Report Number: ICRR0023092

1. Project Data

Project ID P131464	**Project Name** Landscape Approach to Forest Rest/Conser
Country Rwanda	**Practice Area(Lead)** Environment, Natural Resources & the Blue Economy

L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
TF-17782,TF-17783	31-Dec-2019	9,532,000.00
Bank Approval Date	**Closing Date (Actual)**	
27-Aug-2014	30-Sep-2021	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	9,532,000.00	9,532,000.00
Revised Commitment	9,532,000.00	9,532,000.00
Actual	9,532,000.00	9,532,000.00

Prepared by	Reviewed by	ICR Review Coordinator	Group
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2. Project Objectives and Components

a. Objectives

According to the Project Appraisal Document (PAD) (p. viii) and the Financing Agreement of October 1, 2014 (p. 7) the objective of the project was “to demonstrate landscape management for enhanced environmental services and climate resilience in one priority landscape”.

b. Were the project objectives/key associated outcome targets revised during implementation?

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c. Will a split evaluation be undertaken?

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d. Components

The project included two components:

Component 1: Forest-friendly and climate-resilient restoration of Gishwati-Mukura landscape (appraisal estimate US$8.23 million, actual USD$8.22 million): This component was to finance four sub-components:

Sub-Component 1a: Upgrading and sustainable management of Gishwati and Mukura Forest Reserves: This sub-component was to finance the planned upgrading of the remnant Gishwati natural forest area (the remaining natural forest area within the former Gishwati Forest Reserve) and the Mukura Forest Reserve to a single protected area. Activities were to be financed in the following areas: i) Physical demarcation of the reserves: consultation meetings and costs of physical demarcation for completion of this process; ii) Restoration of degraded natural habitats: in both reserves, assisted regeneration of degraded portions will be carried out involving planting of native species, and where necessary removal of exotics; iii) Development (and updating) of management plans for both reserves; iv) Training and equipping of local eco-guards; v) Installation of basic infrastructure such as the construction of visitor centers, a park headquarters, viewing platforms, signed nature trails, and patrol posts; and vi) Environmental education for local communities and environmental clubs in schools was to be continued in the area surrounding the remnant Gishwati natural forest and extended to Mukura to explain the need for biodiversity protection and the specific responsibilities of local residents.

Sub-component 1b: Forest restoration and land husbandry in the Gishwati-Mukura landscape: This sub-component was to finance: i) Sustainable land management with corridor communities; ii) Silvo-pastoralism in Gishwati rangelands; iii) Agroforestry and forest restoration support to the Ministry of Agriculture and 8 Animal Resources (MINAGRI) and the Forests Department; and iv) Joint land use planning for the Gishwati landscape.

Sub-component 1c: Sustainable and resilient livelihoods: This sub-component was to support demand-driven income-generating activities in order to increase: i) the breadth of the economic options and security of the livelihoods base of the population within the Gishwati-Mukura landscape, thereby improving climate resilience; and ii) the sustainability of land and forest management investments within the landscape.

Sub-component 1d: Flood forecasting and preparedness: This sub-component was to finance the improvement of technical capacity of flood forecasting institutions and complementing identified important milestones required to have a fully integrated early warning system (EWS).

Component 2: Research, monitoring and management (appraisal estimate US$1.30, actual US$1.31): This component included two sub-components:

Sub-Component 2a: Applied research and impact monitoring: This sub-component was to support two key activities: i) impact monitoring: a) establishing a national modeling platform to map indicators of landscape health, and identify landscape management priorities, based on hotspots of degradation, and the feasibility and benefits of restoring lost environmental and economic functions; and b) comparative field-

based monitoring of a range of environmental and associated economic functions, to demonstrate the effectiveness of land rehabilitation techniques; and ii) conducting applied research: the establishment of partnerships with key research and knowledge institutions to improve management knowledge of the Gishwati-Mukura landscape, and to improve restoration techniques, particularly in relation to scope for incorporation of native species.

Sub-component 2b: Project Management: This sub-component was to finance routine administrative overheads, such as coordination between project implementing partners, work-planning, procurement and contract management, accounting and audit costs, field supervision, maintaining an internal project M&E system, and reporting.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost: The project was estimated to cost US$9.53 million which was also the actual cost.

Financing: The project was financed by two Trust Funds (TFs): TF-17783 (Global Environment Facility) in the amount of US$5.48 million and TF-17782 (Least Developed Countries Fund) in the amount of US$4.04 million. Both TFs fully disbursed.

Borrower Contribution: The Borrower was not to make any financial contributions.

Dates: The project was restructured twice:

- On August 21, 2019, the project was restructured to extend the closing by 12 months from December 31, 2019 to December 31, 2020 to allow for finalizing the development of a Flood Early Warning System (FEWS), setting up community livelihood projects and ecosystem restoration activities. Delays in the FEWS development were caused by technical problems in obtaining topographic survey data, which subsequently delayed the development of flood models (hydrological and hydraulic) and the necessary flood hazard maps.
- On November 13, 2020, the project was restructured to extend the closing date by nine months from December 3, 2020 to September 31, 2021 to allow for the completion of ecosystem restoration activities, testing of the FEWS, completion of community livelihood projects, and of the trail that connects Gishwati with Mukura. These activities had been delayed due to workforce reduction as a result of the COVID-19 pandemic.

3. Relevance of Objectives

Rationale

According to the PAD (p. 1), Rwanda, a country of 11 million inhabitants, was under highest demographic pressure of all the sub-Saharan countries due to a population growth rate of 2.6 percent per annum and only 52 percent of its land being arable. Despite strong economic growth (7.2 percent between 2008 and 2013) during the decade before project appraisal, Rwanda remained one of Africa's poorest countries. Much of Rwanda's economy depended directly upon land, water and biodiversity resources. Steep terrain

and the highest population density in sub-Saharan Africa made sustainable landscape management strict necessities for Rwanda's natural-resource dependent sectors. In 2012, two years before project appraisal, the agricultural sector accounted for about 32.7 percent of the country's Gross Domestic Product (GDP) and 80 percent of employment. It was also the main source of income for 87 percent of the population. Also, Rwanda experienced low agricultural productivity, with yields of several key crops lagging behind other sub-Saharan African countries. At the time of project appraisal, about 28.3 percent of the country were covered by forests providing wood fuel, food, construction materials and medicinal herbs to local communities. Forests also supported a series of economic activities in the agriculture, tourism and energy industries. They were primarily contained within protected areas such as the Gishwati and Mukura Forest Reserves.

Rwanda had become highly vulnerable to the impacts of climate change. Heavy rainfall and floods as well as droughts and soil erosion had significant consequences on the environment, society, food security and the overall economy. Especially, the livelihoods of the poor and vulnerable and the country's economic growth and development were threatened.

The government developed a strategy, Vision 2020, to reverse deforestation to achieve 30 percent forest cover by 2020. Vision 2050 is the government's most recent strategy, which aims to achieve economic growth, prosperity, and high living standards in accordance with a sustainable use and management of natural resources. The strategy also envisions to build resilience against climate change. The objective of the project supported the government's strategies in place at project appraisal and at closing. According to the PAD (p. 2) Rwanda's National Adaptation Plan of Action (NAPA, 2006) identified the Northern and Western provinces in Rwanda as priority areas due to risks of floods and landslides. Therefore, the project focused on the Gishwati-Mukura landscape.

The objective of the project was in line with the Bank's most recent Country Partnership Framework (CPF) (FY21-26) which identifies the reduction in forest cover driven by demand for agricultural land and biomass as well as the destruction of critical watersheds and problems related to rural poverty compounded by weather shocks as key challenges for Rwanda. The CPF aims to develop sustainable and stable landscape investments. Furthermore, the objective of the project also supported the 2019 Systematic Country Diagnostic which identified the need to build resilience through investing in stable and sustainable landscapes and effective environmental management. The objective was also in line with the Bank's Climate Change Action Plan 2021-2025 (WBGCCAP) which aims to support high-quality forecasts, Early Warning Systems (EWSs), and climate information services for better preparation, planning and management of climate related events.

Taking everything together, the relevance of the objective is rated High.

Rating
High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To demonstrate landscape management for enhanced environmental services and climate resilience in one priority landscape

Rationale

Theory of change: The project's theory of change envisioned that project activities such as upgrading and sustainably managing the Gishwati and Mukura Forest reserves, forest restoration and land husbandry in the Gishwati-Mukira landscape, and capacity building for farmers to diversify livelihoods were to result in outputs such as restored and reforested natural habitats management plans and joint land-use plans developed, basic park infrastructure in place, and UNESCO biosphere reserve proposal developed in addition to the establishment of a forest corridor and land-users adopting sustainable lang management (SLM) techniques including silvo-pastoralism and agro-forestry. These outputs were expected to result in medium term outcomes such as functional landscape management for enhanced environmental services and climate resilience demonstrated in this priority landscape. This was to be demonstrated by the forest-friendly and climate-resilient restoration of the Gishwati-Mukara landscape, greater areas under enhanced biodiversity protection and greater areas considered biodiversity-friendly. This in turn would lead to higher level objectives such as strengthened integrated multisectoral forest and land restoration and conservation, greater participation by communities in the management of nature resources, improved and diversified livelihoods, reduced pressure on the natural resources and biodiversity and reduced vulnerability of communities to climate change and extreme weather events. The ToC is clear and convincing.

Furthermore, the project's theory of change envisioned that project activities such as establishing an early warning system (ESW) as a pilot through small/medium size watershed, support flood forecasting and preparedness as well as expanding and increasing economic options and security of the livelihoods base of the population within the Gishwati-Mukura landscape and strengthening their climate resilience were to result in outputs such as flood risk maps and hydrological models of one priority watershed being developed and livelihood projects generating profits. These outputs were to result in the outcome of demonstrated landscape management for enhanced climate resilience in one priority landscape.

Outputs:

Project's achievements that included targets:

- 2,675.3 hectares of area were restored or re/afforested, exceeding the target of 2,500 hectares.
- 18,464 land users adopted sustainable land management practices as a result of the project, exceeding the target of 10,000 land users.
- The project also produced 23 knowledge products on landscape management which were disseminated to a target audience, exceeding the target of 12 knowledge products.

In addition to the achievements stated above, the ICR reported on the following achievements that did not have any targets:

- Three park management plans were developed including: i) a general park management plan; ii) a tourism development master plan; and iii) a biodiversity plan.

- A proposal for the UNESCO Biosphere reserve status for Gishwati-Mukura was submitted, achieving the target. The park received the status in October 2020, giving the Gishwati-Mukuru landscape international recognition and opening up new opportunities for tourism, funding and investments.
- A park headquarters and basecamps as well as two patrol posts were established.
- 25 park rangers and guides were recruited and trained.
- A National Early Warning Platform (NEWP) and a Flood Early Warning System (FEWS) were developed and staff from stakeholder institutions were trained in using the NEWP. The NEWP serves for data sharing, visualization, and triggers warnings which are critical for protecting the communities in the flood prone Sebeya catchment.
- 14 hydrometeorological stations (four automatic and 10 hydrometeorology stations) were installed to support the NEWP.
- Lightening protection systems have been installed on 13 public institutions in the project are to reinforce safety against disasters.
- A National Early Warning Platform (NEWP) and a Flood Early Warning System (FEWS) were developed and staff from stakeholder institutions were trained in using the NEWP. The NEWP serves for data sharing, visualization, and triggers warnings which are critical for protecting the communities in the flood prone Sebeya catchment.
- 14 hydrometeorological stations (four automatic and 10 hydrometeorology stations) were installed to support the NEWP.
- Lightening protection systems have been installed on 13 public institutions in the project are to reinforce safety against disasters.
- The project financed a Geographical Information System (GIS) and remote sensing diagnostic baseline study that was complimented by a baseline video documentary to support knowledge sharing and dissemination, achieving the target of an impact monitoring study on land rehabilitation techniques being produced.
- 81 sub-projects generated profits from new or enhanced livelihoods, exceeding the target of 70 sub-projects. A detailed plan to incentivize communities to adopt forest-friendly activities supported the identification of options and delivery of alternative economic activities to over 2,849 households.

Outcomes:

- 3,428 hectares of area were brought under enhanced biodiversity protection, achieving the target of 3,428 hectares.
- For 3,215 hectares of land sustainable land management practices were adopted as a result of the project, exceeding the target of 3,000 hectares.
- 1,314 hectares of new areas outside the protected areas were managed as biodiversity friendly, exceeding the target of 1,200 hectares.
- The Management Effectiveness Tracking Tool (METT), an international assessment framework used to measure the management of protected areas. Areas covered by the framework include legal status, existence of management plans as well as human and financial resources. A baseline assessment was conducted at the beginning of the project resulting in a METT score of 20. A final assessment provided a METT score of 89, exceeding the target of 50. This indicates that the management of the Gishwati-Mukuru National Park was good.
- 90 percent of households in the project area had access to advanced warning of individual major rainfall or flood events, achieving the target of 90 percent.

- Overall, the project benefitted 40,482 beneficiaries, exceeding the target of 12,000. 53 percent of these beneficiaries were female, exceeding the target of 50 percent.

  All project output- and outcome targets were exceeded. As a result, the efficacy rating is High.

Rating
High

OVERALL EFFICACY

Rationale
The project was able to exceed all its output and outcome targets and was able to improve biodiversity protection through establishing a functioning management system as well as providing households with access to advanced warning of individual major rainfall or flood events. The achievement of the objective is rated High.

Overall Efficacy Rating

High

5. Efficiency

Economic efficiency:

The PAD (p. 19) conducted a cost-benefit analysis. The following benefits were identified: i) increased tourism revenues from the upgrading of the Gishwati and Mukura Forest Reserves to national park status; ii) increase in agricultural productivity; iii) reduced soil erosion; iv) diversified and improved livelihoods; v) reduced vulnerability to flooding; and vi) conservation of biodiversity resources and carbon sequestration. Applying a discount rate of 7 percent, the analysis calculated an Economic Rate of Return (ERR) of 35 percent (over a 20-year period) and a Net Present Value of US$25.47 million.

The ICR (p. 24) conducted an analysis based on the same benefits as stated above. The analysis defined ecosystem values and grouped them by type of service (cultural, supporting, regulating, and provisioning). Cultural services were the nonmaterial benefits people obtain from ecosystems including spiritual and aesthetic values, indigenous practice. Supporting services included genetic diversity, pollination, and maintenance of soil fertility. Regulating services were benefits obtained from the regulation of ecosystem processes such as air quality, climate mitigation and waste treatment. Provisioning services were products obtained from ecosystems such as food, water and raw materials.

The analysis estimated the flow of ecosystem services using value/benefit transfer approach. In this approach values from previous studies were used to estimate the economic value of ecosystem services. These values were applied for a project period of seven years. The analysis focused on the newly established national park and surrounding areas that were subject to investments in sustainable land management practices. Also applying a discount rate of 7 percent, the analysis calculated a Net Present Value (NPV) of US$32.7 million indicating that the project was a worthwhile investment.

Operational efficiency:

The project was financed by a GEF grant (US$5.49 million) and a Least Developed Countries Fund (US$4.05 million) that were completely disbursed. The project's implementation period was extended twice to a total of 21 months to accommodate delays in the development of flood models and the necessary flood hazard maps as well as due to a COVID-19 related workforce reduction.

Taking everything together, the project's efficiency is rated Substantial.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal		0	0 ☐ Not Applicable
ICR Estimate		0	0 ☐ Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Relevance of the objective was High given its alignment with the Bank's most recent CPF (FY21-26) which aims to develop sustainable and stable landscape investments. Efficacy was High, and Efficiency was Substantial. Taking everything together, the project's outcome rating is Satisfactory.

a. Outcome Rating

Satisfactory

7. Risk to Development Outcome

Financial risk: According to the ICR (p. 19) with the closing of the project the government will be responsible for the operation and maintenance (O&M) of the 14 hydrometeorological stations. However, due to the COVID-19 pandemic resources and investment priorities have been directed away from landscape management, environment, and climate change. Therefore, it is likely that there will be insufficient funding for O&M of the hydrometeorological stations as well as any other project investments such as lightening protection systems installed, and bridges being built.

Technical risk: According to the ICR (p. 25) the project was able to build capacity in land use and land degradation, sustainable forest and land management, and climate adaptation measures in local-level and central-level institutions. Furthermore, the project was able to build capacity rangeland management, park management, landscape restoration, and business development. Finally, government staff's capacity was also increased in regard to safeguards, procurement, and financial management. The technical risk is therefore considered to be low.

Government risk: There is little risk to development outcomes related to government commitment since. according to the ICR (p. 28), the government was committed to the achievement of the objective throughout project implementation as demonstrated through its engagement and close monitoring of the project.

8. Assessment of Bank Performance

a. Quality-at-Entry

According to the PAD (p. 13) the project was built on lessons learned from previous Bank projects in this area. The lessons included: i) integrating forest, pasture and agriculture management with strong involvement of local communities can result in whole landscapes recovering with dramatic results; ii) the importance of having clearly defined criteria to guide the selection of sites targeted for silvo-pastoralism on pasture lands; and iii) Single Projects Implementation Units (SPIUs) being effective mechanisms for implementation of donor projects in a number of government agencies in Rwanda.

The PAD (p. 18) identified the following risk factors as Substantial including stakeholder, capacity, and design, since the main risks were associated with the intrinsic complexity of a landscape management approach involving elements of planning and implementation touching on biodiversity conservation, forestry, agriculture, rural livelihoods and disaster management. According to the ICR (p. 27) mitigation measures included the creation of a multi stakeholder steering committee which reinforced national ownership and improved collaboration with the Bank's team. The mitigation measures were adequate and the identified risks did not materialize.

Quality-at-Entry Rating

Satisfactory

b. Quality of supervision

According to the ICR (p. 33) the project benefitted from having had only one Task Team Leader (TTL) throughout implementation. Also, the Bank team conducted regular supervision missions on a bi-annual basis, and a local consultant regularly attended Steering Committee meetings to ensure the completion of project activities and identify implementation bottlenecks and address them promptly.

The project did not encounter any FM related issues. The ICR did not state how the Bank team addressed procurement related issues.

Quality of Supervision Rating
Satisfactory

Overall Bank Performance Rating
Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design
The selected indicators were adequate to capture the contribution of the project outputs. Also, the selected indicators were sufficiently specific, and included targets. However, the project produced several achievements on the output level that were not captured in the Results Framework and thus no targets had been set. The project would have benefitted from reflecting these achievements in the Results Framework.

According to the PAD (p. 16) the project was to use simple, spreadsheet-based monitoring system to guide project implementation. The Management Information System (MIS) was to be based on the project results framework and M&E plan. An M&E officer was to be recruited within the Single Project Implementation Unit (SPIU) to support the coordination of project monitoring activities.

b. M&E Implementation
According to the ICR (p. 30) implementation progress was monitored on a continuous basis and reported in Implementation Status and Results Reports (ISRs). The Results Framework remained in place throughout implementation and did not require any modification.

c. M&E Utilization
According to the ICR (p. 30) the project's M&E was used to inform decision making and allow to implement corrective measures. The ICR did not specify for which decisions the M&E data was used.

M&E Quality Rating
Substantial

10. Other Issues

a. Safeguards

The project was classified as category B and triggered the Bank's safeguard policies OP/BP 4.01 (Environmental Assessment), OP/BP 4.04 (Natural Habitats), OP/BP 4.09 (Pest Management), OP/BP 4.36 (Forests), OP/BP 4.12 (Involuntary Resettlement), OP/BP 4.11 (Physical Cultural Resources), and Projects on International Waterways (OP/BP 7.50). According to the ICR (p. 31) the project prepared an Environmental and Social Impact Assessment, Environmental and Social Management Framework (ESMF), Environmental and Social Management Plan, Operational Risk Assessment Framework, Resettlement Action Plan, Resettlement Policy Framework (RPF), and Process Framework.

According to the ICR (p. 31) the ESMF was prepared and used for the implementation and monitoring of mitigation measures for negative environmental and social impacts of the project. Also, the project used the Integrated Pest Management Plan of the Lake Victoria Environmental Management Project Phase 2 (LVEMP II) which covered most of the pest problems and was used to train the local population to use non-toxic pesticides.

The ICR (p. 29) stated that the project did not have a safeguard specialist in place from March 2020 to March 2021 resulting in the project not being in compliance with the safeguard policies until a safeguard specialist was appointed producing required safeguard reports. At closure, the project's compliance with all the safeguard policies stated above was rated Satisfactory.

b. Fiduciary Compliance

Financial Management:

According to the ICR (p. 32) the project complied with the Bank's Financial Management (FM) covenants and had adequate FM arrangements in place and recorded all transactions and balances adequately, supported the preparation of regular and reliable financial statements and maintained adequate auditing statements throughout implementation. At closure, the project's FM rating was Satisfactory.

Procurement:

According to the ICR (p. 32) the Rwanda Environment Management Authority (REMA) developed a simple procurement plan that was accepted by the Bank. Throughout implementation, the procurement plan was updated to reflect improvements made in strengthening institutional capacity and implementation needs. The project hired two procurement officers with experience in Bank procurement procedures who supported the head of procurement of REMA- Single Project implementation Unit (SPIU). The ICR (p. 32) stated that all tenders were executed according to plan and in compliance with the Bank's procurement guidelines. According to the ICR (p. 29) when the project faced issues of several tenders not being properly registered in the system, the Bank team provided procurement training to government staff to enter tenders in the Bank's Systematic Tracking of Exchanges in Procurement (STEP) system.

At project closing, the project's procurement rating was Moderately Satisfactory.

c. Unintended impacts (Positive or Negative)

NA

d. Other

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11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	
Bank Performance	Satisfactory	Satisfactory	
Quality of M&E	High	Substantial	The project's Results Framework would have benefitted from reflecting the large number of achievements financed by the project.
Quality of ICR	---	Modest	

12. Lessons

The ICR (p. 34-35) provided several lessons learned, which were adapted by IEG:

- **Promoting protected areas to the status of biosphere reserves and involving local communities in their management and conservation may contribute to sustainable development.** In this project, the accreditation by UNESCO of the Gishwati-Mukura Forest Reserves was capitalized on by local community producers, which improved the marketability of local products and access to regional, national and global markets.
- **When a Bank project involves different entities across the government, it is critical to allocate ownership of the project activities to the appropriate authorities.** In this project, the Rwanda Meteorological Agency was not given sufficiently an oversight role even though its role is critical for the sustainability of the Flood Early Warning System (FEWS). Even though the project was extended twice to complete activities for the handover from the Rwanda Environmental management Agency to the Rwanda Meteorological Agency, the handover has not taken place yet.
- **Collaborating with local education institutions can contribute to long-term sustainability of the landscape approach.** This project collaborated with the University of Rwanda to through the education and research component, which built national capacity to

support this and other programs in the future since graduates from the University might work for the government one day.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR provided an adequate overview of implementation and included an appropriate Economic analysis. Also, the ICR included useful lessons learned that can be applied to future projects in this area. The ICR would have benefitted from being more precise. For example, it stated that the project's design was built on lessons learned but did not specify which ones. Also, the ICR did not specify why it chose to assess the project in terms of "enhancing environmental services and climate resilience through forest-friendly and climate restoration of the Gishwati-Mukura landscape" and "demonstrating the approach through research, monitoring, and management" rather than the PDO. Furthermore, the ICR did not state if the project complied with the Bank's safeguard policies. Also, the ICR rated FM and procurement as "good" which is not an adequate ICR rating. Finally, the ICR lacked conciseness and was sometimes repetitive (such as in the M&E section) and did not state any potential risks to development outcomes such as government commitment.

a. Quality of ICR Rating
Modest