank of Rwanda

[20] Due to population growth and land use changes, chimpanzees' habitats have shrunk significantly in Rwanda in recent decades. As a flagship or umbrella species, chimpanzees indicate the health of protected areas and securing their populations preserves habitat diversity and ecosystem services.

to be diverted to finance conservation activities at the parks. This instrument was successfully tested in South Africa for black rhinos, and it can be piloted in the Rwanda context to replicate it for a different species and landscape. This instrument can be scaled to other parks in Rwanda and beyond.

C. Safeguard Rwanda's endangered primate populations. This investment protects a conservation corridor containing key habitats and secures biodiversity hotspots essential to maintaining this corridor.

D. Demonstrate sustainable landscape management for enhanced environmental services and climate resilience in a priority landscape. The WCB project builds on recently completed successful projects in target areas (LAFREC), current GEF (U$10 million), CIF (US$35 million), GCF (US$39 million), and philanthropic investments (US$150 million+) that are key for Rwanda's commitment to maintain at least 30% of its forest cover and strengthen biodiversity conservation.

E. Boost economic development and job creation around the country's green and climate-resilient strategy. Support sustainable development in Rwanda's rural areas by investing in local communities to reduce their vulnerability to climate impacts and increase income and value chain linkages.

F. Complement Rwanda's leadership efforts in collaborative management partnerships, grant investments with support from public and philanthropic donors, emerging carbon credits and biodiversity certificates and private investments in nature-based tourism and natural capital.

Project Activities

The proposed to achieve the aims of the WCB sub-program are shown in **Table 9-5**.

Table 9-5: Indicative project components and activities

Project components and activities
Component 1: Improve wildlife conservation management
A. Implement Park restoration activities
B. Enhance Park facilities
Component 2: Enhance community resilience
A. Support to local community enterprise development and livelihood interventions
B. Deploy nature-based tourism strategy
Component 3: Conservation success payment

A 2.3. Implementation readiness

The Rwandan government has an excellent legal, policy, and strategy framework, which is necessary for this project to succeed. Key instruments from this framework which will facilitate the implementation of this project by creating a suitable enabling environment are given in **Table 9-6**.

Table 9-6: Enabling policies, strategies and plans

Agenda's, polices, strategies and plans etc.	Summary
National Strategy for Transformation and Prosperity (NSTP) - Seven Year Government Program (2017–2024) (Government of Rwanda, 2017)	Vision 2050 aspires to take Rwanda to high living standards by the middle of the 21st century and high-quality livelihoods. The Vision encourages investments in farming practices that are resilient to climate change in conjunction with enhancements to value chains, resulting in substantial future growth and poverty reduction.
Green Growth and Climate Resilience Strategy (GGCRS) (Government of Rwanda, 2022)	The GGCRS is Rwanda's key climate action policy. It focuses on becoming a climate-resilient and low-carbon economy. It addresses both adaptation and mitigation while focusing on sustainable economic growth and poverty reduction. The GGCRS's Sustainability of the Environment and Natural Resources Guiding Principle has a direct bearing on forestry and natural ecosystems.

Agenda's, polices, strategies and plans etc.	Summary
National Forest Policy (Ministry of Land and Forestry, 2018)	This policy enhances Rwanda's green growth while guaranteeing that forests are sustainably managed through strict adherence to social and environmental safeguards. It also promotes in-situ soil conservation through agroforestry and forest landscape restoration, of which Rwanda has committed to restoring two million hectares.
Forest Sector Strategic Plan: 2018–2024 (Government of Rwanda, 2018)	The National Forest Sector Strategic Plan supports the protection of remnant natural forests and native species and is considered in District Forest Management Plans. Furthermore, national forest programs are prioritized since they are associated with preserving biodiversity, low-carbon development, carbon sequestration, and climate resilience.
Strategic Plan for the Environment and Natural Resources Sector (2018-2024)	Aims to promote, coordinate and enable the sustainable management of Rwanda's natural resources to safeguard green & climate-resilient growth and achieve high living standards across generations. To this end, it sets out measures concerning the optimal management of natural capital (land, water, forests, environment); the full access to high quality, renewable, sufficient & affordable water and energy resources; the phase-out of charcoal/wood as primary energy sources; the climate resilience across productive sectors, namely agriculture and energy; the healthy and environmentally friendly surroundings, with low pollution and high biodiversity and ecotourism, for national and international benefit; the use the national climate finance momentum for resource mobilization to finance cross-sector priorities to achieve robust climate and environment results.
National Biodiversity Policy	Rwanda's national biodiversity policy views the restoration of degraded ecosystems as an urgent concern that requires substantial investment of funds from other sources in addition to national budgets.
National Biodiversity Strategy and Action Plan (II)	It sets out the framework for conservation, sustainable use, and equitable sharing of benefits from biodiversity use and the country's ecosystem services. It also provides a framework for maintaining the necessary environmental conditions to reduce poverty and ensure sustainable development and food security in the country. The long-term vision is that, by 2040, national biodiversity will be restored and conserved, contributing to economic prosperity and human well-being through delivering benefits essential for Rwandan society. Thus, the overall objective of the NBSAP is to preserve the national biodiversity to ensure that its various components are utilized sustainably for the nation's socio-economic development and to ensure better Rwandan livelihoods.
Rwanda's Green Taxonomy *(draft)*	Rwanda is developing a Green Taxonomy, a policy instrument that provides clear, relevant and actionable guidance for the market. The framework aims to define sustainability criteria, foster a common understanding, build trust, and prevent greenwashing.

A 2.4. Potential implementing partners

Project partners include:

a. **Outcome payers:** GEF NGI (TBC); CIF NPC and WRI as additional outcome payers
b. **Executing Agencies:** Rwanda Development Board (RDB) and African Parks
c. **Implementing agency/issuer:** World Bank
d. **Calculation/verification agent**: WCS
e. **Readiness/M&E support:** USAID

A 2.5. Rationale for NPC financing

Rwanda's commitments, policies, and strategic planning for addressing climate vulnerability through NbS and other measures are progressive and ambitious. However, a significant funding gap exists for their sustainable development mandate, highlighting the need for a committed funder. CIF-NPC funding can drive the transformational approach required by the government to tackle the multiple interconnected drivers and impacts of land degradation and ecosystem service loss through nature-based solutions.

NPC financing is specifically intended to support the WCB's ability to raise finance from the private sector, pass risks to capital markets, and avoid increases in Rwanda's debt burden. This enhances the potential for funding conservation

activities through self-sustaining, long-term finance streams rather than once-off grant donations. Without NPC funding for the required development of the WCB, this innovative financing stream is unlikely to be catalyzed.

The objectives of the CIF-NPC funding program closely align with those of this proposed project, including the emphasis on NbS and acknowledgement of connections between land use, climate change impact mitigation and adaptation, and the enhancement of rural communities' livelihoods. NPC funding will allow relevant projects to be scaled up, facilitating the adoption of NbS and forest restoration across larger areas. This work program is aligned with the CIF Gender Action Plan's Theory of Change; the project will directly contribute to Pillar Three (Green Growth and Sustainable Livelihoods) and its Operational Vision's Themes 2 and 5 (Sustainable Landscapes and Green Jobs and Skills Development). It also aligns with the NPC's IRF, which states that gender and inclusion-related results (linked to transformative gender impacts and sector outcomes) can be achieved through targeted enabling measures.

A 2.6. Monitoring and evaluation

Table 9-7 presents an indicative suite of indicators to track progress against the intended results. Note that, where relevant, indicators will be disaggregated by gender, with specific targets (e.g., % or number) developed when the project-specific Gender Action Plan is designed. These indicators will rely on preliminary baseline assessments conducted during detailed project design.

Table 9-7: Proposed Results Indicators for Wildlife Conservation Bond sub-program

Activities	Indicators
Component 1: Improve wildlife conservation management	
1.1. Park management: Construction and rehabilitation of law enforcement facilities; acquisition of rangers' operations equipment; other management activities	• Improved law enforcement and protection (snare removal, push back encroachment, anti-poaching) (no. snares, no. arrests, Ha gained) • Improved community sensitization and outreach (boundary, chimp conservation, etc.) (no. outreaches and no. people reached) Improved infrastructure for access (for observation, monitoring, protection) (km roads and tracks)
1.2. Implementing area restoration plan, e.g., removing exotic and invasive alien plants; planting indigenous trees; expanding and rehabilitating farm areas; conducting biodiversity surveys, baseline surveys, and carrying capacity surveys; demarcation of area boundaries and buffer zones	Chimpanzees: • Chimpanzee population growth rate • Reduction in infant mortality (no. or % reduction) • Improved genetics (translocation of chimps to and from areas) (no translocated) • Establish and update baseline biodiversity assessments & increased monitoring & evaluation (no. studies, no. man hours M&E, M&E reports) • Abundance of other primate populations (interim) Improved habitat: • Removal of exotics (no. ha increased) • Improvement of indigenous trees to provide palatable fruit and food (no trees & no ha covered) • Extension of park (ha extended) to new areas and corridors to ensure connectivity • Forest cover: NDVI (Normalized Difference Vegetation Index); Measure forest cover change (e.g., density, aka increasingly closed canopy); Hectares of farmland in the project landscapes with increased tree density • Hectares of biologically significant area demonstrating improved biophysical condition • Number and size, shape of forest patches

Activities	Indicators
	• Hectares of ecologically important land in the project landscape under restoration Other: Greenhouse gas (GHG) emissions, estimated in metric tons of CO_2 equivalent, reduced, sequestered, or avoided.
Component 2: Enhance community resilience	
2.1. Support to local communities, e.g., community enterprise development and livelihood interventions	• **NPC CORE 6. Livelihoods:** Number of people receiving livelihood benefits • Increase in annual mean household income/ consumption **(NPC optional indicator)** • Number of people receiving livelihood co-benefits (monetary or non-monetary) associated with the implementation of Sustainable Landscapes activities • Improved livelihoods of communities directly surrounding the parks/forested areas (no interventions, % increase in earnings, livelihood increase indicator) • Development of community enterprise development (no. enterprises, increased earnings) • Benefit sharing with increased tourism- (% shared, $ value, no. beneficiaries) • Developed human-wildlife conflict plan (plan exists, no. HWC cases decrease) • People reporting satisfaction with conservation actions and associated opportunities, Informed by a socio-economic household survey
2.2. Support to tourism development strategy	• Improved access for tourism (km roads, airstrips, etc.) • Improved facilities for tourism (no. beds and % increase in revenues, $ revenue)

A 2.7. Financing Plan, Including Financial Instruments

Table 9-8 summarizes the financing plan for the WCB's operationalization. This additional finance operation will invest in "resilient landscapes" and "resilient livelihoods" in priority catchment areas. VCRP co-financing is indicated, and GoR and the World Bank will continue to engage development partners to leverage additional investments.

Table 9-8: Funding plan

Program components and activities	Executing agencies	CIF NPC contribution (US$, million)	Potential Co-financing contribution (US$, million)
Wildlife Conservation Bond			
Component 1: Improve wildlife conservation management			
A. Implement Park restoration activities	RDB and African Parks		6.92 (WCB Foregone Coupons)
B. Enhance Park facilities			1.63 (WCB Foregone Coupons)
Component 2: Enhance community using WCB foregone coupon payments			
A. Support to local community enterprise development and livelihood interventions	RDB and African Parks		4.45 (WCB Foregone Coupons)
B. Deploy nature-based tourism strategy			1.85 (WCB Foregone Coupons)
Component 3: Conservation success payment		2	
Sub-Program Total		**2.00**	**14.85**

A 2.8. Environmental and Social Risk Management

The WCB project has already initiated stakeholder engagement. The sub-program design and implementation phases will extensively engage stakeholders to identify and mitigate environmental and social risks and incorporate gender and socio-economic considerations. An Environmental and Social Commitment Plan (ESCP) and a Stakeholder Engagement Plan (SEP) have been developed for the project and additional ESF instruments will be prepared as project progresses. Community involvement and active engagement will ensure alignment with environmental and social policies (including NPC-CIF aims), supported by dedicated social risk and GESI specialists overseeing grievance mechanisms. Screening tools will assess environmental and social risks, determine applicable standards, assign risk ratings for sub-program activities, and specify required assessments, plans and instruments.

A 2.9. Full Project Preparation Timetable

As the CIF NPC investments are to be processed as additional finance under the VCRP, the project preparation is expected to be completed in 6 months starting in January 2025 (after GEF CEO Endorsement for the proposed GEF-8 project, which encompasses the Kaduha-Gitwe Corridor as well as a separate proposed results-based GEF-financed grant of US$13.76 million for operation of the Rwanda Wildlife Conservation Bond, both of which will be processed together with CIF NPC investments). **Table 9-9** provides an overview of the proposed timeline.

Table 9-9: Project preparation timeline

Stage	Steps	Deliverables	Date
1. Concept	A. Concept approval	Concept Memorandum with risk template; updated ESF instruments	January 2025
2. Appraisal	B. Decision review	Additional finance (AF) restructuring paper (includes details on economic, financial, technical, institutional, fiduciary, and ESF)	March 2025
3. Negotiations	C. Complete negotiations package	Negotiations package	May 2025
	D. Conduct negotiations	Signed minutes of negotiations	May 2025
4. Approval	E. CIF (GCAP Committee) approval	Investment Plan	May 2025
	F. WB Board approval	Final project AF paper with all Annexes and clearances	June 2025

A 2.10. Requests, if any, for investment preparation funding

The World Bank will not request funding for project preparation.

APPENDIX B Selecting Where to Invest

B 1. CIF Investment Criteria

In order to help determine where and what types of interventions should be prioritized, consideration has been given to a number of factors, including the CIF investment criteria. These include:

- **Areas where there is a clear opportunity to contribute towards climate change mitigation and/or enhance resilience to climate-related risks** (e.g. landslides, flooding, drought,) and adaptation priorities identified in relevant policies, strategies and plans, including the country's updated NDC and Adaptation Communication to the UNFCCC (Ministry of Environment, 2021) through ecosystem protection, sustainable management, or restoration. These may be areas where ecosystems or natural capital assets within them are currently in good condition but under threat (i.e., where protection is warranted), or ecosystems or natural capital assets that are already severely degraded (i.e., where there are significant opportunities for restoration).
- **Areas where ecosystem protection or restoration would benefit large numbers of people, help protect critical infrastructure, and/or areas important for economic productivity** that are particularly vulnerable to climate-related hazards;
- **Clear opportunities for synergies with other existing or planned initiatives / programs** while also exhibiting clear additionality (i.e., does not duplicate other projects and program interventions in the same locality and produces results that would not be achieved in the absence of CIF resources);
- **Is scalable and offers opportunities to accelerate socially inclusive progress towards natural solutions** through potential to mobilize additional resources at scale and leveraging a variety of instruments while also accounting for the differentiated needs and ambitions of different stakeholder groups;
- **Does not result in unacceptable trade-offs** with existing livelihood strategies or dependencies on ecosystem services or in any other way disadvantage women and other vulnerable groups;
- **Has potential to realize valuable co-benefits** (e.g., improved agricultural productivity and household income, habitat for biodiversity, water quality, opportunities for nature-basedtourism and recreation, etc.) and to achievement of the UN SDGs;
- **Willingness of local communities to engage** in ecosystem protection and restoration activities and/or climate-resilient agricultural practices on land that they own, manage, or use and through free, prior, and informed consent.

These criteria have been applied to the evidence and analysis conducted during the development of this IP, the outcomes of which are described below and in **Section 2.5**.

B 2. Findings from the site selection assessment

Findings from this analysis demonstrate that CIF resources are best targeted – in terms of addressing multi-sectoral challenge of ecosystem degradation, reducing overall vulnerability to climate change, and promoting green growth –

in the Kaduha-Gitwe corridor (covering the districts of Nyanza, Nyamagabe and Ruhango) of Rwanda's Southern Province. This is based on the following key outcomes from the supporting analysis:

(i) Climate hazards and risks are prevalent across the country, but issues of flooding, landslides and soil erosion are more pronounced in the Western and Southern Provinces, while prolonged cyclical droughts are more frequent in the east and southeast.

Section 2.3 demonstrated that ecosystems and the services and benefits that they provide to people are threatened by progressive changes in climate and climate variability, particularly where these are combined with the impacts of unsustainable practices such as deforestation and inappropriate farming on steep slopes. Rwanda's current climate is complex, with wide variations across the country and with strong seasonality, making the country highly vulnerable to current climate variability and natural hazards. It is particularly affected by floods and landslides and periodic droughts, driven by El Niño – Southern Oscillation (ENSO) events. The past decade experienced greater climate and other risks, such as increased occurrence of extreme drought and floods, increased incidence of soil erosion and landslides, lowering of lake and river water levels, loss of biodiversity, decreases in agricultural productivity, worsening food security and malnutrition, spreading of diseases, and human population migration. Prolonged cyclical droughts are frequent in the east and southeast.

While projections of climate change in Rwanda are hindered by the high heterogeneity (terrain, climate) and the lack of long-term meteorological data, the most recent CMIP6 projections indicate that average temperatures will increase, with the biggest increases occurring in the Southern and Western Provinces (see **Section 2.3**). Annual rainfall is likely to increase, with the increase likely to occur in the main wet season (December to April), with drier tendencies from July to September. Both frequency and intensity of heavy rainfall is expected to increase. Frequent rainfall deficits are expected in parts of the Eastern Province (Bugesera, Nyagatare, Gatsibo, Kayonza, Ngoma, Kirehe) and the Southern Province (Nyanza, Gisagara), while increased rainfall is expected in parts of the Western, Northern, and Southern provinces. This is expected to significantly impact agriculture, water, energy, forestry, and health sectors, as well as agricultural land and freshwater resources and ecosystems

The country's mountainous topography and steep ravines make it particularly susceptible to landslides that result in loss of life and damage to housing, infrastructure, and livelihoods. Around 42% of the country's area is classified as being of moderate to very high susceptibility to landslides, with slopes ranging between 8 and 55%. The Northern, Western, and Southern Provinces are the most susceptible, with Nyamagabe District in Southern Province having the highest percentage (27%) of area classified as being of very high susceptibility (MIDIMAR, 2015).

(ii) Rwanda's small land area and rapidly growing population means that it is one of the most densely populated countries in Africa. **The Eastern and Southern Provinces are the most populous provinces, but the Western Province is the most densely populated outside of Kigali.** The country's population is predominantly rural, with the Southern Province having the highest percentage of population (85%) living in rural areas, and consequently, the most significant direct dependence on land and other natural resources (NISR, 2023b).

(iii) Poverty rates remain high, particularly in rural areas where up to 85% of the population lives below the poverty line. **Poverty levels are highest in the Southern Province which also saw the highest increase in the number of people living in poverty over the period 2014 to 2017** (NISR, 2018d). Within Southern Province, Gisagara and Nyaraguru

Districts have the highest poverty rates with over 52% of the population living in poverty (among the highest in the country), while Nyamagabe, Nyanza and Huye all have poverty rates in excess of 40%. Kamonyi has the lowest levels of poverty in the province at 22.3% (NISR, 2018d). The high levels of poverty limit the adaptive capacity of communities to invest in sustainable practices and take on other income-generating opportunities to supplement household and livelihood needs. This particularly affects female-headed households, which make up 22% of households in Southern Province (NISR, 2022) and 24% of households in Nyanza District (the highest in the country alongside Huye and Gisagara) as women have limited access to and control over resources compared to men because of cultural and social stigmas/barriers and traditional roles and responsibilities.

(iv) **Overall levels of vulnerability are highest in Southern Province** (REMA, 2019), as measured by indicators of exposure and sensitivity to climate change as well as adaptive capacity, and drawing on data collected through a survey of over 2,400 households. Three of the four most vulnerable districts in the country are located in Southern Province, including Huye which is the most vulnerable.

(v) **Hotspots of land degradation are present in the Western, Eastern, Southern, and Kigali Provinces.** The largest areas of degradation are found along the Congo-Nile watershed divide (Ngororero and Rutsiro) and in Huye and Gisagara. Although the area of land covered by natural forests almost halved between 1984 and 2015 (Ministry of Lands and Forestry, 2017), the total area of forest cover (including plantations, shrubs and bamboo stands) has been steadily increasing over the period 2011 to 2019, reflecting efforts to reach the Bonn Challenge target of restoring 2 million ha of degraded or deforested land by 2020, mostly through agroforestry on farmlands and other open spaces. Forest cover varies across the country with afforestation and deforestation rates proceeding differently. Deforestation rates are highest in Kigali (23%) and Eastern Province (22.2%) and lowest in Northern Province (8.3%). Afforestation rates are highest in Northern Province (31.1%) and lowest in Eastern Province (Ministry of Environment, 2019).

(vi) While **Rwanda's contribution to climate change in the form of net greenhouse gas emissions is negligible** (estimated at 2.63 million tCO_2e, or approximately 0.001% of global emissions in 2018) (Government of Rwanda, 2021), **a significant proportion of these emissions (49.33%) emanate from agriculture, forestry, and other land use** (AFOLU), predominantly agriculture. **The removal of emissions by forests is substantial** (estimated at around 7 $MtCO_2e$). The protection and sustainable management of forests therefore plays a vital role in limiting Rwanda's contribution to global climate change.

(vii) Rwanda has experienced accelerated soil erosion because of unsustainable human activities and changes in land use. The main factors affecting the amount of soil eroded include land use and vegetation cover, topography, soil, and climate. Around 90% of Rwandan territory lies on slopes with the consequent risk of soil loss, erosion, and decreasing fertility (REMA, 2021). **Of the 16 districts where over half the total land area is at moderate to extremely high risk of erosion, eight are in Southern Province** (REMA, 2021). Some of the largest areas of land at extreme risk of soil erosion are located in Western and Southern Provinces, with three of the top 5 districts located in Southern Province. **The Upper Nyabarongo catchment had the greatest soil erosion of some 32 million tons in 2015** (NISR, MINECOFIN, MoE, 2019). The combined soil erosion volume of the Upper and Lower Nyabarongo contributed to 37% of the total soil erosion in Rwanda. The soil erosion in the catchment results in both deposition on the land and the export of sediment to streams, lakes, and wetlands. The sediment exported generates high costs to Rwandan society, in terms of poor water quality for consumers, sedimentation of critical infrastructure such as hydroelectric supply

dams, and changing habitat for biodiversity. Sediment also elevates turbine erosion, increasing energy generation costs. These impacts reduce water and energy security. At the national scale, it is estimated that around six million tons of crops, valued at US$76 million (RWF76 billion) are lost each year to erosion (RWB, IUCN, 2022).

APPENDIX C Stakeholder Consultations

Stakeholder consultation and engagement during the development of the IP were focused on enabling the participation of stakeholders through providing insights and information, participating in consultations, workshops, and relevant meetings to contribute to a collaborative process of co-creation.

C 1. Stakeholder Mapping

Meaningful stakeholder engagement is important to address barriers that prevent different stakeholders' groups from fully participating during the development of the IP. With this backdrop, integrated strategies were employed during the IP development to amplify the voices of all stakeholders and pave the way for meaningful stakeholder engagement.

During the Inception Phase of the study the study team worked with the World Bank and RGF representatives to build up a broad stakeholder database who would be targeted for engagements during the implementation of the study. Broadly, these stakeholders fall into the following main categories as follows:

i. Government;
ii. Civil society, organizations, and academia;
iii. Private sector;
iv. Development partners; and
v. Local communities.

Table 9-10 provides a list of the stakeholders identified for engagement.

Table 9-10: Stakeholder List

Stakeholder Groups	Stakeholders
Government	Bank of Kigali
	Development Bank for Rwanda
	Eos-Kvjie
	Gender Monitoring Office
	Ministry in charge of Emergency Management
	Ministry of Agriculture
	Ministry of Environment
	Ministry of Finance
	National Land Authority
	National Women's Council
	Nyamagabe District
	Nyanza District
	Ruhango District
	Rwanda Agricultural Board
	Rwanda Development Board
	Rwanda Environment Management Authority
	Rwanda Finance Limited
	Rwanda Forestry Authority
	RGF
	Rwanda Institute of Conservation Agriculture
	Rwanda Mining Board
	Rwanda Water Resources Board

Stakeholder Groups	Stakeholders
	University of Rwanda - Center of Excellence on Biodiversity
Civil Society Organizations/ Academia	Action for the Protection of the Environment and the Promotion of Agricultural sectors (APEFA)
	African Leadership University
	African Wildlife Foundation
	AFS – Forum
	Cultivating New Frontiers in Agriculture (CNFA) – Hinga Wunguke
	IUCN
	Rwanda Women's Network
	School of Wildlife Conservation
	Wildlife Conservation Society
	World Resources Institute
Private Sector	Energy Private Developers Rwanda
	Kinazi Cassava Company
	Peace from Nyandungu Urban Wetland Eco-tourism Park
	Prime Energy
	Private Sector Federation
	Rwanda Chamber of Tourism
	Rwanda Finance Ltd.
Development Partners	AfDB
	EU
	GIZ
	Global Green Growth Institute
	International Finance Corporation
	International Monetary Fund
	USAID
	WB
Local Communities	Local communities in each of Nyanza, Nyamagabe, and Ruhango districts

C 2. Discovery Mission

The Discovery Mission formed an integral part of the gap and needs analysis and was conducted between 22nd and 25th January 2024 in Kigali. The overarching objective of the mission was to meet as many stakeholders as possible across different relevant sectors in order to gather information on previous similar programs and assignments, and to learn from their successes and challenges. Gathering of data and information related to these programs and projects was an important focus of the mission. Engagements were planned with private sector institutions in order to develop an understanding of the opportunities and challenges for possible private sector investment in interventions identified as part of the CIF NPC IP. A summary of the key points by stakeholders during the mission are presented below:

Theme	Key points raised
Agriculture	• Mountainous terrain with steep slopes which when cultivated can lead to high levels of erosion and topsoil loss, therefore terracing required. • Agroforestry has proven to be a successful measure to reduce erosion and provide income and food generation. • CSA was considered to be an effective way to improve agricultural outputs while also building resilience to the impacts of climate change. Part of CSA initiatives should also include capacity building in terms of commercial farming to assist farmers to make the shift from subsistence to commercial. A resistance to new technologies and crops should be considered.

Theme	Key points raised
	• The Green Gicumbi Project provides a good example of the integrated thinking between landscapes, agriculture and livelihood initiatives.
Integrated Water Resources Management	• Flood management was raised as a key issue to be considered in the IP, especially in the southern parts of the country. • NbS and catchment rehabilitation in order to improve water security and stormwater management.
Forestry	• Protection of existing forestry areas was considered to be important. • Using different types of trees was considered important, including fruits and nuts • The use of bamboo in riparian areas was highlighted as a previous success in other programs and a measure to reduce the amount of sedimentation reaching the rivers, as well as the reduction of river bank degradation and erosion.
Catalyzing Private Sector Investment	• The energy sector, hydropower production, was identified as a possible avenue for private sector investment through their investment in catchment restoration and livelihood type initiatives that ultimately improve the water quality in their areas of operation, reducing sedimentation levels, and subsequently increasing operating hours and reducing maintenance costs. • In the agricultural sector private sector investment and initiatives in the tea and coffee industry were highlighted as being important. Tea and coffee could act as cover crops to reduce erosion while creating opportunities for the private sector. • Increasing role of the private sector in forest management in Rwanda, in line with the NST1. • There is a lack of understanding of the clear benefits to implementing catchment restoration and NbS, and therefore there is a hesitance to invest in these initiatives in some cases. • Stakeholders indicated the importance of working with the private sector at an early stage in the conceptualization of interventions to ensure a certain level of acceptance, understanding and buy-in to the approach. • There is a potential misalignment of expectations and needs between private sector and the project initiator with different stakeholders wanting different outcomes that don't always result in mutually beneficial outcomes. A private investor will be looking for a return on investment. • The most promising opportunities are likely to lie with hydropower companies e.g. Prime Energy, who recognize the benefits of investing in upstream catchment management in terms of the avoided costs of managing sediment, tea and coffee companies, and the forestry value chain (especially in light of the increasing role of the private sector in forest management in line with the priority objectives of the NST1).
Markets and payments for ecosystem services	• A strong interest in Payment for Ecosystem Services (PES) was identified, given benefits to both providers and buyers. • Requires proof of concept of NbS and/or links between land management activities and outcomes, as well as cost-effective tools and technologies for monitoring and measuring ecosystem service delivery. • Needs to be supported by efforts to raise awareness of the total economic value of ecosystem goods and services, including those that are not routinely traded in markets
Biodiversity	• Important links to CSA • Seeking to increase the area of land under protection (e.g. Mukura-Gishwati and extension of VNP) as well as buffer zones around protected areas
Programmatic approaches	• Widely supported, recognizing that more traditional ad hoc, project-based approaches are less efficient and are unlikely to achieve transformational impact • There is an opportunity to effect transformational change in Southern Province by scaling up the work of the GEF-6 (Greening Amayaga) project, by combining it with the GEF-8 projects on ecosystem restoration in the Nyungwe-Ruhango Corridor and Systems-based Adaptation (GEF Trust Fund) and Integrated Resources

Theme	Key points raised
	Management in Southern Province (LDCF), and CIF-NPC investments. The Kaduha-Gitwe corridor is of particular significance as it forms part of the Congo-Nile Divide which extends to the Volcanoes region. This lends to potential synergies and programmatic linkages with projects in the Volcanoes region such as the VCRP.

Important data and documents sourced during the mission:

- CROM DSS data;
- Risk and Vulnerability Mapping done by the Rwanda Water Resources Board (focus on erosion and flooding);
- Vulnerability mapping done by REMA;
- Master Planning documents through the Land Authority;
- Guidelines and templates on NBS from Development Partners;
    - Document from Prime Energy on their catchment rehabilitation and livelihood initiative;
    - Various other project documents.

C 3. Technical Field Visit

A technical field visit was conducted between 6th to 9th February 2024 with representatives from the REMA and the WB SLM program. The field visit included key sites in the districts of Nyanza, Nyamagabe, and Ruhango districts as well as meetings with the district teams. The technical field visit led into the Joint Mission which included an additional site visit with different stakeholders. The findings from both visits are consolidated and presented in **Section C 4.**

The three meetings with the teams from the different districts provided insight into the key challenges faced by the districts with regards to climate change. These engagements also provided a platform for insightful discussions. Throughout these sessions, district representatives generously shared their wealth of knowledge and expertise, offering insights into the intricacies of their respective regions. Their contributions have not only enriched our understanding but have also paved the way for the exploration of viable solutions tailored to the unique circumstances of the region. Local engagements are critical for designing interventions that tailored for the local context and designed to meet the needs of the communities. Community engagements will be key during the project design phase of the IP.

C 4. Joint Mission

The objective of the Joint Mission was to assist the GoR in developing the NPC IP, building on broad-based consultations with key stakeholders, and analyzing investment options that support the Government's strategic development strategies**.** The Joint Mission focused on consultation, consolidation, and prioritization of plans and proposals to contribute to developing the IP.

The mission included a workshop on 13th February 2024 and a field visit to three districts in the Southern Province from 14th to 15th February 2024. The organizations represented at the Joint Mission Workshop included various players from government, civil society organizations, academia, the private sector, development partners, and the CIF secretariat.

Findings from Breakaway Sessions at Joint Mission Workshop

The participants were divided into groups for the breakaway sessions. Group assignment enabled that the participants in groups were from a mixture of sectors and organizations. The participants were asked to consider the types of solutions to address the main climate and development challenges in the Kaduha-Gitwe corridor and the following guiding questions were provided.

Interventions to be considered | Guiding questions for discussion

1. What types of solutions/interventions should be considered to address the main climate and development challenges in the Kaduha-Gitwe corridor?
2. Why are these relevant?
    a) What are the specific issues/challenges they address?
    b) Do they deliver valuable climate, biodiversity or livelihood co-benefits?
    c) Are there other enabling activities that are needed?
    d) Do they present specific opportunities for PPPs or to mobilize private sector investment?

Once the groups had determined the interventions, they were asked to prioritize considering the below guiding questions.

Prioritizing investments| Guiding questions for discussion

1. Are there any other criteria for prioritizing interventions that need to be considered?
2. With all these criteria in mind, can you agree on (an indicative) ranking of the intervention/investment priorities?

The groups then reported back on the activity in the plenary session which are summarized in **Table 9-11**. Key findings from this session are:

Agriculture: Agricultural interventions were identified as high priorities by all groups although the level of prioritization differed across the groups. Common agricultural interventions that were rated as important were: terracing, agroforestry, conservation agriculture, climate smart agriculture, and organic fertilizers.

Forestry: Not all groups rated forestry interventions as high priorities. The forestry interventions that were most key to the stakeholders related to the protection of forests and reforestation and sustainable forest management.

Rivers/wetlands: A few groups noted that measures to combat erosion should be considered as either a high or medium priority. The rehabilitation of wetlands were identified by most groups but the level of importance was inconsistent.

Tourism: Two groups identified nature-based tourism as an intervention and both groups made this a high-priority item.

Infrastructure/energy: Two groups identified feeder roads as an intervention and this was rated as a high priority by one group and a low priority by the other. Rainwater harvesting was identified by two groups and rated as a high priority by one group and a medium priority by the other. Three groups included interventions related to cleaner cooking, cookstoves, or more sustainable use of wood however, all three groups prioritized these differently.

Capacity building/awareness: A number of different areas for capacity building were identified. Almost all groups included some interventions related to capacity building or training. The prioritization of these initiatives were either high or low.

Other: A number of interventions were listed related to alternate livelihoods and incentives. The following interventions were identified as high priorities by the various groups: provision of alternate livelihoods; provision of green jobs (inclusive); green mining; integrated planning at local levels; diversify incentives to maintain: alternative livelihoods, NTFP, carbon credits; bee keeping; PES schemes. Two groups listed carbon credits as an intervention and this was rated as a high priority by one group and a low priority by the other.

Table 9-11: Outputs from the Breakaway Session at the Joint Mission Workshop

Sector	High Priority	Medium Priority	Low Priority
Agriculture	• Conservation agriculture • Agroforestry • Terraces (progressive, bench) • Climate smart agriculture (soil amendment to counter soil acidity, etc.) • Organic or green manure	• Terraces • Agroforestry/Inter-cropping • Biochar production • Climate resilient crops • Agricultural inputs (organic fertilizer) • Improved soil fertility • Sustainable, climate resilient agriculture • High value crops	• Tea plantations/coffee • Small-scale irrigation • Post harvest facilities • Adaptive tea/fruit/crop species • Improved crop species • Solar irrigation systems • Agriculture in controlled environment • Crop rotation, crop cover, reduced tillage to conserve soil • Organic farm activities for certain crops like tea on hillsides
Forestry	• Sustainable forest management • Afforestation/ reforestation • Forest restoration • Protection/restoration of remnant forest • Support private forest consolidation and capacity building in forest management	• Creating biodiversity corridors	• Plantation management • District forest plans • Tree seedling support
Rivers/wetlands	• Wetland restoration (enhanced management) • Marshland development • Erosion and flood control - Drainage systems - Gulleys - Sediment traps - Tree plantations	• Demarcation of buffer zones for water bodies, rivers, and wetlands • Promotion of sustainable landscape management in the catchment area of water bodies • Erosion control measures • Rehabilitation of degraded wetlands	• Riparian buffer zone protection • Wetland restoration (flooding water quality)
Tourism	Nature-based tourism within/around the forest to benefit local communities		
Infrastructure/energy	• Habitat - IDP settlement • Green urbanization and infrastructure • Feeder roads • Sustainable use of wood for fuel, agroforestry or alternative fuel sources • Improved cookstoves	• Cookstoves • Rainwater harvesting	• Rainwater harvesting • Clean cooking • Clean cookstoves • Alternative energy to reduce deforestation • Market linkages/value chains • Feeder roads
Capacity building and awareness	• Community engagement and gender assessment • Capacity building for both community and private sector • Awareness campaigns on forest value, collateral/bank loans • Commercial farming awareness and education		• Training • Capacity building on soil and land management at local and institutional level
Other	• Diversify incentives to maintain: alternative livelihoods, NTFP, carbon credits • Provision of alternate livelihoods and green jobs (inclusive) • Green mining • Integrated planning at local levels • Bee keeping • PES schemes		• Carbon credits • Policy support

Summary of the District Vice Mayors Intervention presentation

A presentation was delivered that offered a comprehensive overview of the Kaduha-Gitwe corridor, shedding light on its array of challenges and the promising avenues for intervention and development. The corridor faces a multitude of climate change-related hurdles alongside other critical obstacles, demanding a strategic and concerted effort for sustainable transformation.

The climate-related challenges highlighted during the presentation underscored the urgency of addressing environmental degradation within the corridor. Severe soil erosion, exacerbated by changing weather patterns, poses a significant threat to the region's agricultural productivity and ecosystem stability. Moreover, the presence of high-risk terrains not only complicates human settlement but also amplifies the vulnerability of communities to natural disasters. Acidic soil renders vast stretches of land unproductive, further exacerbating food insecurity and economic hardships. Marshlands provide opportunities for rice production, however current agricultural activities are threatened by flooding and siltation. Despite sporadic efforts, the adoption of effective environmental management practices remains limited, exacerbating the region's ecological woes. Furthermore, the corridor grapples with underdeveloped forest and agroforestry initiatives, hindering biodiversity conservation and sustainable land use.

Beyond climate change, the Kaduha-Gitwe corridor confronts an array of systemic challenges crucial to the success of intervention efforts. Inadequate road networks impede transportation and economic connectivity, hampering market access and inhibiting socio-economic development. Access to clean water remains a pressing concern, undermining public health and with the potential to perpetuate waterborne diseases. The absence of schemes supporting youth and women's development stifles inclusive growth and community empowerment. Additionally, the dearth of cooperatives and companies stifles entrepreneurial endeavors, hindering economic diversification and resilience. Insufficient access to healthcare and education facilities further exacerbates socio-economic disparities, undermining human capital development and social cohesion.

In response to these challenges, key focus areas for intervention emerged during the presentation. A fundamental aspect involves fostering a community mindset change, emphasizing environmental stewardship and sustainable practices. Effective land use management strategies are imperative to mitigate soil erosion and improve land productivity, necessitating approaches tailored to local contexts. Environment conservation efforts, encompassing land husbandry technologies and agroforestry initiatives, are indispensable for restoring ecological balance and enhancing resilience to climate change impacts. Furthermore, interventions targeting agriculture value chains hold immense potential for bolstering food security and fostering economic prosperity within the corridor. Infrastructure development, spanning road networks and telecommunications, is paramount for enhancing connectivity and facilitating socio-economic integration. Additionally, fostering business development, implementing human settlement schemes, and forging strategic partnerships are pivotal for catalyzing sustainable growth and resilience. Building human resource capacities, enhancing social amenities, and promoting employment opportunities are essential pillars of inclusive development, fostering social cohesion and equitable prosperity.

Amidst these challenges lie a myriad of opportunities waiting to be harnessed for transformational change. The corridor's fertile lands present an ideal environment for agriculture and mining endeavors, encompassing a diverse array of crops and resources. The abundant manpower available offers a valuable asset for driving productivity and innovation across various sectors. The corridor's conducive environment further enhance its attractiveness for sustainable development initiatives.

Additionally, the availability of land presents a unique opportunity for scaling up agricultural production and promoting land-based investments.

In conclusion, the Kaduha-Gitwe corridor stands at a critical juncture, grappling with a myriad of challenges while harboring immense potential for sustainable development. By harnessing strategic interventions and leveraging inherent opportunities, stakeholders can pave the way for inclusive growth, environmental resilience, and socio-economic prosperity within the corridor. The presentation was a call for concerted action and collaborative efforts to realize the transformative vision of a thriving, resilient Kaduha-Gitwe corridor.

Joint Mission Field Visit

The field visit to the Southern Province took place on 14th and 15th February 2024. The field visit involved visits to key sites in the districts of Nyanza, Nyamagabe, and Ruhango**.** Key challenges, concerns, and interventions that were identified in the field visit are summarized below:

Main challenges and concerns:

- Erosion and lack of protection on hillsides leads to:
    - Topsoil loss and reduced fertility and yields;
    - Siltation in rivers and dams;
- Seasonal flooding of agricultural areas in valley bottoms;
- Landslides to some degree in Nyamagabe.

Potential interventions/solutions:

- Cover cropping, such as tea and coffee with potential private sector benefits;
- Terracing;
- Wetland protection – benefits include improved water quality, flood protection, and carbon sequestration;
- Forestry such as fruit trees and gum trees – providing hillside with income generating potential; and
- Forestry (indigenous or bamboo) in riparian zones – to assist with buffer zones and improve biodiversity, also reduces sediment into rivers.

Findings from the Field Visits

Land in the three districts is extensively used for agriculture. This is mostly small-scale farming at a household or community level, rather than commercial agriculture and fields are typically rain-fed rather than formally irrigated. Common crops in the area include: maize, beans, potatoes, bananas, yams, cassava, and other vegetables. Even steep terrain and riverbeds are used for farming and these present opportunities for interventions. Steeper terrain can be developed using terraces to enable the area to be farmed with reduced risk of landslides and these areas should also be considered for solutions to reduce sedimentation in the rivers such as cover cropping. Farms in riverbeds are susceptible to flooding. There are opportunities to rehabilitate the wetlands in these areas or to formalize these into rice paddies. There was also interest in agroforestry with the inclusion of fruit crops which can also improve soil stability.

At one of the sites visited in Ruhango on the Nyabarongo River, siltation was impacting on the production of rice and some fields were abandoned due to the high levels of siltation (**Figure 9-1**). Upstream interventions to reduce siltation can help to improve the viability of rice farming in this area.

Siltation was also a challenge in the Mwogo wetlands (**Figure 9-2)**. Another cause of high silt loads is artisanal mining in the upper catchment. Agricultural interventions, erosion control, and sustainable mining practices can help to reduce the silt loads.

Figure 9-1: Rice paddies near the Nyabarongo River where siltation has been a challenge

Figure 9-2: View overlooking Mwogo Wetland

Lac Nyamagane (**Figure 9-3**, left) also struggles with siltation and is the main water supply for the Nyanza District. A nearby fish pond is also no longer functional due to siltation (**Figure 9-3**, right). In 2016, people in the wider upstream area were relocated were relocated in an effort to reduce sediment loads. There are four marshlands connected to Lac Nyamagane which are degraded and rehabilitation of these could help to reduce silt loads to the dam. Buffer zones around the dam can also reduce sediment loads from the nearby villages.

Figure 9-3: Lac Nyamagane (left) and fish pond (right)

The Nyanza Hillside Irrigation Dam provides an example that can be replicated in other areas (**Figure 9-4**). Before the construction of the dam, upstream measures were implemented to reduce silt loads. These included: 3 500 ha of radical terraces, agroforestry, hilltop protection to reduce erosion, planting bamboo and grasses as buffer zones around the dam. The dam is used for hilltop irrigation of 320 ha and benefits 3 300 households. Cold storage was also constructed to prevent food waste. In addition to vegetables, chilies are farmed for export. The quality of water in the dam is monitored and is of good quality. Local communities fish in the dam and eat and sell the fish. This intervention formed part of the Land Husbandry, Water Harvesting and Hillside Irrigation Project which was funded by the WB.

Figure 9-4: Nyanza Hillside Irrigation Dam (left) and irrigated land and canals (right)

There are a number of potential sites for tea production in the three districts and construction of terraces is underway in some areas (**Figure 9-5**). Tea is a cover crop and its cultivation can help to reduce siltation. The soil pH in the region can be acidic due to granite. Tea is suitable for growing in soils with lower pHs and may be more suitable in these areas than other crops. Liming can be used to increase the pH and improve yields of other crops. Composting was also recommended to improve agricultural productivity.

Figure 9-5: Terraces for under construction for tea production in Nyanza District

C 5. Draft IP Workshop

A workshop was held on 20th March 2024 at the Park Inn Hotel in Kigali to present the journey of the development of the IP and to present the Draft IP for the CIF NPC Program for discussion. The organizations represented at the Draft IP Workshop included various players from government, civil society organizations, academia, the private sector, and development partners.

Breakaway Sessions at Draft IP Workshop

Two groups were formed aligned to the proposed Thematic Areas of the IP: Resilient Landscapes, and Resilient Livelihoods. The participants were asked to choose a group based on the interests of their organization. The participants were given copies of the components and activities and asked to discuss and prioritize these. The following guiding questions were provided:

1. Are the **proposed areas of focus (components within each sub-program)** for the NPC IP for the Kaduha-Gitwe corridor appropriate, given the specific climate and development challenges and needs of the target districts?
2. Are the **proposed interventions** within each broadly along the right lines? Is anything obvious missing?
3. What is the **sequencing of each of the interventions** within each component? *Assign a Phase 1/Phase 2 to each with a justification.*

C 6. GESI Findings from the Field Visit, Subsequent Stakeholder Engagements and Review of Documents Shared

Through observation, along with engagement with government officials and a key informant interview with female farmers in Kaduha, the following GESI-specific findings were noted during the field visit:

- The majority of the population in the Kaduha-Gitwe corridor are women and youth. Women are primarily responsible for domestic and care -related activities (such as childcare, water and firewood collection, cooking and assisting the

elderly) as well as subsistence horticulture (growing vegetables like spinach, pumpkins, sweet potatoes, eggplant, etc.). Women also play a visible role in tending to fields where crops for market a grown – such as rice, maize and cassava – as well as post-harvest processing activities.

- Across these domestic and livelihood-related tasks, it was observed that many of the women were responsible for looking after young children whilst simultaneously carrying out these labor-intensive activities. As a result, children are either carried on women's backs, or assist with activities (i.e., working in the field, preparing harvested crops, carrying water or firewood, or watching younger children). It is understood that the GoR is actively working with UN agencies (like UNICEF and UNWomen) to establish Early Childhood Development Centers. These Centers provide mothers with the assurance that their children will be safe and well-nourished while they engage in income-generating activities, simultaneously fostering women's economic empowerment and tackling malnutrition. Several Centers have been established in the Southern Province, but none were visited during the field mission and more clarity is required as to whether (and how many) of these Centers exist within the Kaduha-Gitwe corridor.
- The mountainous terrain proves exceptionally difficult to navigate for elderly people and people with disability. Elderly women typically walk with sticks, accompanied by younger women, or remain based at homesteads. Whilst only a small sample of women with physical disabilities were observed, it is understood that as best possible, they assist with domestic and livelihood tasks (despite the likely physical and / or psychological toll that such activities have on them).
- Where mining-related activities are prevalent, women form the majority of farmers in an area, given their husbands are employed in the mining sector. In such cases, women farmers tend to form small savings groups, where they pool a portion of their proceeds from selling produce and use these funds to buy seeds and other inputs. However, these women face several challenges that limit their ability to scale-up farming practices – including:
    - Lack of knowledge on farming both climate resilient- and cash-crops.;
    - Lack of access to water for domestic and livelihood uses, meaning farming is carried out alongside the river which floods annually (destroying crops);
    - Poor soil quality (which is sandy and / or acidic);
    - Disjointed land-use management, where individual families decide independently how to utilize their land and the water source(s) they depend on – often affecting downstream users;
    - Lack of access to larger markets where produce could be sold for more money;
    - Lack of access to, and control over, family finances and related financial services (including insurance);
    - Lack of access to post-harvest facilities, which could reduce food loss.

These findings were validated and enhanced by several engagements held in the weeks following the field visit, where additional documentation was shared that deepens our understanding of the GESI status quo in the Kaduha-Gitwe corridor, as well as where potential opportunities exist that should be integrated into the IP's components. Key takeaways from these engagements and documents are summarized in **Table 9-12.**

Table 9-12: GESI Findings from Stakeholder Engagements and Focused Document Review

Organization / Individual	Key findings from discussion and documents shared
Dr Aime Tsinda Team Lead for the Development of "A Program Based Investment Plan for the Kaduha Gitwe	This IP (which adopted a wider developmental lens than that of the CIF NPC – through, for example, the inclusion of grey infrastructure initiatives) entailed three levels/types of engagement, including national level consultation during Inception and Validation; district-level workshops where community representatives (councilors) were present and thematic breakout sessions were facilitated to identify key issues and solutions; and sector-level observations which

Organization / Individual	Key findings from discussion and documents shared
Corridor, the Southern Province of Rwanda" (FONERWA, 2023)	entailed informal discussions with communities and transect walks. Each of these processes applied a GESI-sensitive lens, overseen by an appointed GESI Expert. Together with literature review, these consultations elicited several notable GESI-specific characteristics of the corridor that should inform the CIF NPC IP. Including: - The area experiences high levels of poverty, reflected through health factors such as high rates of malnutrition and stunting, and poor hygiene among the local population. The population is heavily reliant on government support for livelihood improvement; but, in instances where such support has been provided there is evidence that communities cannot always sustain efforts long-term. - Early pregnancies, SGBV and youth delinquency (drug use, alcoholism, etc.) are also prominent due to these high-levels of poverty – and exacerbated further by the impacts of climate change, environmental degradation and limited livelihood prospects. - The corridor's scattered settlement model, coupled with its mountainous terrain, means access to services and resources is challenging – and particularly burdensome for women, the elderly and people with disability. - Communities reflect a prevailing patriarchal mindset, where men have greater access to, and control of, decisions relating to family income and resources. - 48.8% of the corridor's population are between the ages of 16 – 30 years old, pointing to the need to empower and harness the potential of the areas' youth as their commitment to sustaining initiatives will be fundamental to the long-term success of any investment.
Mary Balikungeri Director of Rwanda Women's Network (RWN)	RWN's has operated in the Southern Province through previous donor-funded programs, where they worked in partnership with local entities and existing decision-making forums. Through their experience across Rwanda, implementing green initiatives without "greening people" will not lead to sustainable outcomes. This means that significant effort is needed to engage, train and advocate for women and youth's involvement in, and capacitation on, the implementation of NbS within their communities. This must come hand-in-hand with support that enables these groups to meaningfully participate without adding additional burden to their existing responsibilities – through, for example, the provision of community-based spaces and early childhood development centers that provide childcare, training on women's rights (including GBV and family planning), and economic support.
Olive Mukandahiro REMA Gender Focal Point	- Women in rural areas across the country face similar challenges, which are closely intertwined with the prevailing social norms and customs that delineate the roles and responsibilities of women and men. - Nature-based opportunities where women are already actively involved in a sector – like agriculture – are important entry points for an Investment Plan. For example, women in the Southern Province play an active role in farming, meaning their involvement in terracing would inherently cater to their current roles. It is recommended that, as best possible, women receive on-the-job training so that they can generate income whilst growing their skills. Climate smart crop recommendations must incorporate short term productive seeds that can be grown and sold quickly, to allow for swift economic benefits as this will assist communities in accepting other NbS, whose benefits are only realized over longer time frames. - Reiteration was also made of the need for accessible early childhood centers, to allow mothers to engage in project activities. - Innovative opportunities that are lifting women and youth out of poverty (such as clean cooking energy systems, handicrafts and other non-timber forestry products, etc.) are gradually being implemented by the private sector and civil society, but they are generally small-scale and require wider uptake and support to create real impact.
Nnaemeka Korie AfDB Agricultural Economist involved in the Forestry Investment Program for Rwanda	Emeka shared the FIP's Technical Annex on Gender Equality and Women's Empowerment Promotion (AfDB, 2023) (which included districts in the Southern Province); it presents a series of notable findings (described in 7.4) that will be bolstered by more detailed baseline assessments for each of the project's sub-components, at localized levels. These assessments – which include gender analyses – should align with the CIF NPC's Investment Planning processes, and drawn upon at the point at which the IP is translated into implementable projects.
Marshall Banamwana IUCN Focal Point for Green List of Protected and Conserved Areas in Rwanda	- The structure of Rwandan households, where families traditionally have multiple children (five or more), place significant burden on women who are generally responsible for caring for them – including all domestic chores, and ensuring access to education, health facilities, and adequate nutrition. If women are to be engaged in NbS, there needs to be an increased understanding and acceptance amongst men in communities around the need to enable women to participate in – and benefit – from such initiatives. IUCN therefore adopts an inclusive community-centered approach that aims to ensure that environmental activities

Organization / Individual	Key findings from discussion and documents shared
	are delivered by all layers, or spheres, of a society – by identifying roles for women, youth and people with disability. - Both women and men also need to be educated on the benefits and importance of ecosystem conservation and enhancement - which are often only realized over longer term time horizons. - The ccGAP currently under development (with MoE as the custodians, and IUCN supporting the delivery of) will consider how GESI is effectively incorporated into the NDC measures – many of which include nature-based components (particularly in the agriculture and forestry sectors).
Donatha Gihana Gender Monitoring Office	Several important publications and initiatives have been spearheaded / supported by GMO (together with Government and development partners), focused on collecting and analyzing gender-disaggregated data associated with climate, nature and finance -related considerations of relevance to this Investment Plan. These include: • The Gender Profile in the Energy Sector (2018), which – amongst several notable takeaways – determined that i) it is critical to accompany any shift in a practice or technology (in this case, related to energy) with careful consideration of the cultural nuances associated with norms and traditions, as this is key to long-term uptake; and ii) to achieve true transformation, development programs and Government need to think innovatively and test new approaches with women and other vulnerable groups that offer more holistic lifestyle improvements, rather than just supporting a siloed shift that doesn't enable broader societal progress in equality markers. • The Kvinna till Kvinna 2021 publication on Gender, Women's Rights, Environment and Climate Change in Rwanda – which has been a key source document in the Gaps Analysis and this Investment Plan. • The BNR-led Gender Equality Seal (GES) Program, which published data-informed insights into the status of financial inclusion in Rwanda in 2019, serving as an important informant of appropriate financing solutions for rural women in Rwanda. Donatha also stressed the importance of working with GMO and the NCWC at the point at which this Investment Plan advances to the project preparation and implementation stages.

C 7. Public Comment

The draft investment plan was published on the Rwanda Green Fund website on 15th April 2024 with an invitation for public comment. Notifications inviting public review and comment on the draft were also made through RGF's social media channels. The draft IP was also circulated via email to the stakeholders that had been directly engaged in the development process including participants at the workshops held in February and March 2024. Although no public comments were received through this formal process, feedback elicited from stakeholders during the discussions held during the site visits, bilateral meetings, workshops, as well as comments on unpublished drafts, was incorporated in the draft shared for public review and is reflected in this final version.

APPENDIX D Barriers to the Private Sector Uptake of NbS

Table 9-13: Focal points for private sector investment

Sector	Economic importance	Environmental importance	Potential applications of NbS
Tea	Tea had an export value of US$82 million in 2022 (OEC, 2024). Tea is Rwanda's third-largest employer (60 000 people) (The Gatsby Foundation, 2020).	The Rwandan tea sector has invested in sustainability through agroforestry practices, community-owned processing plants, and smallholder-focused tea projects.	Primarily through agroforestry, currently being applied in a few operations (RMT, 2024; Sustainable Growers, 2024). Further applications include using integrated pest management (IPM), planting cover crops between tea plants, use of climate resilient cultivars, composting and using organic fertilizers, terracing/contouring/mulching to conserve water, and establishing riparian buffers to improve water quality.
Coffee	Coffee had an export value of US$112 million in 2022 (OEC, 2024), making it an important foreign exchange earner.	The Rwandan coffee sector has invested in agroforestry practices and has supported smallholder farmers and cooperatives.	As with tea crops, agroforestry (through planting shade trees) is being applied in coffee cultivation. Other applications include IPM, planting cover crops between tea plants, composting and using organic fertilizers, terracing/contouring/mulching to conserve water, and establishing riparian buffers to improve water quality.
Maize	Maize is a staple food for much of the population and accounts for around 50% of Rwanda's total crop output (Ngango, J; Hong, Seungiee, 2021).	Maize cultivation in Rwanda is primarily rain-fed and vulnerable to drought. Efforts to develop irrigation infrastructure may put further pressure on water resources (Nahayo, 2019). Since maize is an annual crop, the soil may be vulnerable to erosion if left fallow.	While not widely implemented, NbS applications may include cover cropping, IPM, adoption of no-till or reduced-till practices and establishing riparian buffers to reduce water pollution.
Livestock	Smallholder farmers are the primary livestock producers in Rwanda, so this remains an important source of income for many families (Feed the future Rwanda, 2023)	The livestock sector is Rwanda's primary source of methane emissions (CCA Coalition, 2024). Additional impacts from the livestock sector include waste discharge into rivers and increased soil erosion from trampling.	Not widely implemented, potential NbS applications could include establishing silvopastoral systems, using rotational grazing, establishing riparian buffer zones to improve water quality, composting, and integrating crops and livestock into a system for enhanced nutrient cycling.
Rice	Rice is a valuable export crop with an export value of US$60.4 million in 2022 (OEC, 2024).	Currently, rice in Rwanda is grown primarily in wetland regions, which have significant biodiversity value and are an important water resource for the country (Uwimana, van Dam, & Irvine, 2018).	Potential NbS applications include wetland restoration around rice paddies to serve as a flood barrier, cover crop use, crop rotation, and IPM systems.
Pyrethrum	Rwanda is the second-largest producer of pyrethrum, an important cash crop for many smallholders (National Agricultural Export Development Board, 2024)	Due to its smaller production scale, pyrethrum has a relatively minor environmental impact. However, pyrethrins can cause reproductive problems in fish and aquatic insects and other toxic effects, so their use needs to be cautiously considered even though they are a biopesticide.	Potential applications are similar to those of other crops and may include cover cropping, IPM, adoption of no-till or reduced-till practices, and establishing riparian buffers to reduce water pollution.
Other crops	Crops such as pineapple, avocado and nuts are important cash crops for many smallholder farmers (National Agricultural Export Development Board, 2020).	While operating at a smaller scale, these cash crops may present opportunities for the use of agroforestry practices.	Potential applications are similar to those of other crops and may include cover cropping, IPM, adoption of no-till or reduced-till practices, and establishing riparian buffers to reduce water pollution.
Hydropower	Hydropower accounts for around a third of Rwanda's domestic energy supply and is, therefore, vital to the country's economy (Government of Rwanda, 2020).	Hydropower plants have a high environmental impact on both upstream and downstream landscapes. They also present a significant opportunity for using NbS and PES schemes (IIED, 2024).	There are a few cases of NbS being used by hydropower operations in the country, primarily focused on bank reinforcement through planting. Other approaches include promoting native vegetation along banks, forest restoration to reduce sedimentation, and wetland floodplain restoration for flood control.
Tourism in protected areas	Tourism, which is primarily focused on wildlife resources (concentrated in protected areas) is the largest source of foreign exchange earnings in Rwanda (Visit Rwanda, 2024).	As tourism is primarily focused on Rwanda's wildlife and natural landscapes, the potential revenue from this is an incentive for the protection and sustainable management of these resources.	NbS that can be applied to tourism include restoring habitats attractive to tourists and using low-impact infrastructure.

Table 9-14: Barriers to private sector investment in NbS

Challenge	Relevant Sectors	Barriers	Underlying Causes of Barriers	Key Participants	Actions to Address Barriers
Access to finance	Agricultural and hydropower sectors	Agricultural sectors (tea, coffee, maize, pyrethrum, rice, and others) are particularly exposed to several challenges that limit funding options and availability of capital, these include: • The current high interest rate environment (particularly from commercial banks) - These impact affordability or lending and overall lending quantum, pricing many private sector participants from accessing funding. • A lack of sector-specific financial products for lending – Given many of the inherent risks associated within these sectors (namely, high inception costs impose a barrier to entry, long-term project focus (through extended crop harvest periods or extended construction periods that lead to long payback periods), and low levels of collateral) presents uncertainty to lenders with few traditional financial products that can mitigate these risks without applying a significant credit risk premium. • Other difficulties identified – Include a lack of formalization (particularly in agriculture rather than hydropower), limited knowledge of financial markets, and limited insurance related products all have an impact in accessing funding.	Many of the barriers are a result of inherent risks to the sectors, including those related to long payback periods, large inception capital requirements, and limited availability of collateral. Formalization and product-specific finance and insurance products appear to be a result of an underdeveloped market.	Private and public sectors	Based on the barriers outlined, two key areas are noted: 1) Formalization of the sectors and capacitation of sector participants particularly within the agricultural space (this can be achieved through consolidation of producers, through co-operative measures, or through government backed sponsorship and Public Private Partnerships (PPPs)). 2) Specific focus on unlocking private lenders through sector specific focused initiatives. These initiatives should address the key barriers identified, whether through first loss-guarantees in the case of limited collateral, innovative financing solutions to green-focused participants (including Green bonds, results-based financing, micro-finance for climate resilience, and carbon markets), or unlocking focused insurance products in typically underserved sectors.
Access to markets	Tea, coffee, pyrethrum	• **Market Information Asymmetry** - The agricultural sector, in particular, reports inadequate market and agricultural information systems that provide up-to-date information on prices and crop risks. Formalized structures, through various exchange-traded products could provide the link between producers and investors, particularly in cash crops outlined above. • **Lack of Skills and Training** - Insufficient skilled labor and workforce training can limit investment opportunities. Invest in education and vocational training programs to develop a skilled workforce, align training programs with industry needs, and promote lifelong learning initiatives to enhance human capital. • **A lack of value-added products** - Exclusion of producers from high margin sectors (including processed coffee, specialty tea, and other processed crops) limits investment potential due to limited profitability and low investment returns. Investment into processing and value additional will provide greater margins and unlock more diverse markets, ultimately leading to a broader investor pool. Insufficient processing infrastructure for crops (particularly tea and coffee) means that products are too low in quality to warrant premium prices. Additionally, the tea sector has limited investment in growing specialty blends for high-value export markets. While the northern and western regions have well-developed tourism products, the South needs to develop its tourist infrastructure to reach higher-value markets. • **Small market size:** The small size of the domestic market means that there is limited demand for products, therefore limiting the potential revenue generation and investment opportunities. Developing regional and	Many of these barriers are as a result of a lack of maturity within markets, highlighted by limited transparency of information and skills transfer, while investment into value-added services remains a challenge likely due to constrained financial capital. Though strides have been made, including through initiatives such as IREME Invest, to improve access and information availability, there remains a gap to link investors to opportunities more broadly in the economy.	Private and public sectors	Programs and knowledge sharing initiatives can be initiated by the public sector, to provide skills, training, and tools to capacitate private sector participants. Formalization and consolidation of private sector participants will likely provide cross-participant learnings and knowledge transfer.

Challenge	Relevant Sectors	Barriers	Underlying Causes of Barriers	Key Participants	Actions to Address Barriers
		international markets through the above means will be key to expanding market opportunities.			
Operational costs and infrastructure	Hydropower, coffee, tea, tourism	• **Consolidation and cooperatives** – The agricultural market is currently highly fragmented with small scale operators, which creates several challenges and barriers for investment. Encouraging collective or cooperative structures can provide several benefits, many of these are not currently being utilized: o Collective bargaining power for bulk discounts on input costs, o Scale for off-takers when engaging with the market, o Ability to access capital through formalized structures, and o Potential economies of scale. • **Formal infrastructure (tourism, agriculture, and hydropower)** – There is limited development of formal transport infrastructure within the region, increasing logistics costs and access to certain areas. • **Mechanisms for revenue sharing** – As reported by Nyandungu Eco-Park, it is common in the tourism sector for all collected revenue to go to the government, from which the park operators are paid a fee. This highlights the need for better revenue sharing mechanisms which will allow for managers to invest in their operations and conservation activities. Additionally, the southern region has comparatively low capacity for tourists when compared to the north (where the majority of gorilla and chimpanzee trekking takes place), highlighting a need to develop both tourism opportunities and infrastructure in this region.	Barriers appear to have a common root cause, limited investment and disaggregation of the sector.	Public and private sectors	Capacitation and training programs initiated by the public sector players need to provide the skills to private participants in an effort to formalize. Larger scale infrastructure investment programs can be challenging, from a payoff perspective – investigation into toll systems/ investment vehicles to mobilize private sector investment into sectors where clear financial returns can be established. These initiatives can be supplemented and subsidized by the public sector, to unlock a broader investor base. The formation of cooperatives will allow agricultural operations to extend their ability to negotiate prices.
Expertise and awareness	All	• **Limited technical skills and capacity within the agricultural sector –** Conversations suggest that there is low technical capacity in the use of intensive and climate-smart agriculture methods, specifically there is limited knowledge and technical skill in improving the quality of agricultural products (particularly in the coffee sector) and efficient farming practices, including climate-smart methods (such as agroforestry and manure production). • **Limited awareness in the hydropower sector** – There is a notable deficiency in expertise, awareness, and information regarding the effective implementation of sustainable practices and the commercial use of NbS beyond viewing them merely as corporate social responsibility expenses. Conversations with hydropower operations suggest that NbS, where implemented, is seen as a CSR expenditure rather than an investment (and so receives little funding). There is also a notable lack of technical expertise in implementing NbS in watersheds.	Limited training and knowledge transfer mechanisms within NbS, and more specifically in agriculture, highlight a gap where formalized structures could play a critical role. Categorization and packaging of investment opportunities is crucial to accessing a broad investor base, while utilizing the Green Taxonomy could provide tangible benefits through incentivized investment structures.	Private sector	Capacity building, including training programs on sustainable business practices, climate-smart agricultural techniques, and the ability to leverage the private sector more effectively. Additionally, knowledge-sharing platforms like establishing online portals, knowledge hubs, and practice communities. Technical Assistance needs include support to help identify and implement sustainable solutions to specific business needs; feasibility studies to evaluate the viability of climate-resilient projects, assess risks, and develop implementation plans; and provision of access to databases, market intelligence, and technical resources related to sustainable technologies, financing options, and regulators requirements to facilitate informed decision making.

APPENDIX E Assessment of Rwanda's Absorptive Capacity for Integration Activities

This section provides a brief overview of the readiness of Rwanda to receive the investment associated with the NPC-IP in terms of its macro-economic context, commitments to climate action, institutional capacity, technical capacity and skills, political will, and the mobilization of communities.

E 1. Macro-economic context

E 2. Strong economic growth and development

Rwanda is a low-income country that has been one of the fastest growing economies in Africa. Following a sharp decline in 2020 due to the impact of COVID-19, the economy recovered and expanded by 10.9 percent in 2021 and by 8.2 percent in 2022, due to a strong recovery in tourism and related services. Rwanda's per capita income was US$966 in 2022 (World Bank, 2022), placing it ahead of more than 20 other countries in the region related to per capita income.

Rwanda's economy continued to stage a strong growth momentum in 2023 fueled by robust private consumption and despite inflationary pressures. Real GDP growth is projected to reach 8.0% in 2024 on account of continued slow recovery in domestic agricultural production and recovery in exports and conference tourism. Inflation is projected to fall to 5.6% in 2024 on account of a drop in imported inflation and following a substantial rise in inflation from 0.8% in 2021 to 17.7% in 2022. The fiscal deficit is projected to decline from 8.8% in 2021 to 6.8% of GDP in 2024 due to continued fiscal consolidation and higher domestic revenue. Debt is projected to remain at moderate risk. The current account deficit is projected to narrow from 12.6% of GDP in 2022 to 10.8% in 2024 on account of a temporary reduction in capital imports, recovery in conference tourism, and strong remittances from the diaspora. Overall moderate economic performance is attributed to elevated risks from a prolongment of Russia's invasion of Ukraine and political tensions in the Great Lakes region. After softening in 2023, Rwanda's economic growth is expected to regain momentum in 2024-2025. The recent floods are expected to have weighed on an already softening growth in 2023, which reflected additional fiscal consolidation and monetary policy tightening to rebuild policy buffers, as well as weaker agricultural output. Growth is projected to improve in 2024-2025.

Rwanda's Country Climate and Development Report (2022) estimates that if climate risks materialize, Rwanda's GDP levels could drop by 5–7 percent below baseline in multiple years by 2050 (World Bank, 2022). Droughts and floods are region-specific problems, with droughts occurring mainly in the east of the country and floods in the western, central, north, and south of the country (Netherlands Commission for Environmental Sustainability, 2015). The April-May floods of 2023 resulted in significant loss of life and destruction of infrastructure, with a corresponding impact on GDP growth. The direct effect of the flooding was to reduce production by an estimated US$31.1 million, resulting in an estimated decline in GDP (relative to the pre-disaster forecast for the year) of about 0.17 percent (World Bank, 2023). The indirect effect on GDP reflects the interruption in economic activity resulting from the massive damage to key assets and infrastructures (road, bridges, land, factory, etc.), which are estimated at US$156 million in 2023. This is equivalent to the destruction of about 0.55 percent of the total capital stock (World Bank, 2023).

Rwanda's GGCRS and its updated NDC define the country's vision to become a developed, climate-resilient, and low-carbon economy by 2050, with ambitious climate adaptation and mitigation interventions, at a cost of US$11 billion by 2030 (Government of Rwanda, 2020). However, **Rwanda faces challenges mobilizing private financing due to high upfront capital needs for key projects, financing costs from banks, and collateral requirements**. To address these challenges, it launched the Rwanda Green Investment Facility at the 2022 United Nations Climate Change Conference. Capitalized with $104 million, the fund has been financing project preparation and providing concessional credit facility loans and guarantees to support small and medium enterprise investment in green projects. The fund aims to mobilize climate finance at speed and scale to finance a pipeline of innovative projects in clean energy, smart mobility, sustainable cities, climate-smart agriculture, increased forest cover, and waste and the circular economy. These investments are expected to crowd in at least $364 million, create at least 372,000 jobs, and eliminate 1 million tons of carbon dioxide emissions by 2030.

E 3. Debt sustainability

The government made large spending cuts in FY2022/23 that contributed to narrowing the budget deficit. Both revenue and expenditure declined as a share of GDP. Overall, total government spending declined to 29.68 percent of GDP in FY2022/2023 (IMF, 2023), which is 3.7 percentage points lower than in the previous fiscal year (World Bank, 2023). This was mainly driven by declines in the use of goods, capital expenditure, and subsidies. In FY2022/2023, the government of Rwanda undertook spending rationalization measures focusing on improved efficiency of government services, limits to subsidies, more efficient capital expenditure, and general public finance management (PFM) reforms. Fiscal revenues also declined to 23.92 percent of GDP in FY2022/23 (IMF, 2023). The government has recently started implementing changes to the tax code, which may reduce the growth of revenues, but also included steps to broaden the tax base, improve tax compliance and curb tax evasion. Fiscal consolidation and strong economic growth reduced Rwanda's debt burden in 2022 for the first time since 2013. Public and publicly guaranteed (PPG) debt fell by 6.2 percentage points in 2022 to 67.1 percent of GDP, reversing the trend that saw PPG debt almost double as a share of GDP during 2015–2021, driven by borrowing to finance public investment but also from the robust COVID-19 response. Most of Rwanda's external debt is owed to multilateral donors on concessional terms. The share of concessional borrowing accounted for over 80 percent of total public external debt by the end of 2022. The debt sustainability analysis (DSA) of December 2023 assessed Rwanda's debt situation as being sustainable with a moderate risk of external and public debt distress (World Bank, 2023). In terms of drivers of debt declines in 2023, high economic growth, the exchange rate depreciation as well as favorable interest rates have more than off set the impact of the primary fiscal deficit that had been leading recent increases.

E 4. Favorable medium-term economic outlook

After softening in 2023, Rwanda's economic growth is expected to regain momentum in 2024-2025 (AfDB, 2023). The recent floods are expected to have weighed on an already softening growth in 2023, which reflected additional fiscal consolidation and monetary policy tightening to rebuild policy buffers, as well as weaker agricultural output.

E 5. Commitments to Climate Action

Through strategic policies, robust regulatory frameworks, and dedicated government agencies, Rwanda has demonstrated a strong commitment to climate action. The Government has implemented ambitious initiatives aimed at reducing carbon emissions, enhancing resilience to climate impacts, and fostering sustainable development practices. Rwanda's commitment to climate action is exemplified through its robust renewable energy programs, afforestation projects, and innovative policies geared towards promoting clean energy adoption and low-carbon growth. The policy and institutional landscape is described in **Section 2.4** but notably:

- **Rwanda's GGCRS** (Government of Rwanda, 2022) is a comprehensive framework aimed at integrating sustainable development and climate resilience into the country's economic planning and policymaking. The strategy emphasizes the importance of fostering economic growth while simultaneously mitigating greenhouse gas emissions and enhancing adaptive capacities to climate change impacts. Key components of the GGCRS include promoting renewable energy sources, enhancing energy efficiency, sustainable land management practices, promoting green urbanization, and strengthening climate resilience in vulnerable communities. Through the GGCRS, Rwanda seeks to achieve its development goals in a manner that is environmentally sustainable, socially inclusive, and resilient to climate change impacts, ultimately contributing to the global efforts to combat climate change and achieve sustainable development. Furthermore, the GGCRS reflects Rwanda's ambition and intent to use programmatic approaches to growth and development.
- **The National Strategy for Transformation** (NST) (Republic of Rwanda, 2017) is a long-term development blueprint that outlines the country's vision and strategic priorities for socio-economic transformation. It emphasizes the promotion of inclusive growth, private sector development, human capital development, infrastructure improvement, and sustainable environmental management. It also highlights the contribution that natural solutions can make towards addressing climate both the causes and consequences of climate change.
- Rwanda's **National Climate Change and Environment Policy** provides a comprehensive roadmap for integrating climate considerations into various sectors, fostering resilience, and promoting low-carbon development pathways.

Rwanda's commitment to climate action, particularly through the use of NbS, is closely connected with the goals of the NPC IP, demonstrating the Government's commitment (at the highest level) to advancing the NPC IP's principles and objectives. The country's NDCs (Government of Rwanda, 2020) set ambitious goals for reducing GHG emissions and increasing climate resilience, with a particular emphasis on utilizing natural solutions including afforestation, reforestation, and sustainable land management.

E 6. Institutional Capacity

Rwanda has made significant strides in enhancing its institutional capacity to address climate change challenges. The establishment of institutions such as the REMA and the RGF exemplifies the country's proactive approach. These institutions play pivotal roles in coordinating climate-related efforts, implementing adaptation and mitigation projects, and mobilizing resources for sustainable development initiatives. The Government of Rwanda – and agencies within it - has a proven track

record in the successful implementation of similar projects with external funding, several of which are listed in **Appendix G**. These projects have contributed to the development of national and local-level institutional capacity to manage external funding and implement projects, but have also resulted in the establishment of effective structures which can be tapped into and/or replicated within the NPC Investment Program.

Through these institutional mechanisms, Rwanda continues to build its capacity to effectively respond to the complex challenges posed by climate change, positioning itself as a leader in climate resilience on the African continent. Furthermore, Rwanda's decentralized governance structure facilitates effective coordination and collaboration among national, provincial, and local authorities, strengthening the country's institutional capacity to carry out integration efforts at multiple levels.

E 7. Technical Capacity and Skills

Rwanda has invested significantly in developing technical capacity and capabilities for climate change adaptation and mitigation. The country has implemented several projects such as the Green Amayaga Project, the GIZ funded skills and capacity development training for Rwanda's NDC's (GIZ, 2024) and the Green Gicumbi Project (GCF, 2018) that incorporate training programs, capacity-building initiatives, and knowledge-sharing platforms to provide government officials, practitioners, and community members with the skills and expertise required to effectively handle climate-related concerns. Furthermore, Rwanda's partnership with international partners and organizations, such as GCF, GEF, GIZ etc. has fostered technology transfer, innovation, and information sharing, thus strengthening the country's technical capacity for climate change resilience and mitigation measures.

The IP recognizes and includes projects and indicative activities that are targeted to overcome restrictions linked to absorption capacity. These restrictions may include a lack of information, skills, or access to financing, among other challenges that impede the implementation of sustainable land management techniques and other climate initiatives. By carefully analyzing these aspects, the investment program identifies and addresses investment needs aimed at overcoming barriers to the adoption of sustainable practices, thus improving the technical ability and capabilities of stakeholders involved in implementation.

E 8. Political Will

The District Officials showed great willingness and enthusiasm for the project during the field visits and workshops. Recognizing the impact that climate change has on the local communities in their districts, these local leaders are eager to collaborate in order to gain access to expertise and resources that support larger-scale climate resilience projects. The commitment across all levels of Government is underpinned by key strategies such as Rwanda's Vision 2050 (Government of Rwanda, 2020) and Economic Development and Poverty Reduction Strategy (Government of Rwanda, 2013) prioritize sustainable development, environmental conservation, and climate resilience as key pillars of national development.

E 9. Mobilization of Communities

Communities in the Kaduha-Gitwe corridor have successfully been mobilized and grassroots participation in climate action and environmental conservation efforts has been fostered through a number of recent and ongoing projects in Southern Province such as the Green Amayaga Project, the FIP PRODAR project, and others listed in **Appendix G**. Rwanda's emphasis on community-based adaptation and resilience-building strategies through these local initiatives enables local communities to assess their vulnerabilities, prioritize adaption measures, and engage in decision-making processes, resulting in greater community mobilization for integration efforts.

APPENDIX F Development Benefits and Co-Benefits

The proposed interventions included in this IP have numerous benefits which is a key advantage of implementing NbS. These co-benefits are discussed in more detail in the following sections with specific focus on the socio-economic and environmental benefits and co-benefits.

F 1. Socio-Economic Benefits

The anticipated socio-economic benefits that can be realized by the execution of the IP are presented below:

- **Adaptation to climate change:** The IP aims to increase the climate change resilience of the communities in the Corridor. This includes NbS activities that reduce erosion and the risk of floods and landslides as well as activities that develop alternative income-generating activities and value-chains.
- **Diversified income streams:** A focus of the IP is to develop alternative income generating activities in order to diversify the income streams of the communities. This will help to reduce overreliance, and therefore the underlying pressures, on natural resources, and to reduce the vulnerability of communities to the impacts of climate change.
- **Strengthened agro-forestry value chains and sustainable flows of finance generated:** The IP includes activities aimed at developing key stages of the agro-forestry value chains, such as promoting access to key inputs and finance, post-harvesting facilities, and output and retail markets. In addition to the immediate economic benefits accruing to those involved in these activities, a strengthened value chain and increased financial flows foster the conditions necessary for long term economic sustainability. Furthermore, significantly enhanced local extension services, integrated with the Farmer Field Schools system, is proposed to provide implementers with better access to advice, guidance, and learning opportunities through demonstration areas and interactions with fellow farmers and forestry technicians. Overall, enhancing forward linkages by expanding processing and value addition in rural areas is crucial for boosting employment, increasing income, and enhancing livelihoods, ultimately reducing poverty among local populations.
- **Empowerment of women and youth:** The IP prioritizes the empowerment of women and youth through activities that provide targeted upskilling, capacitation, and access to finance, markets, inputs and extension support. Given the area's existing gender inequalities, the IP also includes male sensitization approaches that will support transformative shifts in social norms, where men better respect and share unpaid care work, and value women's involvement in income-generating activities. The participatory planning approach proposed will consider the diverse roles and requirements of men, women, youth, and marginalized groups, ensuring equal opportunities for their involvement in activity design, decision-making, and benefit-sharing in forest resource management. As such, the IP will contribute to greater social inclusion and diversity, fostering equitable economic growth, innovation and sustainable development.
- **Employment:** A number of the activities in the IP will create employment opportunities for the local communities. Increased household income from these employment opportunities provides livelihood opportunities that fosters economic stability and resilience. It also promotes social cohesion and community development, contributing to the overall well-being and sustainable growth of rural areas.

F 2. Environmental Benefits

NbS interventions strengthen ecosystem resilience to climate change impacts by restoring ecosystem goods and services such carbon sequestration, water regulation, and disaster mitigation. These interventions assist communities and ecosystems in coping with the effects of climate variability and extreme weather events by increasing adaptive capacity and supporting ecosystem-based approaches to resilience. The following environmental benefits are expected from the implementation of the activities in this IP:

- **Mitigation of GHG emissions:** Many of the activities proposed in this IP will improve the sequestration of CO_2 and reduce GHG emissions. These include the planting of trees for forestry and agroforestry, the restoration of wetlands and buffer zones, and soil conservation practices, and the rehabilitation of soils.
- **Improved soil conservation and quality:** The IP incorporates several activities to reduce soil erosion, conserve soil moisture, and enhance soil structure and fertility such as terracing, cover cropping, no-till agriculture, and mulching. By reducing soil degradation and erosion, these interventions improve agricultural productivity, promote soil health and may also reduce the need for costly inorganic fertilizers.
- **Improved water quality:** Interventions which reduce erosion and improve soil conservation will consequentially improve downstream water quality by reducing siltation. The restoration of riverine buffer zones and wetlands will also trap sediment and improve water quality. Additionally, improved soil health resulting from cover cropping, mulching, agroforestry, and other interventions can reduce the use of inorganic fertilizers and thus reduce nutrient loads in rivers caused by agricultural runoff, ensuring clean and safe water for drinking, irrigation, and aquatic ecosystems.
- **Improved water infiltration and groundwater recharge:** Terracing, planting cover crops, and restoring buffer zones promotes the absorption of rainfall into the soil. This helps replenish groundwater reserves, maintain base flows in rivers and streams, and sustain ecosystem functions dependent on groundwater resources.
- **Reduced flood risk:** Interventions that reduce peak discharge and thus lower flood risk include the restoration of wetlands and buffer zones, reforestation, and the planting of woodlots. Trees and vegetation absorb and store rainwater, reduce surface runoff, and stabilize riverbanks, thereby mitigating the severity of floods and protecting communities and infrastructure from flood-related disasters.
- **Biodiversity:** Several actions proposed in the IP have the potential to improve biodiversity, especially when indigenous species are incorporated. Restoring of wetlands, riverine buffer zones, and forests can provide additional species habitats and improve biodiversity in these areas. Additionally, micro-ecosystems that are more dynamic typically experience fewer issues with pests and diseases compared to large-scale monocultures, while also supporting higher populations of pest predators. Specifically, greater diversity in forestry and agroforestry tree species enhances resilience to climate change and mitigates risks associated with pests and diseases.

F 3. Co-Benefits

The following CIF NPC Program-Level Co-Benefits are anticipated the be relevant to this IP:

- **CO-BENEFIT 1:** Green Growth: Economic growth of targeted sectors or industries within the landscape or ecosystem.

  The communities in the Kaduha-Gitwe corridor are rural and often depend largely on agriculture for their livelihoods. As such, the livelihoods of these communities are vulnerable to the impacts of climate change. Diversification of income-generating activities is a key focus of the IP in order to improve the resilience of the communities to climate change shocks.

- **CO-BENEFIT 2:** Governance, Policy, and Planning: Effective governance mechanisms with coherence across sectors.

  Although the IP does not focus on policy interventions, landuse planning and zonation is key for the success of the NbS activities. These plans will be developed collaboratively with the local communities. Land use zonation of forests, agricultural areas, river buffer zones, and wetland areas are foundational and critical for the long-term success of the activities in the IP.

- **CO-BENEFIT 3:** Land Tenure, Rights, and Access.

  As part of the planning and zonation of areas described under Co-benefit 2, there is the potential for improved access to land. The participatory zonation process will prioritize the inclusion and active involvement of women and youth stakeholders.

- **CO-BENEFIT 4:** Biodiversity.

  Several activities in the IP have the potential to improve biodiversity in the Kaduha-Gitwe corridors, particularly where indigenous species are incorporated. The plan includes protection of remnant forests and grasslands and the removal of alien vegetation, and encourages the use of indigenous species for stabilizing rivers, roadsides, and steep slopes. The restoration of riparian buffer zones and rehabilitation of wetlands also provides significant opportunities for improved biodiversity in the corridor.

APPENDIX G Existing Activities

Project Name	Donors	Implementing Agency	Budget (US$)	Project Period		Project Area Overlap (%)
				Start	End	
Land Husbandry, Water Harvesting and Hillside Irrigation Project	World Bank, IDA, USAID	RAB	US$140 million	2009	2015	*Completed*
Sustainable Woodland & Natural Forest Restoration Project (PGReF)	AfDB, GoR	RFA	US$4.9 million	2012	2018	*Completed*
Rwanda Integrated Landscape Climate Resilient Management Program (Upper Nyabarongo Catchment and Muvumba catchment - Nyagatare District)	GCF, Netherlands, RGF, AfDB	MoE	US$186 million	2018	2024	0%
Sustainable Agricultural Intensification and Food Security Project (SAIP)	World Bank	RAB	US$26.3 million	2019	2024	*TBC*
Forest Landscape Restoration in the Mayaga Region	GEF, UNDP, RGF, GoR	REMA, Gisagara, Ruhango, Nyanza and Kamonyi Districts	US$32 million	2019	2025	5%
Sustainable Agricultural Productivity and Market Linkages (SAPMP)	KOICA, GoR, WFP	RAB	US$12.5 million	2020	2024	0%
Restoring Forest Landscapes in Africa	IKI, GIZ, AUDA, FAO, IUCN, WRI, WWF	RFA	US$6 million	2020	2025	0%
Reducing vulnerability to climate change through enhanced community-based biodiversity conservation in the Eastern Province of Rwanda (COMBIO)	Enabel, SIDA	RFA	US$9.2 million	2021	*TBC*	0%
Incentive Mechanisms for Landscape Restoration and Nature-Based Solutions in the Congo-Nile Ridge Landscape of Rwanda	World Bank, PROGREEN	RGF	US$442,500	2021	*TBC*	*TBC*
Forest Investment Program (FIP): Development of Agroforestry for Sustainable Agriculture in Rwanda (PRODAR)	CIF, AfDB, GoR	RFA	US$18 million	2022	2026	7%
Promoting native tropical tree species for sustainable ecosystem services under climate change	SIDA	RAB	US$522 842	2022	*TBC*	5%
Commercialization and De-Risking for Agricultural Transformation Project (CDAT)	World Bank	RAB	US$300 million	2022	2027	*TBC*
Volcanoes Community Resilience Project (VCRP)	World Bank	RDB, REMA, RWB	US$50 million	2023	2028	0%
Building Resilience of Vulnerable Communities to Climate Variability in Rwanda's Congo Nile Divide through Forest and Landscape Restoration	GCF, RDB, RFA, RWB, MoE	RFA	US$50 million	2024	2029	5%
Ecosystem-Based Restoration Approach for Nyungwe-Ruhango Corridor (GEF-8)	GEF, *others TBC*	REMA	US$10.15 million	2024	*TBC*	25%
Building Community Resilience and Transforming Livelihoods through Systems-based Adaptation and Integrated Resource Management in Rwanda's Southern Province (GEF LDCF II)	GEF, UNDP, REMA, MoE, LODA, RWB, RFA, RGF, NLA, RAB, Kamony, Ruhango, Muhanga, Nyanza, Huye, and Gisgara Districts, Kinazi, One Acre Fund – Tubura, PSF, FAO, IFAD	REMA	US$85 million	2024	*TBC*	13%
Sustainable Land Management Framework	World Bank, *others TBC*	*TBC*	*TBC*	2024	*TBC*	0%
CSA Programmatic Approach	IFC, *TBC*	*TBC*	*TBC*	2024	*TBC*	*TBC*
A Program Based Investment Plan for the Kaduha Gitwe Corridor, the Southern Province of Rwanda	*TBC*	*TBC*	US$422 million	2024	2028	100%

APPENDIX H Independent Review of Rwanda's NPC Investment Plan

Comment No.	Section	Comment	Response to comment
1	Overarching	The draft Nature, People, and Climate (NPC) Investment Plan (IP) for Rwanda is an excellent document that will serve the Government of Rwanda (GoR) well in its efforts to take meaningful action on climate change. It sets a high bar for climate change investment plans, positions Rwanda as the continuing standard-bearer of climate change investment planning on the African continent, and could reasonably become a model for other investment plans to be developed. The draft NPC IP appears to be built on a foundation of strong diagnostic analysis, including a gaps and needs assessment. It also draws on a wealth of credible literature to lend additional weight to its findings and recommendations. Importantly, it appears to reflect substantial stakeholder engagement and vetting by in-country experts. The two sub-programs conceptualized and structured (Resilient Landscapes, and Resilient Livelihoods) are responsive to Rwanda's needs and priorities on climate change, as well as the sectors of agriculture, forestry, natural resources management, ecosystems, biodiversity, water, and land use. In keeping with the intent of the NPC, the IP and its constituent sub-programs are cross-sectoral, take a systems approach to problem identification, and adopt a holistic and integrated perspective towards solutions. Overall, this is a high quality document that warrants follow-through by both the Government of Rwanda and by climate finance institutions to bring the envisioned sub-programs to fruition. A number of further comments are provided below and in subsequent sections of this review. Several of these are by way of observation, merely to place the reflections on the record, while some are suggestions that are offered to the developers and custodians of the draft NPC IP for Rwanda for consideration, if they are regarded as having merit and if time and available resources allow for these to be taken into account.	Noted – no action required
2	1.1.3 Goals and Objectives	The IP, in this section, accomplishes the important task of highlighting clearly what its main objectives and focus areas are, i.e., soil erosion caused by poor land management, and the resulting vulnerability to climate change risks, plus food insecurity as a result of low land productivity. Soil erosion from land degradation, in particular, is underscored as the central challenge that the IP will address. This type of focus is valuable. Oftentimes government investment plans attempt to cover too many priorities and subsume too many sectors into the same investment plan	Thank you for this feedback.

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		(becoming a plan about everything, for everyone), especially when developing cross-sectoral and programmatic approaches. This diffuses the power of directed investment, and dilutes the potential for meaningful climate change adaptation and mitigation results. It is noteworthy that the draft NPC IP avoided this temptation.	
3	1.4.1 Expected Results	The affirmative inclusion of diverse sources of income and livelihoods (as part of an expected result) is a welcome feature, and strengthens alignment with the NPC program. An expected result that is not presently listed, but would appear to be keeping with the NPC program (and which the Resilient Landscapes sub-program lends itself to), is a reduction in the conversion of forest land to non-forest uses (or, in a more direct manner, a reduction in the rate of deforestation). This could be considered for inclusion, to gauge the efficacy of the sub-program's measures in achieving their intended effect.	The following has been added: • Preservation of remnant forests and restoration of riverine buffers and wetlands;
4	1.4.2 Expected Outcomes	Recognizing that the NPC IP Results Framework is the only relevant touchstone for selection of indicators (and that forest-related indicators may be better placed within the Forest Investment Program's or FIP's results framework), but – consistent with the observation above about results that would be well aligned with what this draft NPC IP is aiming to do – an indicator related to a reduction in the rate of conversion of forest land to non-forest uses, or a reduction in the rate of deforestation, could be considered. This appears especially salient, given that deforestation is acknowledged in the draft NPC IP's section 2.1 as a key challenge to ecosystems and ecosystem services, and has a very direct bearing on soil erosion (as well as water retention, microclimate regulation, carbon storage, flood mitigation – all of which the draft NPC IP underscores as part of the challenge). If the IP's sub-programs (in particular Resilient Landscapes) are successful, they should result in a reduction in the loss of forest land. Thus, this indicator of performance would seem important to measure the IP against.	Relevant metrics will be tracked for this project as part of the Program-Level Impacts. The following Program-Level Impacts have been added in section 1.4.3: o Poverty rates (%). o Prevalence of moderate and severe food insecurity (%). o National / territorial agricultural land (%). o National / territorial rates of deforestation (ha per year). o National / territorial rates of land degradation (ha per year). o National / territorial rates of erosion (ha per year).
5	Box 2.1 Gender Disparities	The text box on gender disparities and barriers to women's empowerment and resilience in the agriculture sector provides a very useful perspective on gender inequities and challenges in Rwanda, and is very helpful to an understanding of the context. This is an exemplary element of the draft NPC IP.	Noted, thank you.
6	2.3.2 Future Climate	If there is time and opportunity to enhance this section with a slightly more detailed discussion of the future anticipated impacts on landscapes, ecosystems, and ecosystem-services, that would be welcome. The section captures the major findings of climate change studies for Rwanda, and confirms that some of the hazards of greatest concern are more intense rainfall, rainfall variability, and extreme weather related disasters such as flooding and landslides. The section does conclude with comments on how such hazards have a	This section has been bolstered significantly. More detail has been added related to the climate projections for Rwanda. The predicted impact of these changes on the population and Rwanda's GDP.

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		negative impact on the environment, society, food security, the wider economy, and communities. Nevertheless, given that there is available literature and analysis – including for Rwanda specifically – about the anticipated future impacts of floods, droughts, and landslides, the draft NPC IP could paint a slightly deeper picture of the implications of these on the subject-matter of the NPC program, i.e., the anticipated or projected future impacts on land and natural resources (e.g., increased rates of erosion, greater topsoil loss, higher slope instability, rates of biodiversity loss in terms of species richness etc.). The draft NPC IP need not go into detail on future anticipated impacts of climate change in Rwanda (in fact, it is a very positive and creditable feature that the draft IP dispenses with the usual approach of replicating climate change projections already readily available in National Communications, Biennial Update Reports, the GGCRS, and a host of other climate change reports, strategies, plans etc.). But if a few additional sentences could help connect the dots further between the climate change trends projected and what this would mean for Rwanda's land, forests, rivers, and wetlands – and the communities dependent on them – if action is not taken, that would be a welcome addition that could reinforce the argument for the IP and the sub-programmes. The chief reason for this is that all the challenges articulated in the draft NPC IP, in relation to climatic factors and natural resources as well as communities, already exist in ample measure in Rwanda. These are already issues of concern, and already warrant remedial action, even in the absence of climate change (due to existing climatic drivers and non-climatic drivers such as population pressures etc.). It is entirely true that climate change will exacerbate these drivers unless there are effective interventions. However, for the NPC IP to be an even more compelling candidate for climate finance, the argument could be buttressed further by pointing to just how climate change will exacerbate the drivers (and, where estimates are available, by how much).	
7	2.3.3 Climate Vulnerability	This section of the draft NPC IP contains an exceptionally strong discussion on gender related vulnerability and its underlying causes. Oftentimes, remarks on gender are afterthoughts in climate change and development policies, strategies, plans, and investment frameworks. The attention accorded to it in this section suggests that the IP gave it concerted thought.	Noted.
8	2.4 Policy and Institutional Landscape	Given the importance of Nationally Determined Contribution (NDC) instruments for global action on climate change, and for climate finance, it stands out as a particularly important document to highlight. This section of the draft NPC IP does point to Rwanda's NDC and notes that several adaptation commitments relate to the topics focused on by the draft NPC IP. However, if document length permits, the	Table 2-3 has been added to Section 2.4 to highlight the adaptation measures for water, agriculture, and forestry from Rwanda's NDC.

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		section could be augmented by specifically listing the adaptation commitments in the NDC that have marked alignment. Understandably, this cannot be done for all climate change policy instruments, but the NDC is arguably a principal document with which consistency is worth singularly showcasing.	
9	2.5 Investment Rationale	This section of the draft NPC IP is very well structured and makes a persuasive argument. The gaps and needs assessment, and the selection of a target area for the IP's investments, are well reasoned and equally well explained. In some instances IPs present compelling cases for a range of investments as climate change solutions, but then the choice of geographic locations appears arbitrary. In this instance, the selection of the Kaduha-Gitwe corridor is supported by strong statistical evidence and spatial analysis.	Noted – no action required
10	3.1 NBS in Rwanda	This section is commendable for its description of existing NBS interventions, and providing a representative picture of the baseline on which the IP's sub-programmes will build. It demonstrates that the IP recognizes the need to be additive, and that while some uptake of the types of measures the IP contains is already occurring in the target areas, there is still a need to fill gaps and to reduce the disparity amongst the range of NBS measures that are being adopted. The use of agricultural household survey data helps root the IP's selection of NBS interventions in the reality of the context and makes the IP better informed about the potential adoption rates and uptake.	Noted – no action required
11	3.1.1 Relevant Projects	This section presents a useful inventory of existing NBS initiatives, bringing transparently with it a recognition that the draft NPC IP needs to be supplementary to such investments, should avoid duplication, and should be enhanced by relevant lessons learnt in the other initiatives.	Noted – no action required
12	3.2 GESI within the context of NBS	The examination of Gender Equity and Social Inclusion (GESI) issues within NBS in this section is another commendable illustration of how adeptly the draft NPC IP integrates and mainstreams gender considerations within it. This was a very useful analysis that adds richness and value to the IP.	Noted.
13	3.3.3 Gaps and Challenges	An important gap in Rwanda's policy landscape that the draft NPC IP does not call out is the fact that Rwanda's NDC commitments under mitigation did not include the Forestry and Other Land Use (FOLU) sectors. While the NDC did list abatement targets from Agriculture, Forestry and Other Land Use (AFOLU), it caveated this by noting that the sectoral scope of the mitigation contribution excludes sources from FOLU (and thereby only covers agriculture). While many of the draft NPC IP's programmatic measures are well reflected in the NDC's adaptation commitments, it nevertheless merits recognition that the absence of FOLU commitments under	The following has been added in this section: Forestry and land use (FOLU) is notably absent in the mitigation component of Rwanda's updated NDCs (Government of Rwanda, 2020), although it is noted that these sources may be included in future contributions subject to improved data availability and accuracy with which net emissions are measured, reported and verified within the GHG inventory.

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		mitigation constrains the even stronger match that the draft NPC IP measures could have had with the NDC, had FOLU been integrated.	
14	6.1.1 A Program-Based IP for Kaduha Gitwe Corridor	The overlap – or potential for synergies and amplified impact – of the draft NPC IP's sub-programmes with this particular Kaduha-Gitwe Corridor is remarkable. The overlap is especially noteworthy between the draft NPC IP's Resilient Landscapes sub-program and Outputs 1 through 4 of the other IP's landscape restoration and catchment management program. Given the difference in funding envelopes, it is plausible that the draft NPC IP is intended to fill gaps in the other IP. This could be done very effectively and optimize resources from both IPs, but also has the potential to entail coordination challenges and transaction costs. As the Resilient Landscapes sub-program progresses into project preparation stages, this is a factor to be cognizant of.	Noted. This is a very helpful observation. Potential overlaps and synergies will need to be mapped out during the detailed project design stage, and efforts between the implementing and executing agencies of activities underway or approved will need to be carefully co-ordinated to ensure that there is no duplication of effort and that resources are optimized. Some text has been inserted into Section 5.1 to explain how the NPC-IP complements, and indeed contributes towards meeting the investment needs that have also been identified in the broader Kaduha-Gitwe Investment Program.
15	Overarching Summary	This reviewer is satisfied that the draft NPC IP for Rwanda is very well aligned with the principles, objectives and criteria and programming modalities as stated in the NPC Design Document. The draft IP takes into account Rwanda's capacity to implement the plan, both in terms of institutional arrangements and the enabling policy and governance landscape, as well as existing initiatives of similar or larger scale and complexity. The content presented in the IP appears to have been developed based on sound technical assessments and diagnostics, as well as stakeholder inputs. The IP is responsive to the NPC design document by demonstrating transformative impact (see, e.g., Table 4-4). The argument for selection and prioritization of investments (including phasing as depicted in Table 4-5) is well structured and presented. The IP devotes attention to other key aspects such as monitoring and evaluation, linked to the NPC results framework (see, e.g., section 8.2 and Table 8-1), to capture lessons learnt and to adequately track progress towards intended results and outcomes. It takes cognizance of potential new and additional funding avenues, which would be additional to ongoing or planned MDB investments, and positions the sub-programs suitably for such funding channels. The IP clearly provides implementation architecture (including the composition of a steering committee, technical committee, the Project Implementation Unit (PIU), etc. (see, e.g., sections 7.4 and 7.5). It considers the cost-effectiveness of investments and costs the sub-programs reasonably. Most noteworthy is the IP's treatment of gender equity issues, in which it is stands out as an exemplar for other IPs. Overall, the draft NPC IP for Rwanda is a promising IP for climate change adaptation and mitigation, environmental protection, poverty reduction, and cross-sectoral, integrated, economy-wide systemic change.	Noted – no action required

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16	Compliance with NPC Investment Criteria	The draft NPC IP for Rwanda is compliant with the NPC's investment criteria, as detailed in the NPC Design Document. While this is most clearly encapsulated in Table 4-4, alignment with the investment criteria is evident throughout the document. The IP places NBS at its heart, and showcases Rwanda's commitment to NBS – both in terms of enabling policies and plans, as well as a range of NBS programmes and initiatives that indicate the priority Rwanda has accorded such interventions. The draft IP presents two well-structured sub-programs that are designed to reduce or avoid greenhouse gas (GHG) emissions land use, across multiple sector and landscape types, and also to strengthen climate change resilience of communities, local economies, and ecosystem services dependent on natural resources. In fact, the IP provides for the building of resilience in both natural systems (landscapes) and communities (through sustainable, climate-adaptive livelihoods), in ways that are mutually reinforcing and thereby even more effective. In doing so, the draft IP takes into account the enabling environment, gender gaps, institutional frameworks and capacity, consistency with national plans and strategies, and other ongoing NBS investments that can be complementary to the sub-programs proposed. The draft IP makes a good case for how the investments in the sub-programs will be catalytic in nature, and will attract co-finance from a range of sources. It provides a useful discussion of the role of the private sector, and suggests pathways for building national and sub-national capacity to further sustain the measures. This reviewer is satisfied that the draft NPC IP for Rwanda is very strongly compliant with the NPC program's investment criteria, namely: 1. **Potential for transformative change:** it is relevant to NBS; supports systemic change; targets a reasonable scale and has the potential to scale vertically or horizontally, or with more depth; is paced in a pragmatic manner but also in ways that take cognizance of the need for timeous and rapid climate action; and it integrates a range of elements that would engender adaptive sustainability, through capacity building and knowledge transfer. 2. **Potential for GHG reduction and avoidance:** it selects viable NBS interventions with mitigation potential, in line with Rwanda's own mitigation goals and targets. 3. **Financial Effectiveness:** it offers both value for money through cost-effective solutions and the possibility of further resource mobilization.	Noted – no action required

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		4. **Just Transition:** it provides the protection and enhancement of workers' and households' livelihoods in the AFOLU sector. 5. **Gender and Social Inclusion**: It succeeds remarkably in mainstreaming GESI considerations and includes several opportunities to protect and empower women and youth in the sub-programs. 6. **Development Impact Potential**: given the integrated, cross-sectoral approach to NBS, the draft IP is well positioned to support poverty reduction and broad-based socio-economic development, interlinked with climate change adaptation, mitigation, and natural resources management.	
17	Recommendations	The final IP would significantly benefit from an Executive Summary that includes brief snapshots of the two IP sub-programmes, Resilient Landscapes and Resilient Livelihoods. While these are mentioned in the up-front sections by name, readers would welcome a concise overview of what each sub-program entails (e.g., a listing of components).	A high-level summary in the form of a list of project components and activities for each of the two project concepts has been inserted into the Program Summary (under section 1.1.3).
18	Recommendation	The IP could consider the inclusion of an intended result that addresses deforestation rates, and a Monitoring, Evaluation, and Learning (MEL) indicator linked to that, such as a reduction in the rate of conversion of forest land to non-forest uses (or reduction in the rate of deforestation), since the IP's sub-programs (particularly Resilient Landscapes, component 1) have the potential to influence this.	As part of the Program-Level Impacts, National / territorial rates of deforestation (ha per year) will be tracked. Targets will be set with the aim of reducing deforestation rates in the project area.
19	Recommendation	The proposed Steering Committee could be expanded to include a representative of either the Gender Monitoring Office (GMO) or the National Women's Council (NWC), to increase the integration and mainstreaming of GESI within the IP's roll-out and oversight, rather than being an external voice.	Agreed. GMO has been added to the Steering Committee given its national monitoring mandate and proximity to Cabinet. NWC has been included in the Technical Committee given the Committee's focus on providing technical advisory support, focused at the local level – which aligns with NWC operating model.
20	Recommendation	There is room to embed gender considerations more explicitly in the sub-program Resilient Landscapes. While gender elements in this sub-program may be implicit, and the intent may be to integrate GESI considerations in the implementation modalities, it would be beneficial to more explicitly include gender-sensitive activities within the components of Resilient Landscapes (just as they are evident and unambiguous in Resilient Livelihoods, as becomes clear with a comparison of Tables 4-2 and 4-3, and the preamble text preceding both tables).	Noting the revised structure of the Program, a distinct subsection on GESI approaches that will be adopted during Program design and implementation is now included in Chapter 4. These approaches will be appropriately translated into specific GESI activities during the design phase, once more information is made available / gathered through socioeconomic baseline studies and stakeholder engagements.
21	Recommendation	The potential overlap between the NPC IP for Rwanda and the "Program Based IP for the Kaduha-Gitwe Corridor, the Southern Province of Rwanda" (a US$ 422	As noted above, some text has been inserted into Section 5.1 to explain how the NPC-IP complements,

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		million investment) should be explained in further detail. The overlap between the draft NPC IP and the other IP, particularly between Resilient Landscapes and Component 1 (outputs 1 through 4) of the other IP, could offer useful opportunities for complementarity and optimization of resources. But it also suggests a risk of duplication and redundancy. A slightly more detailed explanation of why similar investments are warranted in the same or location is advisable	and indeed contributes towards meeting the investment needs that have also been identified in the broader Kaduha-Gitwe Investment Program.
22	Recommendation	The draft IP does not appear to explicitly allocate costs for the development and operationalization of a mitigation-focused Measurement, Reporting, and Verification (MRV) mechanism for GHG impact. Given that the IP is aiming for GHG reductions or abatement (either sequestration or avoided emissions, or both), this will be crucial to monitor and track, and measure in an internationally recognized manner, using credible methodologies and tools. At present, Rwanda does not have a highly reliable system in place for the same (it is potentially in development). This lack of verifiable data straitjacketed Rwanda to such a degree that its NDC mitigation commitments do not include FOLU measures.1 If the IP is to claim mitigation results upon implementation of the programs, it needs to offer the confidence that such mitigation estimates are robust, and verifiable (so as not to receive similar critiques as several international forestry-based carbon offsetting programs have recently). If Rwanda does not yet have this capacity fully developed and deployed, it would seem incumbent on this IP to contribute towards the design, development, augmentation, deployment, and institutionalization of such GHG accounting systems and mitigation MRV mechanisms. The IP should consider formally supporting this, under component 1 of Resilient Landscapes (and adding the requisite costs to underwrite this).	As noted above, consideration will be given during the detailed project design stage to the development of an MRV system for tracking changes in land cover and carbon stored in above- and below-ground biomass. Reference to this has been made in the Catalysing climate, nature and people investments... project under the first activity of component 1 (sub-activity 1.A.8)