



## Background

The Government of Rwanda (GoR) through the Ministry of Environment (MoE) has got funds from the World Bank to implement the Volcanoes Community Resilience Project (VCRP). VCRP will be implemented in the Volcanoes region and Vunga corridor by various institutions including REMA, RWB, RDB and Meteo-Rwanda, under coordination of MoE. The Project Development Objective (PDO) is to reduce the risk of flooding, strengthen watershed management, and improve livelihoods of people in the project area. The project will contribute also to the objectives of improving livelihoods of people living in the project area, enhancing biodiversity values in the project area, increasing agricultural productivity and mitigating and adapting to climate change.

The Volcanoes Region and the adjacent Vunga corridor, located in the north-western of Rwanda, spans the districts of Burera, Nyabihu, Rubavu, Gakenke, Muhanga, Ngororero, Musanze and part of the Rutsiro District, and is home to over 2.3 million people. The communities that live in this region are highly vulnerable to the adverse effects of floods, landslides, and soil erosion, which are projected to exacerbate from increased rainfall due to climate change.

According to Ministry in Charge of Emergency Management (MINEMA) records, between January 2013 to June 2023, Burera, Musanze, Muhanga, Nyabihu, Gakenke, Ngororero, Rutsiro and Rubavu districts experienced severe climate related events including floods, landslides, hailstorms and rainstorms with 539 people killed, 316 seriously injured, 18,415 houses damaged, 7,740.57 Hectares of crops damaged, 1,995 livestock lost, and 345 road structures damaged. A recent flood risk assessment by the World Bank (2023) shows that the expected annual damage in the Volcanoes Region and Vunga corridor amounts to US\$10.1 million per year and may increase national food security risks.

Soil erosion and flood risk are the most serious environmental problems in many catchment areas in Rwanda. This is due to flooding exacerbated by climate change. About six million tons of crops, valued at US\$76 million (RWF 76 billion), are lost each year due to erosion.

The project investments will focus mainly on flood reduction measures, establishment of flood early warning system, landscape and catchment restoration, ecological restoration, biodiversity conservation and management of tourism assets, and livelihood improvement

# PROJECT DESCRIPTION

## Project implementation modalities

The table below summarizes the implementation modalities of VCRP involves various institutions where MoE is the coordinating institution.

		MoE	RWB	REMA	RDB	METEO	MINEMA	RFA
1: Flood Risk Management	1.1: Flood risk reduction investments		L	T				
	1.2: Flood early warning system and community-level flood preparedness.		T			L	T	
2: Landscape restoration and catchment management	2.1: Integrated catchment and landscape restoration		L	T				T
	2.2: Ecological restoration of priority conservation areas			L				
	2.3: Livelihoods development		T	L				T
3: VNP expansion and livelihood diversification	3.1: Integrated climate resilient green settlements, VNP expansion, and model smart green village.			T	L			
	3.2: Livelihood diversification and income generation activities			T	L			
4: Project management, monitoring and evaluation, and capacity building		L	T	T	T		T	T

ROLE L Lead T Technical Support

## Project locations



The VCRP project will be implemented in the area highly effected by floods, landslides, and soil erosion located in the north-western of Rwanda, spans the districts of Burera, Nyabihu, Rubavu, Gakenke, Muhanga, Ngororero, Musanze and part of the Rutsiro District covering over 2.3 million people.

## Project components:

The project is composed of 5 components and 7 subcomponents as illustrated below:

### Component one: Flood Risk Management

The component seeks to reduce flood risks in the Volcano and Vunga corridor by implementing comprehensive flood risk reduction interventions and by improving flood early warning systems (FEWS) and community-level flood preparedness.



### Sub-component 1.1: Flood Reduction Investments

This subcomponent will support a range of activities to adapt the climate change by reducing the risks of flooding in the project area. These include: (a) identification of priority areas for flood risk reduction interventions; (b) development or refinement of feasibility studies, detailed designs, and bidding documents; (c) construction of civil works for flood risk reduction and supervision of civil works; and (d) technical assistance and activities to increase capacity for managing flood risks.

### Sub-component 1.2: Flood Early Warning Systems

The subcomponent aims to establish a Flood Early Warning System (FEWS) and enhance community-level flood preparedness. The FEWS will span nine level-3 catchments in the Volcanoes Region, providing early warnings of extreme runoff and flash floods to communities at high risk. It will support efforts to strengthen risk awareness, improve detection, monitoring, and forecasting capabilities, enhance communication and warning dissemination, and bolster preparedness and response measures.



### Planned studies under component 1:

- Feasibility Study, Preliminary and Detailed Design for flood control measures in the Vunga Corridor conducted
- Stormwater master plan study for Musanze and Rubavu cities and development of guideline to linkage the flood maps into spatial plans of districts
- Environmental and Social Safeguard instruments for VCRP studies (Vunga corridor feasibility study, stormwater Musanze and Rubavu, dredging feasibility study)
- Feasibility Study, Preliminary Design, and Detailed for Dredging of Satintysi, Rubagabaga, Giciye, Mukungwa and Nyabarongo rivers with Proper Protection System due to Sedimentation meandering
- Initial design of flood control measures for Mugogo lowland cave system and contributing sub-Catchment analysis for flood control and land restoration of upstream catchments

### Activities to be performed under component 2:

Activities	Unit	Quantity
Afforestation	Ha	1,177
Agroforestry	Ha	10,388
Bamboo to close gullies	Ha	1,535
Bench terraces	Ha	12,740
Contour bank terraces	Ha	81,376
Grassed waterways	Ha	585
Gully rehabilitation	Ha	1,250
Hedgerows	Ha	21,012
Reforestation	Ha	2,955
Water ways infrastructure	Ha	28
Rainwater Harvesting	Number	10,000
Cows	Number	10,000

### Component 2: Catchment Management and Landscape Restoration

The landscape restoration and catchment management component aimed at improving livelihoods; reducing surface runoff and erosion; and enhancing efforts to restore and protect biodiversity in the region. The catchment management measures will integrate climate-smart interventions whenever feasible for maximum impact. The project beneficiaries will be supported to adopt appropriate agronomic practices and cropping systems through a combination of best practices.

The Planned interventions will be coordinated through an integrated catchment management approach that actively involves local stakeholders in the design and implementation of targeted interventions. Catchment development planning and implementation will be performed in collaboration with the catchment management committees (CMCs) who oversee the implementation of the plans at micro-catchment level.

### Sub-component 2.1: Integrated catchment and landscape restoration

The RWB through integrated catchment management planning studies has identified 66 Level 3 catchments (over 311,000 ha) as priority areas for land restoration and specific rehabilitation measures. About half of the area, requires interventions to address land degradation, specifically severe soil erosion and surface runoff, and adapt and mitigate climate change. The VCRP will support a range of sustainable land management interventions including construction of contour bund and bench terraces, gully rehabilitation, planting of hedgerows, agroforestry, afforestation and reforestation and the installation of water harvesting structures.

## **Sub-component 2.2: Ecological restoration of priority conservation areas**

This subcomponent will include interventions to restore the VNP expansion area and other priority areas within the broader project area. Key interventions under this sub-component include: (a) restoration VNP expansion area, (b) restoration of priority conservation sites in the broader VCRP area and (c) integration of biodiversity into catchment management actions. The selected activities are aligned with and support the implementation of Rwanda's National Biodiversity Strategy and Action Plan, which presents a long-term vision for "national biodiversity to be restored and conserved, contributing to economic prosperity and human well-being through delivering benefits essential for Rwandan society in general" by 2040. A detailed ecological restoration plan will be prepared to identify, delineate, and prioritize key areas for ecological restoration in the VCRP area and broader landscape.

## **Sub-component 2.3: Livelihoods Development**

The project will support targeted households and community groups in the project area for livelihood development and diversification. Priority will be given to activities within the restored areas; and to vulnerable households, including the poor as categorized in the national social registry system, women, youth, and persons with disabilities. Households classified as poor will be prioritized for household-level interventions.

The project will identify households and community groups interested in diversified livelihood options and provide them with support, including agricultural and other production inputs, extension services, financing, and technical assistance. The project will also target groups of people with a shared interest in pursuing specific income-generating activities (IGAs), focusing on interventions around climate and resilience, sustainable forest and natural resources management, climate-smart agriculture, and off-farm economic activities. Among others, the project will support sustainable forest management activities; woodlots and wood-based value chains; milk collection centers; water supply services; small livestock; kitchen gardens/greenhouses (vegetable, and fruit farming), and eco-tourism, including handicraft facilities.

## **Component 3: VNP expansion and livelihood restoration**

The component will support communities affected by the VNP expansion. It will include (a) VNP expansion, (b) compensation for households that are displaced due to the park expansion, (c) the establishment of a model Smart Green Village, and (d) support for livelihood diversification and IGAs for project-affected people.

The expansion of the VNP coupled with effective management of park buffer zones will increase the habitat for mountain gorillas and other species. Buffer zones around parks/reserves are designed to maintain ecological integrity and involve community participation in biodiversity conservation. The expansion area will also enhance opportunities for ecotourism, increase income for communities, reduce human wildlife conflict, help address disease and other risks of wildlife human contact, and provide a more diverse park with a broader altitude range that will help increase resilience to climate change.

## **Sub-component 3.1: VNP expansion and model smart green village**

This subcomponent will support the pilot phase expansion of the VNP by an estimated 732.5 ha which consist of (a) land to be acquired under the project (approximately 426 ha) using government funds and (b) land acquired through a range of other sources, including land that has been donated by Eco lodges and conservation partners and existing government land. According to the Resettlement Action Plan (RAP) prepared for the project, this pilot phase will affect approximately 922 households, of which an estimated 510 households will require physical relocation to an area of 50 ha. The remaining households will lose assets and Livelihoods will be eligible for inclusion in the Livelihood Restoration Plan (LRP) if they reside within the district.

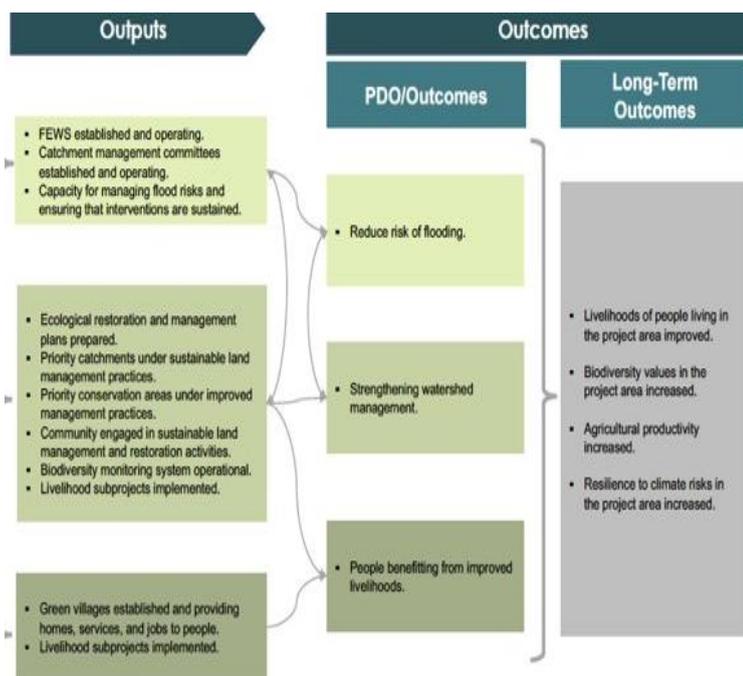
To improve the living conditions of people who are physically displaced by the expansion of the VNP, the project will provide housing in a climate-resilient Smart Green Village. The Smart Green Village will provide housing, renewable energy, green cooking solutions, a water harvesting facility, and waste management.

### Sub-component 3.2: Livelihood diversification and income generation activities

This subcomponent will support households that are economically displaced. While livelihood restoration activities need to be implemented at the individual level, the proposed activities are envisaged to be implemented at three levels: individual, community (collectives), and host community-resettled community. Based on the identification of preliminary feasible livelihood options, consultation was undertaken with project-affected people to determine interest in the proposed options to further refine the LRP. Consultations with project-affected people will be undertaken to ensure that assistance is tailored to everyone’s needs and preferences for restoring their livelihoods.

This subcomponent will develop economic activities and jobs for the project-affected people to restore livelihoods and strengthen economic incentives for sustainable land and natural resource management.

### Project outcomes and impact



### PROJECT FINANCING

<b>Project Name</b>	<b>Volcanoes Community Resilience Project (VCRP)</b>	
<b>Agreement/Project Number</b>	<b>Credit Agreement N° 7419-RWB Grant Agreement N° C2690</b>	
<b>Parent Ministry</b>	<b>MINISTRY OF ENVIRONMENT</b>	
<b>Funding sources</b>	<b>IDA</b>	
<b>Total Project budget: 494 M USD</b>	<b>PROGREEN</b>	
	<b>EIB</b>	
<b>Project duration/period</b>	Project Implementation period: <b>March 2024-December 2028</b>	
	Date of signature of credit agreement: <b>09 October 2023</b>	
	Date of effectiveness: <b>05 January 2024</b>	
	Expected closing date: <b>05 January 2029</b>	
<b>Implementing partners</b>	<b>RWB, REMA, Meteo Rwanda &amp; RDB</b>	



### Gender Equity and Social Inclusion (GESI)

The Volcanoes Community Resilience Project (VCRP) places strong emphasis on Gender Equity and Social Inclusion (GESI) to ensure that all community members—especially women, youth, persons with disabilities, and other vulnerable groups—meaningfully participate in and benefit from the project. GESI is mainstreamed across all components through inclusive consultation processes, targeted livelihood support, and capacity-building initiatives. Special attention is given to empowering underrepresented groups to engage in decision-making, access economic opportunities, and build resilience to climate risks. Project indicators will be disaggregated by gender and vulnerability status to track and promote inclusive development outcomes.

In parallel, VCRP is fully aligned with national and World Bank Environmental and Social Safeguard (ESS) standards to prevent, minimize, and manage potential adverse impacts. Environmental and Social Impact Assessments (ESIAs), Resettlement Action Plans (RAPs), and Livelihood Restoration Plans (LRPs) are being prepared and implemented where necessary, ensuring transparency, compensation, and livelihood recovery for affected persons. Grievance Redress Mechanisms (GRMs) are also in place to provide accessible channels for feedback and resolution. These safeguard measures are critical to achieving the project's goals in a socially responsible and environmentally sustainable manner.

### VILLAGE LAND USE ACTION PLAN DEVELOPMENT (VLUAP)

A Village Land Use Action Plan (VLUAP) is a strategic framework designed to guide sustainable land management at the village level. It involves community participation, where local residents identify environmental challenges and propose solutions. Agricultural and water management play a key role in enhancing productivity through soil conservation and agroforestry. Additionally, climate resilience is integrated into the plan to align restoration activities with local land use strategies, helping mitigate climate change effects.

The following are steps for VLUAPs development:

**Training:** Facilitators (training of trainers, ToT) receive comprehensive instruction on participatory planning and gender-sensitive approaches.

**Assessment:** Landscape and socio-economic evaluations determine local land use, degradation, and ecological patterns.

**Consultation:** Community meetings use inclusive dialogue methods to identify issues and propose restoration interventions.

**Integration:** Proposed solutions are linked with decision-support systems and validated through site visits and opinion leaders of the visited village under study.

**Validation & Approval:** Multi-tiered stakeholder review ensures alignment with broader strategies and secures implementation support

The VLUAP development process begins with intensive stakeholder training, equipping local facilitators with participatory planning skills. A detailed landscape assessment follows, gathering data on land use, degradation, and community dynamics. The consultation phase engages the community through inclusive discussions, using tools like aerial maps and problem tree analysis to pinpoint issues and solutions. Recommendations are then refined by linking proposed interventions with existing decision-support systems, ensuring technical feasibility and alignment with broader environmental goals. Finally, the plan undergoes a structured validation process, starting at the village level before progressing to sector and district review committees. This multi-tiered approval ensures that the VLUAP integrates local priorities with regional strategies, securing the necessary support for effective implementation. By following this methodology, communities achieve a comprehensive and inclusive land use action plan tailored to their unique environmental and socio-economic contexts.

## PROJECT BENEFICIARIES AND KEY PERFORMANCE INDICATORS

### Project beneficiaries

The total number of direct beneficiaries of the VCRP in the targeted catchments is estimated to 1,418,000 people.

People will benefit from lower exposure to flood events, improved soil and water management, employment related to the restoration activities, improvement and diversification of their livelihoods: Therefore;

- 502,000 people will benefit from reduced losses and damages from flooding and landslide,
- 102,500 households will benefit from adoption of sustainable and climate-smart and resilient land management practices,
- 404,700 people will benefit from improved livelihoods,
- 18,000 people will benefit from income generating activities in project intervention areas.
- 2,700 households will benefit from the Flood Early Warning System,
- 510 will benefit from smart green village, and
- 423,700 will be supported through livelihood improvement.

### Key performance indicators (KPIs)

- Terrestrial protected areas under improved management effectiveness due to the project: 732.5ha

- Area of landscapes under sustainable land management in production systems due to the project: 37,136ha
- Land area benefiting from reduced risks of flooding 10,700 ha
- Number of People benefiting from improved livelihoods 404,000
- Number of Priority catchments with flood early warning system established:9
- Percentage of surface area covered by NBS features as a proportion of the footprint area of the civil works for flood mitigation :70%
- Length of gullies and/or embankment improved or constructed :24km
- Capacity of detention facilities for flood attenuation improved or constructed: 1064000m3
- Area of erosion gullies and landslides targeted through catchment and landscape restoration efforts: 466km
- Households adopting sustainable and climate-smart/resilient land management practices: 102,500
- Land area under contour bank and bench terraces: 18,705ha
- Area in which hedgerows have been integrated in production systems: 12,230 ha
- Number of water harvesting structures installed: 10,000
- Areas under afforestation and reforestation: 935 ha
- Percentage of women who hold leadership positions in catchment management committees :30
- Area in which agro-forestry has been integrated in productive systems: 3,581ha

### VCRP IMPLEMENTING PARTNERS ( IPS )



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