



ADAPTATION FUND

# Adaptation Story



## RWANDA

An Adaptation Fund project has resulted in a positive and visible transformation among highly vulnerable communities in northwestern Rwanda that have been harshly impacted by climate change.

Rural farmers disproportionately affected by extreme rainfall, flooding, erosion and landslides, as well as drought in recent years have seen their lives, homes, livelihoods and food sources placed at risk.

These conditions combined with the population's reliance on rain-fed agriculture and large numbers of people farming on increasingly smaller plots in the country's hilly terrains led to serious environmental degradation and soil erosion.

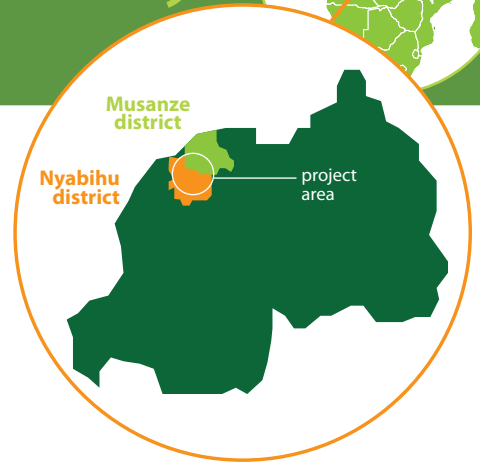
The Mugogo lowlands lying downstream from the Kinoni River had even become a lake due to persistent floods, leaving farmers awash without land to cultivate.

However, with support from the Adaptation Fund, starting with the accreditation of Rwanda's Ministry of Environment as a national implementing entity of the Fund in 2011, and a US\$ 10 million project begun in 2014 and culminating in 2019, the country's capacity to respond and adapt to climate change has improved considerably.

The transformation in Mugogo is remarkable.

Adaptation measures such as bench-terracing, afforestation and de-silting of underground drainage channels or caves have reduced erosion and restored natural drainage systems, allowing the watershed to function in a healthy way. Once-flooded farmlands have returned, enabling farmers to cultivate the lands again.

Promotion of climate-smart methods such as integrated farming, agro-silvopastoral systems, inter-cropping and agro-forestry that foster efficiency, sustainability and use of diverse resources have improved farming productivity, soil fertility and farmers' lives.



### PROJECT details

**Project:** Reducing Vulnerability to Climate Change in North West Rwanda through Community Based Adaptation

**Sector:** Rural Development

**Grant Amount:** US\$ 9.97 million from Adaptation Fund (Direct Access project, innovative Adaptation Fund finance modality that empowers country ownership in adaptation)

**Implementing Entity:** Rwanda Ministry of Environment (formerly, Ministry of Natural Resources)

**Executing Entity:** Rwanda Water and Forest Authority



*"I thank Rwanda for having these partnerships that empower the women. I am a woman that has been affected by landslides. I thank the Adaptation Fund for providing support to contract*

*a very beautiful house for my children and myself. Now we are in a clean and safe house that has been provided by the project.*

*The project has immensely improved our livelihoods."*

*– Ms. Mukanoheri Beatrice, beneficiary of Green Village in Musanze District, who sells food and crafts in village market*



Left: Mugogo lowland. Right: Maintaining drainage channel (foreground), with bench terracing in background hills. (Photos by Adaptation Fund)

### PRIMARY objectives

- Increase adaptive capacity of natural systems and rural communities exposed to climate change impacts
- Manage risks/effects from recurring floods, landslides and erosion through integrated natural resource management and alternative livelihoods
- Address factors that exacerbate effects of intense rainfall and lead to flooding and landslides, including erosion, unsustainable farming practices and environmental stressors
- Introduce erosion and flood control measures, build capacity of farmers to adapt to climate variability
- Support development of off-farm livelihoods to reduce pressure on natural resources
- Restore ecosystem functions to reduce incidence/severity of flooding and landslides on local communities/resources



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### BY THE NUMBERS

**503 HA** OF BENCH TERRACES CONSTRUCTED IN NYABIHU DISTRICT; 850 HA OF PROGRESSIVE TERRACES CONSTRUCTED IN NYABIHU AND MUSANZE DISTRICTS

**1,045** HOUSEHOLDS USING HARVESTED RAINWATER FOR DOMESTIC USE AND IRRIGATION THROUGH INTEGRATED LAND AND WATER MANAGEMENT TECHNOLOGIES

**5,200** HOUSEHOLDS ADOPTED CLIMATE RESILIENT FARMING PRACTICES TO MINIMIZE IMPACT OF VARIABLE RAINFALL ON RURAL LIVELIHOODS

**21,429** PEOPLE (50% WOMEN) FROM TARGET HOUSEHOLDS WITH NEW SOURCE OF INCOME; 1,000 PEOPLE (50% WOMEN) ENGAGED IN POST-HARVEST LIVELIHOODS

**16** FARMER FIELD SCHOOLS ORGANIZED IN 8 SECTORS FOR 480 MEMBERS

**5,000** HOUSEHOLDS ADOPTED AT LEAST ONE NEW CLIMATE-RESILIENT CROP, FODDER VARIETY OR AGRONOMIC PRACTICE

**167** WOMEN, ASSOCIATION AND SAVINGS GROUP MEMBERS, INVESTING IN NEW PROFITABLE BUSINESS OPPORTUNITIES

**1,000** HOUSEHOLDS USING RENEWABLE ENERGY SOURCE FOR LIGHTING OR COOKING

**107**

YOUNG PEOPLE GRADUATED FROM TECHNICAL TRAINING, PROVIDED STARTUP TOOLKITS AND LINKS TO CREDIT SOURCES AND FINANCIAL SUPPORT; AIMED TO CREATE BUSINESSES IN OFF-FARM TRADES TO REDUCE ENVIRONMENTAL PRESSURE



Cleaning drainage channels in Mugogo lowland. (Photos by Adaptation Fund)

The project also focused on resettling 200 extremely poor households from high-risk areas in Nyabihu District to a newly designed “green village”, where climate-resilient homes were constructed in a safe zone and provided with rainwater tanks and biogas. Women as heads of household are empowered, and village residents are involved in the project’s decision-making processes to help sustain the assets that were built. This includes a project sustainability component referred to locally as “muganda”, where the community comes together once a month to work to maintain these physical and natural structures.

The project has been so well-received that some of its activities have been replicated in other parts of the country, and its experiences also informed a project scale-up approved by the Green Climate Fund in 2018.

*“Some of the project’s activities have been so successful that the comprehensive and community based approach to adaptation will be replicated as a model in other parts of the country.”*

– Hon. (Dr.) Vincent Biruta, Minister of Environment, Rwanda

## PROJECT activities

● Adaptation to rainfall intensity/duration through integrated land and water management to support climate-resilient production and post-harvest systems

● Support sustainable and diversified alternative livelihoods, reducing impacts from unsustainable settlement patterns and farming practices on natural resources

● Build capacity of local institutions to plan and implement climate resilient land and water management regimes and scale up effective

adaptation strategies at national and local levels

● Construct bench terraces and buffer zone protections to improve land productivity and reduce erosion

● Remove silt from five drainage channels, install water breaks and settlement tanks to reduce sediment in water flow and restore Mugogo lowland farmland

● Production intensification/diversification through integrated farming, combining crops with livestock

● Improve soil fertility by recycling nutrients and fostering crop rotation

● Promote agro-silvopastoral systems and agro-forestry to reduce erosion, improve water retention and production, integrating trees with forage and livestock

● Resettle 200 households from high risk zones in Nyabihu District to Kabyaza Green Village where more than half of households headed by women



Community members install earthen dams to reduce sediment and regulate water flow in drainage channels of Mugogo lowland. (Photo by Adaptation Fund)