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Report No: ICR00222

IMPLEMENTATION COMPLETION AND RESULTS REPORT
GRANTS IDA-D2720, TF-A6551, AND IDA-D7420

ON AN IDA GRANT
IN THE AMOUNT OF SDR 10.6 MILLION (US$15 MILLION EQUIVALENT)

AND A GRANT FROM THE GLOBAL ENVIRONMENT FACILITY (GEF)
IN THE AMOUNT OF US$6.21 MILLION

AND AN IDA GRANT
IN THE AMOUNT OF SDR 5.6 MILLION (US$7.75 MILLION)

TO THE
REPUBLIC OF HAITI

FOR THE
RESILIENT PRODUCTIVE LANDSCAPES (RPL) PROJECT

July 12, 2025

Agriculture and Food
Latin America And Caribbean

CURRENCY EQUIVALENTS

(Exchange Rate Effective at Project Closing on November 30, 2024

Currency Unit =	Haitian Gourdes (HTG)
HTG 131.17 =	US$1
US$1.32 =	SDR 1

FISCAL YEAR

October 1 - September 31

Regional Vice President:	Carlos Felipe Jaramillo
Country Director:	Lilia Burunciuc
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ICR Main Contributors:	McDonald Benjamin, Tharcisse Guedegbe, Marc Fantinet, Yerania Sánchez

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
BCR	Borrower's Completion Report
CBF	Caribbean Biodiversity Fund
CCB	Climate Change Co-Benefits
CERC	Contingency Emergency Response Component
CIRAD	French Agricultural Research Centre for International Development (*Centre de coopération internationale en recherche agronomique pour le développement*)
CNSA	National Food Security Commission (*Commission Nationale de Sécurité Alimentaire*)
CNIGS	National Geographic and Spatial Information Center *(Centre National de l'Information Géo-Spatiale)*
COP21	Conference of the Parties (2015 United Nations Climate Change Conference)
CPF	Country Partnership Framework
CW	Civil Works
CS	Consulting Services
DDA	Departmental Agriculture Directorate (*Direction Départementale de l'Agriculture*)
DDE	Departmental Environmental Directorate (*Direction Départementale de l'Environnement*)
DO	Development Objective
EFA	Economic and Financial Analysis
EIRR	Economic Internal Rate of Return
ENPV	Economic Net Present Value
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
EX-ACT	Ex-Ante Carbon Balance Tool
FAO	Food and Agriculture Organization
FFS	Farmer Field Schools
FM	Financial Management
FSS	Farmer Subsidy Scheme
FY	Fiscal Year
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GO	Goods
GoH	Government of Haiti

GRM	Grievance Redress Mechanism
Ha	Hectares
HBF	Haitian Biodiversity Fund
HCP	High Carbon Price Scenario
HNT	Haiti National Trust
HTG	Haitian Gourdes
HTR	Haiti Takes Root
ICRR	Implementation Completion and Results Report
IDA	International Development Association
IFR	Interim Financial Report
IP	Implementation Progress
IPC	Integrated Food Security Phase Classification
IRR	Internal Rate of Return
ISDS	Integrated Safeguards Data Sheet
ISN	Interim Strategy Note
ISR	Implementation Status and Results Report
J/P HRO	J/P Haitian Relief Organization
KPI	Key Performance Indicator
LAC	Latin America and the Caribbean Region
LCP	Low Carbon Price Scenario
LDCF	Least Developed Countries Fund
M&E	Monitoring and Evaluation
MARNDR	Ministry of Agriculture, Natural Resources and Rural Development (*Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural*)
MdE	Ministry of Environment (*Ministère de l'Environnement*)
MS	Moderately Satisfactory
MSF	Market Support Facility
MTR	Mid-Term Review
MU	Moderately Unsatisfactory
Mw	Moment Magnitude Scale (for earthquakes)
NAPA	National Adaptation Program of Action
NCS	Non-Consulting Services
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
OP	Operating Costs
OP/BP	Operational Policy / Bank Procedure
OPS	Private Service Providers (*Opérateurs Prestataires de Services*)

PAD	Project Appraisal Document
PARSA	Emergency Resilient Agriculture for Food Security Project
PDO	Project Development Objective
PIU	Project Implementation Unit
PIU-C	Project Implementation Unit at Central Level
PIU-L	Project Implementation Unit at Local Level
PLR	Performance and Learning Review
RAP	Resettlement Action Plan
RESEPAG	Relaunching Agriculture: Strengthening Agriculture Public Services Project
RF	Results Framework
RPF	Resettlement Policy Framework
RPL	Resilient Productive Landscapes
RPO	Rural Producer Organization
S	Satisfactory
SDR	Special Drawing Rights
STEP	Systematic Tracking and Exchange in Procurement
TA	Technical Assistance
tCO_2e	Tons of carbon dioxide equivalent
TF	Trust Fund
TOC	Theory of Change
TR	Training
TTL	Task Team Leader
UNFCCC	United Nations Framework Convention on Climate Change
UPMP	Unified Procurement Unit (*Unité de Passation des Marchés Publics*)
US$	United States dollar
WBG	World Bank Group

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DATA SHEET

BASIC DATA

Product Information

Operation ID	Operation Name
P162908	Resilient Productive Landscapes in Haiti
Product	Operation Short Name
Investment Project Financing (IPF)	Resilient Productive Landscapes in Haiti
Operation Status	Approval Fiscal Year
Closed	2018
Original EA Category	Current EA Category
Partial Assessment (B) (Approval package - 01 Mar 2018)	Partial Assessment (B) (Restructuring Data Sheet - 11 Jun 2024)

CLIENTS

Borrower/Recipient	Implementing Agency
Ministry of Economy and Finance, Republic of Haiti	Ministry of Agriculture, Natural Resources and Rural Development (MARNDR), Ministry of Environment

DEVELOPMENT OBJECTIVE

Original Development Objective (Approved as part of Approval Package on 01-Mar-2018)

The Project Development Objectives are: (i) to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds; and (ii) to enable the Government to respond promptly and effectively to an eligible emergency.

FINANCING

Financing Source	Original Amount (US$)	Revised Amount (US$)	Actual Disbursed (US$)
World Bank Financing	22,750,000.00	22,053,750.00	22,301,912.46
IDA-D2720	15,000,000.00	14,456,174.00	14,876,469.60
IDA-D7420	7,750,000.00	7,597,576.00	7,425,442.86
World Bank Administered Financing	6,210,046.00	6,210,046.00	5,754,757.54
TF-A6551	6,210,046.00	6,210,046.00	5,754,757.54
Non-World Bank Financing	5,000,000.00	0.00	0.00
Non-Government Organization (NGO) of Borrowing Country	5,000,000.00	0.00	0.00
Total	**33,960,046.00**	**28,263,796.00**	**28,056,670.00**

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Type	Amount Disbursed (US$M)	Key Revisions
30-Oct-2023	Portal	23.99	• Loan Closing Date Extension
11-Jun-2024	Portal	27.61	• Loan Closing Date Extension • Reallocations

KEY DATES

Key Events	Planned Date	Actual Date
Concept Review	28-Feb-2017	21-Feb-2017
Decision Review	30-Nov-2017	30-Nov-2017
Authorize Negotiations	30-Nov-2017	14-Jan-2018
Approval	01-Mar-2018	01-Mar-2018
Signing	13-Apr-2018	13-Apr-2018
Effectiveness	10-Jul-2018	10-Jul-2018
Restructuring Sequence.01	Not Applicable	30-Oct-2023
Restructuring Sequence.02	Not Applicable	11-Jun-2024
Mid-Term Review No. 01	25-Apr-2022	16-May-2022

Operation Closing/Cancellation	30-Nov-2024	30-Nov-2024
ICR/NCO	30-May-2025	--

RATINGS SUMMARY

Outcome	Bank Performance	M&E Quality
Satisfactory	Satisfactory	Substantial

ISR RATINGS

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US$M)
01	07-Jun-2018	Satisfactory	Satisfactory	0.00
02	07-Dec-2018	Satisfactory	Moderately Satisfactory	0.00
03	03-Jun-2019	Satisfactory	Moderately Satisfactory	1.40
04	07-Dec-2019	Moderately Satisfactory	Moderately Satisfactory	1.45
05	10-Jun-2020	Moderately Satisfactory	Moderately Satisfactory	3.71
06	10-Dec-2020	Moderately Satisfactory	Moderately Satisfactory	7.36
07	28-May-2021	Moderately Satisfactory	Moderately Satisfactory	8.01
08	22-Dec-2021	Moderately Satisfactory	Moderately Satisfactory	15.21
09	29-Jun-2022	Moderately Satisfactory	Moderately Satisfactory	16.58
10	05-Jan-2023	Satisfactory	Satisfactory	17.04
11	24-May-2023	Satisfactory	Satisfactory	21.04
12	30-Oct-2023	Satisfactory	Satisfactory	23.99
13	12-May-2024	Satisfactory	Satisfactory	27.61
14	27-Nov-2024	Satisfactory	Satisfactory	28.29

SECTORS AND THEMES

Sectors

Major Sector	Sector	%	Adaptation Co-benefits (%)	Mitigation Co-benefits (%)
FY17 - Agriculture, Fishing and Forestry	FY17 - Agricultural Extension, Research, and Other Support Activities	67	61	16
	FY17 - Public Administration - Agriculture, Fishing & Forestry	33	66	19

Themes

Major Theme	Theme (Level 2)	Theme (Level 3)	%
FY17 - Environment and Natural Resource Management	FY17 - Climate change	FY17 - Adaptation	63
		FY17 - Mitigation	17
	FY17 - Renewable Natural Resources Asset Management	FY17 - Landscape Management	95
		FY17 - Watershed Management	28
FY17 - Urban and Rural Development	FY17 - Disaster Risk Management	FY17 - Disaster Preparedness	12
	FY17 - Rural Development	FY17 - Rural Infrastructure and service delivery	28
		FY17 - Rural Markets	86

ADM STAFF

Role	At Approval	At ICR
Practice Manager	Preeti S. Ahuja, Valerie Hickey	Diego Arias Carballo
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Global Director	Juergen Voegele, Karin Kemper	Shobha Shetty
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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

1. **At the time of appraisal, Haiti was the poorest country in the Latin America and Caribbean (LAC) Region, with a Gross Domestic Product (GDP) per capita of US$820 per year and 60 percent of the population living below the national poverty line**. In rural areas, 75 percent of individuals lived below the poverty line, with extremely limited access to basic services, while 27 percent lived in extreme poverty. Around 1.32 million Haitians were facing crisis levels of food insecurity at the time of project preparation,[1] while 40 percent of the population was affected by undernutrition.[2]

2. **Agriculture was the primary source of income for most rural households, accounting for 66 percent of rural employment, rising to 75 percent among low-income households, but the sector was beset by a range of challenges**. Chronic under-investment in the rural economy (notably in infrastructure, public services and programs) and ineffective natural resource management had steadily depleted the rural productive base. Farm holdings lacked the technological, informational and financial resources (including improved planting materials or pest controls) to boost productivity, and faced high risks of shocks due to alternating droughts (2014-16) and storms (such as Hurricane Matthew in 2017).

3. **Since rural Haitians faced intertwined human and ecological vulnerabilities, a holistic landscape-level, productive approach was considered essential at Appraisal**. Unsustainable farming practices, driven by land pressure, combined with farmers' low education levels and difficult economic conditions, had contributed to the severe degradation of around 85 percent of watersheds. The impact of these practices on yields further exacerbated land pressures, causing more degradation and deforestation, and thus a negative feedback loop between agricultural production and natural resource depletion. Moreover, in the context of climate change, these challenges were expected to worsen significantly.

4. **In this context, there was a strong rationale for World Bank engagement to support the Government of Haiti (GoH) in promoting resilient productive landscapes**. By improving the natural resource base, addressing soil erosion and improving water retention capacity by promoting climate-smart production and practices adapted to the agro-ecological context, and enhancing the capacity to generate sustainable incomes, a resilient productive landscapes approach was expected to have a significant positive impact on agriculture and rural livelihoods, while protecting communities against risks of flash floods and landslides due to soil erosion and water runoff. Due to the severe impact of Hurricane Matthew on the Department of Nippes, GoH decided to focus the proposed Resilient Productive Landscapes (RPL) project in four sub-watersheds in hard-hit hydrological zones of the Department, so as to promote the adoption of resilience-enhancing agricultural and landscape management practices, and mitigate the impacts of future extreme weather events.

5. **The Ministry of Environment (MdE) and the Ministry of Agriculture, Natural Resources and Rural Development (MARNDR) recognized the interdependency between natural resources management and agricultural production.** In 2006, GoH adopted a National Adaptation Program of Action (NAPA), identifying urgent risks from climate change, including the relationship between soil erosion and agricultural sector vulnerability, and MARNDR's policy priorities for 2010-25 included addressing watershed degradation and environmental vulnerability, as well as disaster preparedness and management. In 2015, MdE's updated Haiti's National Action Plan against Desertification identified the collaborative development of management plans for the most vulnerable watersheds as an objective.[3] That same year, in the context of the COP21 process and Paris Agreement, a Haiti-based NGO, the J/P Haitian Relief Organization (J/P HRO), together with MdE and MARNDR, developed a proposal for a Haiti Takes Root (HTR) initiative to improve watershed management and reforestation in key areas of Haiti and to facilitate engagement, coordination, learning, monitoring and synergies in a

[1] See the Integrated Food Security Phase Classification (IPC): "Haiti: Acute Food Insecurity Situation October 2017 - February 2018 and Projection for March - June 2018", available at: https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1068538/?iso3=HTI
[2] See data from the Food and Agriculture Organization of the United Nations (FAO), available at: https://www.fao.org/faostat/en/#country/93
[3] See: Haiti - Action Against Desertification, at: https://www.fao.org/in-action/action-against-desertification/countries/caribbean/haiti/en/

long-term, strategic, programmatic approach.[4] The RPL project was envisaged as a "proof of concept" under HTR, with a view to potentially scaling it up in other (sub)watersheds of the country.

6. **The RPL project built on solid analytical work and on experiences with previous and ongoing IDA and other donor-funded projects.** A review of landscape management-related interventions[5] underscored the need for strong participatory community engagement, continuous institutional commitment and support, and income generation for farmers. Recent and ongoing IDA investments in Haiti provided insights on effective implementation arrangements.[6] During Appraisal, the experience of the ongoing RESEPAG II project informed the design of farmer support mechanisms and of institutional arrangements under the proposed RPL project. For example, in the difficult political and security context of Haiti, this included providing for both a central Project Implementation Unit (PIU-C) and a local PIU (PIU-L) in Nippes, as well as reliance on local technical and service providers. In addition, the design of the RPL project built on a regional project financed by the Global Environment Facility (GEF),[7] which had set up and endowed a Caribbean Biodiversity Fund (CBF) mechanism to ensure sustainable financing over time to combat threats to biodiversity from human, climate or other sources. Thus, the RPL project's design included a GEF-financed grant that would enable Haiti to join the CBF by endowing a National Biodiversity Fund under the Haiti National Trust (HNT), which would enable the country to access long-term sustainable financing for climate adaptation and biodiversity conservation in perpetuity.

Theory of Change (Results Chain)

7. **The Project Appraisal Document (PAD) for the RPL project included a theory of change, reflected in a results chain from the strategic context to operational priorities and expected development outcomes**.[8] The strategic context highlighted key dimensions of climate change and variability, including higher incidences of droughts, rainfall variability, more fragile soils, and increased soil erosion, flooding and run-off. To this end, it proposed activities to strengthen institutional and organizational capacities for landscape level interventions, together with investments to strengthen the establishment of resilient agricultural production and practices. It also provided for project coordination, Monitoring and Evaluation (M&E), and for a CERC to enable the Government to respond promptly and effectively to an eligible emergency. These project activities were expected to result in strengthened absorptive capacity (as measured by farmers with improved market access); adaptive capacity (as measured by the adoption of improved agricultural technology); and transformative capacity (as measured by the land area under sustainable management practices). The RPL project's Theory of Change and Results Chain, as presented at Appraisal, appear in Figures A9.1 and A9.2 of Annex 9 of this Implementation Completion and Results Report (ICRR).

Project Development Objective (PDO)

8. **The Project Development Objectives established at Appraisal were**: (i) to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds; and (ii) to enable the Government to respond promptly and effectively to an eligible emergency.

Key Expected Outcomes and Outcome Indicators

9. **The two Outcomes of the Project Development Objective, and their related indicators, as originally approved, were as follows**: (1) The first outcome, "improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds" was to be measured by: (a) "Land area under sustainable landscape

[4] See: Haiti Takes Root, at: https://www.haititakesroot.org.
[5] See: World Bank (2016). "Landscape-level Land Management Efforts in Haiti. Lessons Learned from Case Studies Spanning Eight Decades."
[6] These included the: Community Driven Development Project (PRODEP), US$38 million equivalent IDA grant, approved in 2005; Relaunching Agriculture: Strengthening Agriculture Public Services Project (RESEPAG I), US$5 million equivalent IDA grant, approved in 2009; RESEPAG II, US$40 million equivalent IDA Grant and US$10 million Global Agriculture and Food Security Program (GAFSP) grant, approved in 2011.
[7] Sustainable Financing and Management of Eastern Caribbean Marine Ecosystem Project, US$8.75 million GEF grant, approved in 2011.
[8] Report No: PAD2329, dated January 31, 2018.

management practices" (hectares); (b) "Farmers adopting improved agricultural technology" (number), of which female (percentage); and (c) "Share of targeted farmers with improved market access" (percentage). (2) The second outcome, "to enable the Government to respond promptly and effectively to an eligible emergency," would be supported in the event that the CERC was activated. No Development Objective (DO) indicator was specified for this outcome at Appraisal.

Components

10. **The RPL project was designed with the following four components and estimated costs at appraisal**:

- **Component 1: Strengthening of institutional and organizational capacities for landscape level interventions** (US$7.0 million, financed by: US$1.4 million IDA, US$4.2 million GEF,[9] plus parallel financing of US$1.4 million from J/P HRO). This comprised subcomponents to: (i) build institutional capacity in agriculture and environment to fill skills and knowledge gaps required to implement respective mandates, and improve planning and climate-related disaster risk prevention; (ii) support a national level sustainable landscape management approach to agriculture and watershed management, via a joint agricultural/environmental landscapes policy and action plan to promote resilient agriculture and ecosystems; and (iii) fund the establishment of a Haiti National Trust Fund so as to provide financing for climate adaptation in perpetuity with resources from the CBF.
- **Component 2: Investments to strengthen resilient agricultural production and practices** (US$15.7 million, financed by: US$10.1 million IDA; US$2.0 million GEF, plus parallel financing of US$3.6 million from J/P HRO). Component 2 comprised three subcomponents to: (i) support investments by farmers, agricultural entrepreneurs and communities in the selected sub-watersheds to invest in resilient, sustainable agriculture and ecosystems; (ii) promote the intensification, diversification and commercialization of agriculture, through actions aimed at improving revenues and livelihoods via better market access and improved food availability and nutritional quality; and (iii) enhance the protection of infrastructure and watersheds via investments in small infrastructure construction or rehabilitation so as to increase the resilience of both landscapes and of farmers' enterprises.
- **Component 3: Project Coordination and Monitoring and Evaluation** (US$3.5 million, financed by IDA). This component would finance eligible expenses associated with the overall management of project implementation, as well as resources to monitor progress and evaluate results and impact.
- **Component 4: Contingency Emergency Response Component** (US$0 million, to be financed by IDA if activated). The CERC was set up with a zero allocation to allow the Government to respond quickly in case of an eligible emergency.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

Revised PDOs, Outcome Targets and PDO Indicators

11. **The PDO remained unchanged throughout project implementation, although outcome targets were adjusted in light of changing circumstances**. In particular, the reallocation of resources to the CERC led the Bank to adjust the targets downwards for the PDO indicators as follows: (1) the target for the "land area under sustainable landscape management practices" was reduced from 2,000 to 1,500 hectares;[10] (2) the target for "farmers adopting improved agricultural technology" was reduced from 3,000 to 2,200, although the related target "of which female" was retained at 33 percent; and (iii) the target for the "share of targeted farmers with improved market access" was reduced from 40 percent to 35 percent. The revised targets were reflected in the Project Paper for the RPL project's AF in November 2020.[11] However, all

[9] The GEF resources were allocated from the GEF's Least Developed Countries Fund (LDCF).

[10] The main text of the AF Project Paper (Report No. PAD4179, dated November 6, 2020, page 14), mentions that: “Land area under sustainable landscape management practices” now reads “Land area under sustainable landscape management practices with climate change consideration”, but the change in wording is not carried over to the Financing Agreement for the AF, the Results Framework in the Project Paper, or to KPIs monitored in subsequent ISRs or Restructuring Agreements. Therefore, this indicator is reviewed in the ICRR as originally framed in the PAD.

[11] Report No: PAD4179, dated November 6, 2020.

three PDO indicator targets that had been revised down as of the sixth Implementation Supervision Report (ISR), filed in December 2020, were revised back to their original target values before the end of the project, beginning with the indicator for "farmers adopting improved agricultural technology", as of ISR 11 (filed in May 2023), followed by the other two PDO indicators as of ISR 13 (filed in May 2024).[12]

Revised Components

12. **At Project Closing, the RPL project had the same components as at Appraisal, although activation of the CERC led to activities being included under this component that were not specified at Appraisal**. The CERC component extended coverage beyond the four sub-watersheds in the Department of Nippes to include farming households more broadly in the Departments of Nippes and Sud. The aim was to benefit 21,500 family farmers working on 14,200 hectares and safeguard production for the 2020-2021 cropping seasons, especially in light of sharp reductions in remittances expected during the COVID-19 pandemic.[13] Support under the CERC would take the form of urgent production inputs (notably fertilizers) and technical services, as well as the distribution of climate-resilient crop varieties and seeds. The CERC activities had to be implemented urgently, and yet with specific sanitary precautions in order to ensure social distancing and minimize the spread of the COVID-19 virus.

Other Changes

13. **Two new intermediate indicators, with sub-indicators by gender, were added to the Results Framework following activation of the CERC, to track the benefits of the CERC activities**. The first of these was the "number of farmers provided with climate-resilient crop varieties/seeds" for which a target of 550 was set in the AF Project Paper but revised up to 9,000 farmers by ISR 13. A sub-indicator "of which female" for this indicator was included with a target of 33 percent, although this sub-indicator was only tracked in ISR 6, and not in subsequent ISRs. The second new intermediate indicator included in the AF Project Paper was "farmers receiving urgent production inputs and services under CERC", with a target of 21,490 farmers. The related sub-indicator "of which female" for this indicator was tracked to conclusion of the Project, with a target set in the AF Project Paper of 33 percent. After CERC activation, certain intermediate indicators' targets were adjusted downwards, although some were adjusted back up to their original values before Project Closing (see Table 1).

Table 1. Adjustments to Targets for Intermediate Indicators During Implementation of the RPL Project

Intermediate Indicator	Target in PAD	Target in AF/ISR 6	Final Target	Final adjustment to Target
Spatial decision support tool for the prevention and / or management of climatic risks applied to the area covered by the Project (Hectares)	8,000	6,000	8,000	ISR 13**
Farmers' field schools (FFS) promoting a RPL approach, established FFS (Number)	50	35	50	ISR 13
Farmers participating in the FFS (Number)	1,000	700	1,000	ISR 13
Sub-projects supported by the RPL Project improving access to markets for products from targeted areas (Number)	50	40	20	ISR 13
Members of the groups benefiting from sub-projects (Number)	800	500	500	AF Project Paper
...Of which, Female (Percentage)	50%	50%	33%	ISR 13
Number of farmers provided with climate-resilient crop varieties/seeds (Number)	No target	550	9,000	ISR 13

*Sources: RPL Project PAD, AF Project Paper, and ISRs; **Note: While revised targets were not included in the May 2024 Level 2 Restructuring Paper itself, they were reflected in ISR 13, filed at the time of the May 2024 Level 2 Restructuring.*

[12] Since both the PDO and the scope of project components remained unchanged throughout the life of the RPL project, while the geographic scope was expanded significantly as a result of the triggering of the CERC component, and since KPI targets at Project Closing equalled or exceeded targets at Appraisal (even after some were adjusted at the time of the AF), no split rating is required in evaluating the RPL project in this ICRR.
[13] According to ISR 5, filed in June 2020, remittances were equivalent to 35 percent of GDP prior to the COVID-19 pandemic.

14. **While a few changes were made in the allocation of project resources to respond to changing circumstances, no changes were made to the Operational Policies/Bank Procedures triggered for the RPL project, nor to the project's Legal Covenants**. The disbursement profile was adjusted at the time of the AF, reflecting slow initial disbursement under the RPL project, and the reallocation of resources to Component 4 for the CERC was formalized at that time. In addition, towards the end of the project, a Level-2 Restructuring, approved in May 2024, reallocated resources among the GEF grant categories and adjusted the GEF financing ratios up to 100 percent to cover a spending overrun on the IDA grant side related to the COVID-19 emergency support in the Department of Sud. In addition, the Project Closing was extended twice: (i) from December 31, 2023 to May 31, 2024, via a first Level-2 Restructuring, approved in October 2023; and (ii) from May 31, 2024 to November 30, 2024, via a second Level-2 Restructuring, approved in May 2024. The former restructuring only extended the closing date, while the latter also adjusted resource allocations, as indicated above.

Rationale for Changes and Their Implication on the Original Theory of Change

15. **The changes described above were driven primarily by the activation of the CERC**. Following activation of the CERC on April 23, 2020, US$9.9 million were reallocated from Components 1, 2, and 3 to Component 4 for the CERC. Since the US$9.9 million shortfall was only partly compensated by the approval of the US$7.75 million AF in November 2020, this left a shortfall for Components 1, 2 and 3 of US$2.15 million, relative to what was envisaged at Appraisal. Therefore, while not sacrificing any of the originally envisaged project activities and outcomes, the targets for the PDO indicators and for selected intermediate indicators were revised downwards to reflect the reduced financing for those activities, as priority was given to providing emergency support in light of the COVID-19 pandemic. Moreover, since the RPL project focused on four sub-watersheds, while the impacts of the pandemic on farming families were much more widespread, the CERC extended the coverage of emergency support beyond the four initially identified project areas. The Results Framework (RF) was updated accordingly to reflect both the additional activities financed under the CERC and the reduced financing for initially planned Project activities. At the time of the May 2024 Level-2 Restructuring, most of the indicators were revised back to their original targets, due to the significant advances in project activities in terms of coverage of beneficiaries, as well as the ability to finance more activities in local currency with the project's resources in light of the 50 percent devaluation of the Haitian Gourde to HTG 133 per US dollar between November 2020 and May 2024. Finally, the adjustment in the GEF financing categories and percentages enabled the RPL project to address an overrun on the IDA financing side related to the category for the CERC. The two Level-2 Restructurings approved in October 2023 and May 2024 extended the Project Closing date in order to enable orderly and satisfactory completion of project activities. Beyond the substantial added benefits of the CERC support provided by the RPL project, these changes had only modest implications for the original Theory of Change, whose results chains and most indicator targets remained unchanged.

II. OUTCOME

A. RELEVANCE OF PDO

16. **The relevance of the RPL project to Government of Haiti, World Bank Group and GEF priorities is rated as <u>High</u>**. In terms of GoH priorities, the RPL project's design supported the achievement of objectives set forth under Haiti's 2006 NAPA,[14] which served as the basis for the plan that Haiti submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015, which weighted adaptation options based on their impact on vulnerable natural resources and groups, and ranked “watershed management and soil conservation” at the top. The RPL project also aligned perfectly with the three key axes of GoH's 2016-2021 National Agricultural Investment Plan (PNIA), adopted shortly before the AF was approved and in place over the final five years of the project, namely: (i) agricultural infrastructure, especially

[14] See: https://seors.unfccc.int/applications/seors/attachments/get_attachment?code=N194UO1QDWEW24J698E2KMEKVDVH8TXD

for water management; (ii) increasing production along value chains, and (iii) strengthening agricultural services and institutional capacity.[15] In terms of World Bank Group (WBG) priorities, the RPL project was closely aligned with the 2015-19 Country Partnership Framework (CPF) for Haiti and with the 2018 Performance and Learning Review (PLR)[16]–with their areas of focus on promoting inclusive growth and improving resilience, especially by supporting value chains to access new and better markets and reducing production risks while decreasing vulnerability by increasing adaptive capacity to respond to the impacts of climate change and strengthening climate resilience. In terms of GEF priorities, the RPL project's design contributed directly to the GEF's Least Developed Countries Fund's strategic Objective 1 (Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change) and Objective 2 (Strengthen institutional and technical capacities for effective climate change adaptation), as well as indirectly to Objective 3 (Integrate climate change adaptation into relevant policies, plans and associated processes).

17. Moreover, the RPL project maintained its high relevance during implementation. In particular, it responded flexibly to changing circumstances, notably by providing a rapid emergency response in 2020 after GoH's declaration of an emergency due to the COVID-19 pandemic, and extending the emergency support to crisis-affected areas beyond the project's initial target areas, as well as to partially finance the emergency response to the devastating earthquake that struck southern Haiti on August 14, 2021. The approval of Additional Financing for the RPL project in November 2020 aimed to ensure that GoH could address the COVID-19 emergency while maintaining its strategic alignment and support for GoH, Bank, and GEF agricultural and climate resilience objectives. These objectives themselves continued to be highly relevant, as reflected for example in the agriculture and food security priorities and the cross-cutting resilience priorities identified in the most recent Strategic Country Diagnostic Update for Haiti.[17] Moreover, the continuing relevance of the RPL project's development objectives are underscored by their close alignment with the overarching goals of the World Bank Group's CPF for Haiti for Fiscal Years 2025-2029, discussed by the Board of Directors on March 4, 2025, namely to build resilience for the poor and vulnerable while strengthening the foundations for resuming growth. In particular, among other priorities cited in the latest CPF, "The theory of change underlying the CPF (Box 5) is designed to prevent economic and social deterioration by...strengthening the resilience of the poor...and resilience to natural disasters."[18] In addition, the continuing relevance of the RPL project to both GoH and Bank priorities is underscored by the Board approval of a Second Resilient Productive Landscapes Project (P504222) for Haiti in the amount of US$50 million on March 28, 2025.

B. ACHIEVEMENT OF PDOs (EFFICACY)

18. **This section assesses the efficacy of the RPL project in achieving its two PDO outcomes, namely: (i) to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds; and (ii) to enable the Government to respond promptly and effectively to an eligible emergency**. The data for assessing the outcomes is drawn from the RPL project's Monitoring & Evaluation (M&E) system (using the Kobo Toolbox[19]). This data is reflected in the Borrower's Completion Report (BCR) and in the Bank's 14 Implementation Support Reports (ISRs) for the RPL project, which inform the assessment of the efficacy of the RPL project. The BCR in turn drew not only on PIU data sources but also on key interviews in Port-au-Prince and Nippes, as well as focus group discussions with 18 groups of beneficiaries that had benefited from support under the three subcomponents of Component 2.[20] It is important to note

[15] Haiti - Plan National d'Investissement Agricole (PNIA 2016-2021), dated November 2016 (cf. the strategic approach on p.17).
[16] Cf. the World Bank Group's 2015-2019 Country Partnership Framework (CPF) for Haiti, Report No. 98132-HT, discussed by the Board of Directors on September 29, 2015, and the Performance and Learning Review of the Country Partnership Strategy for the Republic of Haiti for the period FY16-19, Report No. 124812-HT, dated May 31, 2018, which was discussed by the Board of Directors two months after the RPL Project was approved, and which extended the CPF by two years to 2021.
[17] Haiti - Responding to recurrent crises and chronic fragility. Systematic Country Diagnostic Update. January 2022.
[18] World Bank Group Country Partnership Framework for Haiti for the period Fiscal Year 2025-2029, Report No. 181213-HT, page 11.
[19] KoboToolbox is a free and open source platform for the collection, management, and visualization of data that is used by thousands of organizations around the world, including development actors, education and research organizations and NGOs.
[20] The three sub-components are: (i) investments in resilient, sustainable agriculture and ecosystems; (ii) intensification, diversification and commercial agriculture; and (iii) protection of infrastructure and watersheds. Cf. the RPL Project PAD, page 17.

that the RPL project benefited from support from the Strengthening Agriculture Public Services II Project (RESEPAG II) Project Implementation Unit (PIU) team, and that by ISR 9 in June 2022, the Bank was reporting that: "The Monitoring and Evaluation has also registered sharp improvement and all the data are collected on time and results reported." The AF Project Paper and various ISRs refer to the use of the Kobo Toolbox as a key tool both for identifying potential beneficiaries and for supporting M&E. The Bank's team was satisfied with the data collection on the project's key performance indicators, as reflected in consistent Satisfactory Ratings from ISR 9 onwards until Project Closing and in no rating for M&E below Moderately Satisfactory throughout the life of the project.

19. **The Efficacy of the RPL project is rated as Substantial, having achieved or exceeded all of its PDO indicators and intermediate KPIs**. This can be seen in the Results Framework (Table A) and in the Key Outputs by Component (Table B) of Annex 1.

20. **The first PDO Outcome, namely "to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds" was achieved**. This outcome was measured by all three PDO indicators and one PDO sub-indicator, all of which were exceeded or greatly exceeded. In particular, 2,053 hectares were placed under sustainable landscape management practices with RPL project support, exceeding the target of 2,000 hectares by 2 percentage points. The number of farmers adopting improved agricultural technology, namely 4,196 farmers, was 40 percent greater than the original target of 3,000 farmers, and 38 percent of the farmers supported in this regard by the RPL project were women farmers, equivalent to 115 percent of the original target of 33 percent. It is worth noting that the targeted number of farmers adopting improved agricultural technology was exceeded by a greater proportion than the land area under sustainable landscape management practices, because the average farm sizes supported under the RPL project were smaller than envisaged at Appraisal, due in part to the greater than projected participation of women, whose plot sizes tended to be smaller.[21] The share of targeted farmers with improved market access that was achieved, namely 80.85 percent, was more than double the original target of 40 percent (see Annex 1).

21. **A range of project activities under Component 1, which aimed to strengthen the institutional and organizational capacities for landscape level interventions, directly supported the achievement of the first PDO outcome, as measured by the related intermediate indicators and outputs under Component 1**. All seven intermediate indicators for Component 1 were achieved. As reported in the BCR, a comprehensive master plan was finalized and validated for the implementation of the RPL approach, and participatory plans developed with community input together with investment plans were prepared for all four sub-watersheds as planned (100 percent of target). The RPL outputs that contributed directly to these achievements included the establishment and operation twice annually of the National Committee for Climate Change, the conclusion of technical capacity-building and regional support workshops for the MdE's National Directorate for Climate Change, which played a key role in the comprehensive master plan development, as well as the implementation of workshops in each sub-watershed for the development of participatory plans and of related pre-investment plans. Moreover, intensive training was provided in MARNDR and MdE, at the national and local level, as well as for local governments and key stakeholders in the four selected sub-watersheds, and a gender gap analysis was conducted that informed activities supported by the RPL project and helped the project to meet its gender-related targets.

22. **Two intermediate indicators under Component 1 related to spatial decision support were achieved, through the RPL project's support to Haiti's National Center for Geo-Spatial Information (CNIGS):** (i) A spatial decision support tool for the prevention and/or management of climatic risks became operational, with data made publicly available on Haitidata.org, and (ii) the spatial decision support tool for the prevention and/or management of climatic risks was applied to the area covered by the Project; indeed, whereas the original target had been to cover 8,000 hectares in the project areas, in practice the tool was applied to 21,968 hectares in the project area, equivalent to 365 percent of the original target. Various RPL project outputs contributed directly to this achievement, including the signing and implementation of a cooperation agreement with the French Agricultural Research Centre for International Development (CIRAD) to provide

[21] The PAD (page 14), notes that average plot sizes for women farmers was 0.9 hectares, 20 percent less than the average of 1.1 hectares for men.

technical assistance to the PIU on geospatial technologies and socio-economic analysis; a one-month training on Geographic Information Systems (GIS) was provided to two CNIGS executives for the design of the spatial decision support tool; training was provided to CNIGS personnel on the land parcel identification system LPIS and on climate parameters regarding satellites and field measurement sensors to better identify drought areas at land scale; and a GIS application was developed for CNIGS' Risk Analysis Tool.

23. **At the institutional level, the sustainability of the landscapes approach was strengthened under Component 1 by the legal establishment and operationalization of the Haiti National Trust (HNT), as measured by the two related intermediate indicators.** The RPL project contributed directly via the production of an operational manual for the HNT, the establishment of the HNT Secretariat, the signature of a tripartite agreement between the Caribbean Biodiversity Fund (CBF), Haiti National Trust and MARNDR, and contribution to the CBF endowment with funding from the GEF grant under the RPL project. The establishment of the HNT and the Haiti Biodiversity Fund endowment has enabled Haiti to draw on the CBF to access long term sustainable financing for climate adaptation and biodiversity conservation in perpetuity. Thus, the successful implementation of Component 1 of the RPL project provided the institutional and technical foundation for successful implementation of landscape level interventions in the project's four targeted sub-watersheds.

24. **A range of project activities under Component 2, which financed investments to strengthen resilient agricultural production and practices, also directly supported the achievement of the first PDO outcome, as measured by the related intermediate indicators and outputs under Component 2.** All six intermediate results indicators for Component 2 were achieved, and indeed all but one of the targets were greatly exceeded. In particular, a Farmers' field schools (FFS) approach had been applied successfully under the RESEPAG II project and was applied successfully too in the RPL project to familiarize farmers with improved agricultural technologies and landscape management practices. By way of specific examples of behavioral changes promoted via the FFS training, farmers adopted the practice of using live hedges rather than fencing for their plots to improve soil and water conservation, as well as composting to strengthen soil quality. The RPL project established 112 FFS, against an original target of 50 FFS (224 percent of the target), and the number of farmers participating in the FFS reached 2,800 with RPL project support, against an original target of 1,000 farmers (280 percent of the target). Moreover, 37.8 percent of the participating farmers were female, against an original target of 33 percent (i.e., 115 percent of target). This capacity building was complemented by a subsidy scheme that had also been previously applied successfully under the RESEPAG II project, and was implemented under the RPL project as a key project output, providing incentives to farmers to access inputs and services with vouchers so as to implement the good agricultural practices learned from the FFS, with 8,325 farmers receiving such incentives. Investments supported under the project enjoyed significant farmer support as they were prioritized via a combination of strategic orientation by MARNDR and MDE and a participatory approach that engaged local stakeholders, so as to assess their feasibility and likely impacts. Taken together, the FFS and farmer subsidies implemented under the RPL project contributed directly to the achievement of PDO Outcome 1, namely to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds, as measured by the over-achievement of the PDO indicators for land area under sustainable landscape management practices and for farmers adopting improved agricultural technology.

25. **The achievement of the PDO indicator on the share of targeted farmers with improved market access was directly supported under Component 2 via sub-projects to improve access to markets for products from targeted areas**. All three related intermediate (sub-)indicators were achieved. In particular, at the time of the May 2024 restructuring, a target of 20 sub-projects was established, rather than the 50 originally envisaged or the 40 targeted at the time of the AF, because with just 20 sub-projects, the RPL project achieved more than double the PDO indicator target for the share of targeted farmers with improved market access (80.85 percent vs. a target of 40 percent), and the reduced intermediate indicator target of 20 sub-projects was achieved exactly with 20 sub-projects (100 percent of the target). Moreover, the number of group members benefiting from the 20 sub-projects, namely 1,511, was more than triple the original target of 500 group members (302 percent of the target). In terms of the share of group members benefitting from sub-projects who were female, the PAD target of 50 percent was reduced to 33 percent to align this target with the other gender-

related indicator targets in the RPL project, but this latter target of 33 percent was greatly exceeded as 47 percent of group members benefitting from the sub-projects were female (equivalent to 142 percent of the final target and 94 percent of the original target). The success in achieving these intermediate indicators is the product of the following key RPL project outputs: (i) Matching grants provided to groups of producers/small enterprises via the "Market Support Facility" (MSF), as implemented under RESEPAG II, to enable recipients to improve the quality and add value to agriculture production, and link better to markets; and (ii) Training events conducted to improve business/marketing skills and increase agri-business capacity in the targeted communities.

26. **The RPL project also produced a range of outputs under Sub-component 3 of Component 2 to protect infrastructure and watersheds, that enhanced landscape management in the selected watersheds**. In particular, the RPL project financed: (i) Rehabilitation of 109.4 hectares of irrigated areas; (ii) Reprofiling and cleaning of 18.85 linear kilometers of canals and irrigation infrastructure; (iii) Dredging and reshaping of 800 linear meters of the Froide River, together with gabion basket protection and masonry dike construction on 100 linear meters of the river; (iv) Gulley corrections on 1,910 linear meters; (v) Rehabilitation of 700 linear meters of earthen tracks and 153 linear meters of concrete farm tracks, as well a 70 linear meters of protection walls and 2 crossing structures, thereby opening access to farmlands in the Charlier area of the Petite Rivière Commune; (vi) Construction of 50 water cisterns for rural families; (vii) Provision of 5 kilometers of biological structures (bamboo, elephant grass, etc.), together with 112 dry stone thresholds to consolidate landscapes and prevent erosion; (viii) Reforestation and protection for 9 water springs; and (ix) Restoration of 6 hectares of mangrove. As reported in the BCR, the RPL project's outputs under Sub-component 3 of Component 2 benefitted 8,885 farmers and their families. More broadly, the support under Sub-component 3 illustrated the benefits of the landscapes approach: By way of a specific example, the protection of nine targeted springs, correction of the Javel and Manyan ravines, stabilization of the banks of the Rivière Froide and soil conservation activities in upstream degraded areas under the RPL project will prevent damage to irrigation infrastructure in the irrigated perimeters of Charlier and O'Rouck, while the improved agricultural prospects in these irrigated perimeters encourages farmers to invest more in these areas and reduce pressure on upstream natural resources.

27. **The second PDO Outcome, namely to "enable the Government to respond promptly and effectively to an eligible emergency", was contingent; therefore, no PDO-level indicators were included for this outcome, but based on the strength of the outcomes for the related indicators registered as intermediate results indicators for Component 4, (the CERC component activated in April 2020), one can conclude that this second PDO outcome was also achieved.** In particular, the targets for all three related intermediate results indicators were greatly exceeded. In terms of a ***prompt response***, GoH declared an emergency on March 19, 2020, almost immediately after the COVID-19 pandemic had reached Haiti, the CERC was activated within 35 days on April 23, 2020, and by June 10, 2020, ISR 5 was reporting that contracts had been negotiated with input suppliers and local retailers, 17,000 potential beneficiaries had been identified using the Kobo Toolbox, and more than 1,000 beneficiaries had already received distributions of seeds. Moreover, according to ISR 6 (filed in December 2020), by September 2020, 12,874 agricultural households (corresponding to more than 64,000 people), had received support under the CERC, with farming support provided to cultivate 8,791 hectares of cropland (compared to a total of 8,125 hectares planned). In terms of an ***effective response***, the final number of farmers provided with climate-resilient crop varieties/seeds in the Nippes and Sud Departments with CERC support under the RPL project reached 20,968, compared to a target of 9,000 (233 percent of the target), while the total number of farmers receiving urgent production inputs (e.g. fertilizers) and services under the CERC reached 137,611, compared to an original target of 21,490 (640 percent of the target). It is important to clarify that, while the CERC resources were originally triggered in response to the COVID-19 pandemic and a large share of the US$9.90 million reallocated to the CERC component was consequently disbursed in 2020, (so that overall project disbursements quadrupled to US$8 million between the third quarter of 2019 and the second quarter of 2021), a further share of the CERC component was disbursed in response to the devastation caused by the August 2021 earthquake and by Tropical Storm Grace that immediately followed it. Thus the number of beneficiaries supported through the pandemic 2020-22 combined with the number of beneficiaries

supported following the devastation experienced in August 2021, resulted in a more than six-fold increase in the number of beneficiaries of urgent production inputs and services under the CERC, relative to the original target.

28. **Finally, Component 3, for Project Coordination and Monitoring and Evaluation (M&E), supported both project outcomes and both of its intermediate results indicators were achieved**. In particular, according to surveys conducted by the PIU, 85.7 percent of beneficiaries were satisfied with project interventions, against a target of 75 percent (114 percent of the target); while 40 percent of the survey responses came from female beneficiaries, against a target of 33 percent (121 percent of the target). Factors that contributed to this include the RPL Project's implementation of the Kobo Toolbox to identify beneficiaries, conduct M&E and manage beneficiary surveys; realization of field surveys (data collection and processing) by the Agricultural Statistics and Informatics Unit USA); implementation of a Grievance Redress Mechanism (GRM); implementation of sanitary precautions in order to ensure social distancing and reduction of virus spread while continuing to provide support during the COVID-19 pandemic; and implementation of distance work, virtual meetings, electronic signatures and bank transfers to overcome mobility barriers due to both the COVID-19 pandemic but above all the high insecurity and mobility barriers especially in and around Port-au-Prince. With regard to the GRM, the mechanism received and addressed 112 "complaints", almost half of which were in fact applications for employment in project-supported community-level sub-projects.

29. As the RPL project met or exceeded all four of its PDO indicators, and as the project met or exceeded all of its intermediate results indicators as a direct result of RPL project outputs and activities, the RPL project's Efficacy is rated as Substantial.

C. EFFICIENCY

30. **The RPL project was implemented in a highly fragile context that required responding flexibly to a series of emergencies, and yet was able to achieve successful implementation of a broader range of activities than originally approved with only a fairly modest extension of time to complete implementation**. The project began slowly because of severe delays in staffing the PIU due to major political turmoil during 2018 and 2019 that resulted in heavy turnover of Ministry counterparts. Haiti's prolonged socio-political crisis[22] and worsening insecurity severely limited mobility, delaying procurement processes and on-the-ground implementation, while road blockades and escalating violence made it difficult to deliver agricultural inputs and infrastructure materials, and created material and physical risks for PIU staff (see Section III). These problems were exacerbated by the onset of the COVID-19 pandemic in 2020, which required time and resources to be redirected to the emergency response to mitigate food insecurity, and which disrupted supply chains and restricted the movement of people and goods, hampering project implementation. The August 2021 earthquake further strained project timelines by redirecting resources toward immediate relief efforts, particularly in affected agricultural communities. Thus, while the project was originally intended to be implemented by December 2023, in practice the Closing Date was extended twice to allow for completion of project activities by November 2024, which is a modest extension in relation to the expanded project activities and crisis context in which the RPL project was implemented.

31. **The actual total cost of project activities was higher than envisaged at appraisal but below the cost projected at the time of the Additional Financing, and a larger share of project resources directly reached farm families than was originally projected**. In particular, in light of the activation of the CERC, which extended the geographic coverage of the project, and of the Additional Financing, which added US$7.75 million equivalent in IDA grant resources to the project, the actual total cost of project activities, at US$28.15 million, was 33 percent higher than at Project Appraisal (US$21.21 million), but remained below the revised cost (at 97 percent of the revised cost) at the time of the AF (US$28.96 million).[23]

[22] Haiti's social crisis was not a new phenomenon when the RPL project was implemented (see the World Bank's 2006 Country Social Analysis for Haiti, Report No. 40927), but became much more acute beginning in 2018 and culminated in the assassination of President Moïse on July 7, 2021, and in unprecedented levels of violence by Haitian gangs, which also sealed off entry and exit from Port-au-Prince.

[23] Note: These cost data do not include the parallel financing provided by the Haitian NGO J/P Haitian Relief Organization, whose US$5 million

At approval, it was envisaged that 57 percent of the project's resources would directly reach farm family beneficiaries (namely Component 2 investments of US$12.11 million), with the remainder financing institutional strengthening (US$5.6 million under Component 1) and Project Coordination and M&E (US$3.5 million). In practice, 72 percent of project resources went directly to farm family beneficiaries under Component 2 (US$10.68 million) and the CERC Component 4 (US$9.64 million). Moreover, the actual cost of project coordination and M&E (US$3.63 million for Component 3) was just 4 percent higher than projected at Appraisal (US$3.5 million), even with an 11-month longer implementation period than envisaged and expanded project activities. Thus, the actual costs for Component 3 as a share of total costs were lower at Project Closing (US$3.63 million out of US$28.15 million, or 12.9 percent) than originally appraised (US$3.5 million out of US$21.21 million, or 16.5 percent).

32. **The actual cost per beneficiary under the RPL project was significantly lower than projected at Appraisal and than projected at the time of the AF**. The number of direct beneficiaries was estimated at 6,000 in the PAD, although the breakdown of beneficiaries (not including 200 service providers and GoH officials) only tallies to 4,800. The number of beneficiaries of the original project components was reduced at AF from 4,800 to 3,400, although an additional 22,040 farmers were expected to benefit from the activation of the CERC component, for a total of 25,440 beneficiaries. At Project Closing, the total number of beneficiaries supported by the RPL project was 167,086, i.e. various multiples of the number of beneficiaries projected at Approval or AF, even as total costs at Project Closing were just 33 percent higher than at Approval of the RPL Project in 2018 and 3 percent lower than at AF. Thus, the total project cost per beneficiary was estimated at US$4,419 at Approval, US$1,138 at AF, and US$168 at Project Closing. In practice, whether the cost per beneficiary is calculated assigning the total project cost to each beneficiary or whether the cost per beneficiary is measured separately for Components 2 and 4 or whether the total cost for Components 2 and 4 (whose combined resources flowed directly to farm-level beneficiaries) is measured against the total number of farm-level beneficiaries, in each case the actual final cost per beneficiary is significantly lower than at Appraisal or AF (see Table 1).[24]

Table 1. RPL Project Costs, Beneficiaries and Cost per Beneficiary

RPL Project Costs	**At Approval (PAD)**	**At Additional Financing**	**At Project Closing**
Component 2 Cost (US$ millions)	12.11	10.73	10.68
Component 4 Cost (US$ millions)	0.00	9.90	9.64
Sub-Total for Components 2 and 4 (US$ millions)	12.11	20.63	20.32
Total Project Cost (US$ millions)	**21.21**	**28.96**	**28.15**
Reported Beneficiaries[25]	**At Approval (PAD)**	**At Additional Financing**	**At Project Closing**
Farmers adopting improved agricultural technology (PDO indicator) (Number)	3,000	2,200	4,196
Farmers participating in the FFS	1,000	700	2,800
Members of the groups benefiting from sub-projects	800	500	1,511

parallel financing was reflected in the PAD and AF Project Paper but not tracked in the RPL Project's ISRs. Nor do they include an estimated US$0.3 million in beneficiaries' contributions to the sub-projects financed via matching grants under the Market Support Facility in Sub-component 2.2.

[24] Of the US$5 million in J/P HRO parallel financing, US$1.4 million was assigned to Component 1 and US$3.6 million was assigned to Component 2. The exclusion of this parallel financing (and of the related beneficiaries) from the above cost-per-beneficiary calculations does not materially alter the conclusion that costs per beneficiary were substantially lower at Project Closing than at Approval or AF.

[25] The total number of beneficiaries does not include service providers nor GoH officials. Nor, for comparison reasons, does it include the number of beneficiaries of investments under Sub-component 2.3, which amounted to 8,885 farmers and their families at Project Closing, as projections for the number of beneficiaries of Sub-component 2.3 were not provided in the PAD or the AF project paper.

Farmers provided with climate-resilient crop varieties/seeds under CERC	0	550	20,968
Farmers receiving urgent production inputs and services under CERC	0	21,490	137,611
Total Number of Reported Beneficiaries	**4,800**	**25,440**	**167,086**
RPL Project Cost per Beneficiary	**At Approval (PAD)**	**At Additional Financing**	**At Project Closing**
Component 2 Costs per Component 2 Beneficiary (US$)	2,523	3,156	1,255
Component 4 Costs per Component 4 Beneficiary (US$)	n/a	449	61
Component 2 plus 4 Costs per Direct Project Beneficiary (US$)	2,523	811	122
Total Project Cost per Beneficiary (US$)	**4,419**	**1,138**	**168**

33. **An economic and financial analysis of the Component 2 investments supported by the RPL project points to robust positive financial returns for farmers and strong economic returns for the country (see Annex 4).** The ex-post economic and financial analysis (EFA) compared the costs and benefits of the RPL project at Project Closing to estimate its efficiency, both from the point of view of the beneficiaries (financial analysis) and from that of the economy (economic analysis). The EFA is based on quantitative assessment of investment models that represent a significant proportion of the project's results chain, corresponding to activities financed under Components 2 and 4 (supported and reinforced by the activities implemented in Components 1 and 3). According to the financial analysis of sample cases, the models all pointed to viable investments for targeted beneficiaries, with positive incremental gross margins across investments financed under Sub-components 2.1 and 2.3 (see Annex Tables A4.1 and A4.3), and financial internal rate of return on sub-projects supported with matching grants under Sub-component 2.2 ranging from 13 percent for honey production to 28 percent for fish farming. The ex-post economic analysis took into consideration incremental benefits and costs derived from the implementation of the RPL project. It found that, in the reference scenario, (which excludes climate co-benefits) the Economic Internal Rate of Return (EIRR) was 19 percent while the Economic Net Present Value (ENPV) was US$8.4 million (applying a 12 percent social discount rate, as was done at Appraisal).[26] These values compare with a projected ex-ante EIRR at Appraisal of 20.8 percent (that excluded the costs of Component 1), and an ENPV of US$7.5 million, and with an updated EFA analysis at the time of the AF that projected an EIRR of 20.3 percent and an ENPV of US$9 million.

Table 2. Summary of the RPL Project's Economic Performance Indicators

Economic Performance Indicators	Reference Scenario (not including climate co-benefits from GHG mitigation)	Low Carbon Price Scenario (LCP)	High Carbon Price Scenario (HCP)
Economic Internal Rate of Return (EIRR)	19%	26%	33%
Economic Net Present Value (ENPV), in US dollars	8,396,896	17,531,893	26,635,332
Economic Net Present Value for benefits (ENPV-b), in US dollars	90,156,031	99,291,028	108,394,467
Economic Net Present Value for costs (ENPV-c), in US dollars	81,759,135	81,759,135	81,759,135
Benefit/Cost (B/C) ratio	1.10	1.21	1.33
Switching value for benefits (SVB)	-9%	-18%	-25%
Switching value for costs (SVC)	10%	21%	33%
Economic discount rate	12%	12%	12%

34. **The RPL project generated a range of additional benefits that are not fully factored into the economic analysis**. A number of environmental and social benefits derived from the Project implementation were identified qualitatively, but due to the lack of information to conduct a quantitative assessment at Project Closing, most of these were not included

[26] The reference (base case) scenario is conservative, in that it includes all project costs, including for Components 1 and 3, (even though benefits could not be calculated for activities related to these components), and excludes benefits associated with Sub-component 2.3 as well as climate change co-benefits. See Annex 4 for details on assumptions, methodology and outcomes in the Appraisal, AF and ex-post EFA analyses.

in the economic analysis. These included, for example, the benefits to the country of the capacity building and institutional strengthening activities financed under Component 1, as well as the benefits to farming communities of the infrastructure investments undertaken in Sub-component 2.3, such as soil conservation structures, irrigation systems, and rainwater harvesting facilities that enhanced long-term productivity and reduced vulnerability to climate shocks. At the same time, in line with the World Bank guidelines, an updated assessment of the Project contribution to the reduction of greenhouse gas emissions (GHG balance) was included in the economic analysis. The RPL project was found to generate important climate co-benefits that contribute to Haiti's Nationally Determined Contribution (NDC), with a potential reduction of 585,166 tons of carbon dioxide equivalent (tCO_2e) over twenty years (i.e., slightly more than the 572,397 tCO_2e over 20 years estimated at Appraisal, and significantly more than the 384,452 tCO_2e over 20 years estimated at the time of the AF). Factoring in climate co-benefits, in a low carbon price scenario (LCP), the EIRR was found to increase from 19 percent to 26 percent, with the ENPV more than doubling from US$8.4 million to US$17.5 million, while under a high carbon price scenario (HCP), the EIRR was found to increase to 33 percent, with the ENPV more than tripling to US$26.6 million.

35. **Taking into consideration the significant reduction in unit costs with the increased numbers of beneficiaries under the project, the robustly positive financial and economic returns generated by the RPL project, and their broad consistency with ex-ante projections, as well as the extremely fragile context in which the RPL project's economic and financial returns were achieved, (even without considering important institutional capacity gains and non-quantified benefits from infrastructure improvements generated over the life of the project), the RPL project's Efficiency is rated as Substantial.**

D. JUSTIFICATION OF OVERALL OUTCOME RATING

36. Considering the High relevance and Substantial efficacy of the RPL project, and its Substantial efficiency rating (see Table 3), the RPL project's overall outcome is rated as Satisfactory.

Table 3. The Overall Outcome of the RPL Project is Rated as Satisfactory

Relevance of PDO	Efficacy	Efficiency	Overall Outcome
High	Substantial	Substantial	**Satisfactory**

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

Gender

37. **The RPL project explicitly targeted and measured opportunities created for women, and the benefits for women exceeded projections at Approval**. At Approval, the PAD indicated that the RPL project would undertake a gender gap analysis, include specific measures to address gender gaps, and monitor gender-disaggregated indicators.[27] These three measures were in fact undertaken: the RPL project conducted a gender gap analysis to inform the project activities; hired a specialist in the PIU responsible for gender, social inclusion and social safeguards, whose responsibilities included the integration of gender dimensions in project activities, a review of the quality of project activities in terms of gender, monitoring of gender-disaggregated key performance indicators, dissemination of best practices, and collaboration with the GRM mechanism in addressing complaints; and the project produced and monitored gender-disaggregated data on various PDO and intermediate results indicators. The monitoring of results was also supported by GoH's Ministry of Women's Affairs. At Project Closing, the PDO indicator for the share of farmers adopting improved agricultural technology who were female (38 percent) exceeded the target at Appraisal (33 percent) by 5 percentage points. Of the five intermediate results indicators that were gender-disaggregated, one was not tracked to Project Closing, while the other four had outcomes that exceeded their targets. In the case of farmers receiving urgent production inputs and services

[27] The PAD (page 14) also listed gender gaps that had already been identified with regard to education, plot sizes, unemployment and wages.

under the CERC, 40.1 percent of the 137,611 beneficiaries were women farmers, against a target of 33 percent. Thus, based on the data available, the project benefited a total of at least 58,584 women farmers against an Appraisal projection of 1,733 and an AF projection of 8,562, while the total proportion of beneficiaries who were women was at least 35 percent, and likely closer to 40% if women farmer beneficiaries receiving climate-resilient crop varieties/seeds under the CERC were to be tallied (see Table 3). The BCR concludes that the RPL project's prioritization of women, in terms of representation and leadership, promoted women's empowerment and enabled them to participate in their families' social advancement.

Table 3. Female Beneficiaries as a Share of Total Beneficiaries under the RPL Project

Reported Beneficiaries[28]	At Approval (PAD)	Of which Female	At AF	Of which Female	At Project Closing	Of which Female
1. Farmers adopting improved agricultural technology (PDO indicator) (Number)	3,000	1,000 (33%)	2,200	733 (33%)	4,196	1,594 (38%)
2. Farmers participating in the FFS	1,000	333 (33%)	700	233 (33%)	2,800	1,058 (38%)
3. Members of the groups benefiting from sub-projects	800	400 (50%)	500	250 (50%)	1,511	710 (47%)*
4. Farmers provided with climate-resilient crop varieties/seeds under CERC	0	0	550	183 (33%)	20,968	n/a**
5. Farmers receiving urgent production inputs and services under CERC	0	0	21,490	7,163 (33%)	137,611	55,222 (40.1%)
Total Number of Reported Beneficiaries	**4,800**	**1,733 (36%)**	**25,440**	**8,562 (34%)**	**167,086**	**58,584 (>35%)**

*Notes: *The target had been reduced to 33 percent at the time of the May 2024 Restructuring. **: This indicator included in the AF Project Paper was not tracked in any subsequent ISR. ***: The total excludes actual female beneficiaries of climate-resilient crop varieties/seeds (line 4) due to lack of data, so the actual total number of female beneficiaries is underestimated, while the proportion of female beneficiaries is at least 35 percent (under the extremely conservative assumption that none of the beneficiaries of line 4 were women), and more likely nearer 40 percent.*

Institutional Strengthening

38. **The strengthening of GoH's institutional capacity, in terms of policies, practices and systems, to undertake a resilient productive landscapes approach, is an important achievement of the RPL project, especially in the fragile context of Haiti**. Capacity was strengthened at several levels, beginning with much closer coordination between MARNDR and MdE, including via collaboration on the Project Steering Committee to validate investment plans, increased inter-ministerial information-sharing, co-location of facilities in Port-au-Prince, via joint field missions involving staff from both ministries' departmental directorates in Nippes. This type of close collaboration is essential to better align agricultural and environmental objectives and to reverse the negative feedback loop between extensive, low-productivity agriculture and environmental degradation. The establishment and operation of the National Committee for Climate Change provided a forum for policymakers to address climatic risks and pursue a comprehensive approach, reflected in a master plan, for the implementation of the RPL approach. This was supported by participatory plans and related investment plans at the sub-watershed level, whose approach can be replicated in other watersheds. The strengthening of CNIGS' capacity to apply a spatial decision support tool and a risk-analysis tool for the prevention and management of climatic risks is a further

[28] The total number of beneficiaries does not include service providers nor GoH officials. Nor, for comparison reasons, does it include the number of beneficiaries of investments under Sub-component 2.3, which amounted to 8,885 farmers and their families at Project Closing, as projections for the number of beneficiaries of Sub-component 2.3 were not provided in the PAD or the AF project paper.

important element in consolidating the RPL approach, with data made publicly available on Haitidata.org. Moreover, the tripartite agreement between MARNDR, the Haiti National Trust and the Caribbean Biodiversity Fund and the capitalization of the Haitian Biodiversity Fund (HBF) provides a strong institutional foundation for Haiti to be able to access long term sustainable financing for climate adaptation and biodiversity conservation. Indeed, the HBF has received additional bilateral financial assistance from the French and German governments and since Project Closing, it has continued to engage in supporting protected areas, building local capacity in conservation activities and supporting community-level projects for natural resources management. At the project operational level, while the recruitment of the PIU got off to a slow start, the ability to draw on the unified procurement unit (*Unité de Passation de Marchés Publics*, UPMP) established in MARNDR, as well as on support from the RESEPAG II PIU, proved essential not only to support RPL project activities but also to consolidate the UPMP's skills, while the technical capacity developed in the RPL project's PIU has proven valuable both for the IDA-financed Emergency Resilient Agriculture for Food Security (PARSA) project and the follow-on Resilient Productive Landscapes II project.[29]

Mobilizing Private Sector Financing

39. **The RPL project, which was grant-financed by IDA and GEF (i.e., not financed by credits), was not designed to mobilize private sector financing in the fragile context of Haiti**. Although the RPL project built on the successful model implemented in the RESEPAG II project for the Market Support Facility and included a combination of cash and in-kind own financing requirements for sub-projects financed under the MSF for more advanced constituted groups of producers or small enterprises, only in-kind contributions were required of groups engaging in small value/basic level investments. Thus, overall, as the RPL project PAD states (page 52): "The level of matching required will be small to negligible in order to ensure accessibility to most of the interested groups." At the same time, the US$ 21.21 million in IDA and GEF financing was designed to mobilize US$5 million in parallel financing by the J/P HRO. Even though the J/P HRO in the end only disbursed US$1.2 million, this financial support played a critical role during the early stages of the project in financing project preparatory activities, including the provision of technical advice to PIU staff, the development of participatory plans in all four sub-watersheds, detailed planning for water management infrastructure construction and rehabilitation, and consolidation of the Operations Manual and preparation of the tripartite agreement for the Haitian Fund for Biodiversity managed by the HNT.[30]

Poverty Reduction and Shared Prosperity

40. **The RPL project made an important contribution to poverty reduction, albeit with risks to its sustainability**. The project greatly increased the value of production by beneficiaries of the farmer subsidy system, and in sales by farmer groups supported under the MSF. This has also strengthened the capacity of beneficiary rural producers to manage adverse shocks, relative to non-beneficiaries. In addition, the infrastructure investments under Sub-Component 2.3 will have lasting impacts in terms of improved livelihoods relative to the without-project scenario. However, the political, economic and natural disaster fragility of Haiti represent important persistent risks for the sustainability of the poverty reduction, and overall food insecurity has been increasing in rural areas of Haiti in recent years, with the broader Nippes Department projected to face crisis levels of acute food insecurity in March-June 2025.[31] Continued support for rural producers under PARSA will help to consolidate gains achieved by RESEPAG II in terms of poverty reduction.

[29] The PARSA project, P177072, for US$102 million equivalent, was approved by the World Bank's Board of Directors on March 17, 2022, together with US$50 million equivalent in additional financing approved on February 7, 2023. The follow-on RPL II project, for US$50 million equivalent, was approved by the World Bank's Board of Directors on March 28, 2025.

[30] The Aide-Mémoire for the June 2020 Bank mission notes that: "The parallel financing of J/P HRO has not changed since the last ISR, with US$1.2 million disbursed out of a projected amount of US$5 million, representing 24%. The NGO informed both ministries at the end of December 2019 of the need to temporarily suspend its financing due to limited progress in 2019 and its own cash flow problems".

[31] See information from the IPC at https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1157971/?iso3=HTI.

Other Unintended Outcomes and Impacts

41. **The RPL project contributed in important ways to the strengthening of social cohesion and collaboration in the beneficiary communities**. First, by relying on local suppliers rather than external providers to supply seeds, banana suckers, seedlings, and plowing services, among other goods and services, and by relying on local distributors to deliver goods to beneficiaries, the RPL project's benefits were extended inclusively beyond the targeted farmers in the sub-watersheds, injecting funds in the local economy that can be reinvested by local suppliers and distributors to maintain local supplies even after Project Closing. Second, social cohesion was strengthened through collective activities such as training via farmer field schools, sub-projects financed under the MSF, and the provision of family water tanks. The BCR notes that the collective activities required the establishment of rules and disciplines that can only be beneficial for society, and encouraged the sharing of knowledge and experiences, e.g., the sharing of banana suckers from plots established under the RPL project, which has helped to strengthen the social fabric within communities. The collective activities also include the establishment of community-level monitoring committees to protect the springs and restored mangroves supported under the project.

42. **The BCR notes that the social impact of the RPL project on beneficiaries is primarily reflected in their food security**. While the PAD refers to actions proposed under Component 2 to improve livelihoods via improved food availability and nutritional quality, no indicators were included in the results framework to track improved food availability and quality. Nonetheless, improved food security proved to be an important other outcome of the RPL project: the BCR reports that beneficiaries were able to harvest okra or eggplant every three days, and harvest larger quantities of yams, providing beneficiaries with enhanced food security as well as incomes that could be used to finance children's education, upgrade homes, ensure environmental sanitation, and pay for healthcare. Moreover, an evaluation of the contingent Component 4 (CERC) in 2022 found that during the two seasons that CERC activities were undertaken, food security was enhanced for beneficiaries, as reflected in an increase in the frequency of daily meals and a reduction in the duration of difficult times when families had to ration food, reduce the number of meals per day, or eat cheaper, less nutritious foods.

III. KEY FACTORS AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

43. **The design of the RPL project, with its emphasis on a joint MARNDR-MdE approach to building resilient productive landscapes, emerged from a strong awareness of the negative feedback loop between agriculture and environmental degradation and the need to reverse this trend**. This awareness was reinforced by Haiti's extremely high vulnerability to natural disasters and climate change, as underscored by the damages caused by three years of drought (2014-16), followed by the devastation of Hurricane Matthew in 2017. The severe impacts suffered in the Department of Nippes led GoH to request World Bank support for an RPL approach focused on sub-watersheds in the Department of Nippes, with a view to learning from this experience and extending the approach beyond the targeted area if it proved successful.

44. **In the fragile context of Haiti, where both strategic attention and financial resources repeatedly had to be diverted to address emergencies, the RPL project also sought to support more long-term, sustainable approaches**. This is reflected on the one hand in the collaboration between MARNDR, MdE, J/P HRO and a coalition of more than 60 NGOs, called Haiti Takes Root (HTR) to improve watershed management and reforestation via a long-term, strategic, programmatic approach. The RPL project was envisaged as a “proof of concept” under HTR and proved successful in this regard. The second, also successful, key dimension is the establishment of the Haitian Biodiversity Fund mechanism, designed to ensure sustainable financing over time to combat threats to biodiversity. This has provided an opportunity for Haiti to tap into long-term, sustainable financing for climate adaptation and biodiversity conservation in perpetuity, with Haiti's participation in the broader Caribbean Biodiversity Fund.

45. **The decision taken during preparation to include a CERC component that provided immediate support in the event of a range of emergencies proved to be highly appropriate in the Haitian context**. The CERC component was activated two years after Approval due to the 2020 COVID-19 pandemic and proved valuable again the following year in light of the devastating earthquake that struck the Department of Nippes on August 14, 2021, and by Tropical Storm Grace, which pelted areas devastated by the earthquake just three days later with strong winds and heavy rains.

46. **Even though political turmoil increased significantly after Approval, the preparation of the RPL project was already facing a complex and volatile political context**. In this context, which affected counterparts' ability to advance with key decisions, the ability to draw on a project preparation grant and on support from the J/P HRO proved very important to support GoH with project design, and this support to GoH extended beyond the RPL project's Approval. The experiences with implementation of RESEPAG II, notably the Farmer Field Schools approach, the Farmer Subsidy System, the Market Support Facility, and the UPMP, also proved extremely valuable for the preparation of the RPL project.

B. KEY FACTORS DURING IMPLEMENTATION

47. **The most critical factor affecting RPL project implementation was the highly volatile political and security context in Haiti**. Adverse economic conditions fueled an intensified political crisis in 2018 with large, violent demonstrations against fuel shortages, cost of living increases and corruption allegations. The political turbulence was reflected in major staff turnover in 2018 that directly affected the project by freezing processes for PIU recruitment. The spiraling protests culminated in the complete paralysis of the economy ('*Peyi Lòk')* in 2019, as well as a sharp spike in gang violence, with gangs blocking road transport into and out of the capital. In the absence of elections to replace legislators whose terms had expired, President Jovenel Moïse ruled by decree after January 2020, until he was assassinated on July 5, 2021, plunging the country into further uncertainty. The deterioration of the security situation was reflected not just in roadblocks, especially around Port-au-Prince, but also in multiple kidnappings, civil unrests, and fuel shortage, especially in provincial towns. These had a direct effect on the project in two ways: first, there were several incidences of kidnapping and gun violence that directly affected members of the PIU or their families, as reported in the May 2022 Mid-Term Review and the October 2023 Restructuring, while the May 2024 Restructuring reported an attack on the RPL project offices at MARNDR, affecting project equipment and records. Second, another '*Peyi Lòk'* from September to November 2022 led to a delay in being able to implement activities as a key juncture in the life of the project, while the inability of farmers to transport their produce to market due to blocked national roads, led to financial losses and increased food insecurity. Moreover, inflation soared in this context, while the Haitian Gourde lost half of its value over the life of the project, forcing a range of adjustments to contracts with project operators. In light of the difficulty for the project team to monitor activities on the ground, and supply inputs and equipment and materials from Port-au-Prince, two critical decisions favored project implementation in this adverse context: first, the establishment of both a central and a local PIU from the outset of the project, (which was a key lesson learned from RESEPAG II), and second, GoH's development of a contingency plan endorsed by the Bank, which involved reliance on remote work, aerial transportation instead of ground transportation, virtual meetings, electronic signatures, and bank transfers so as to overcome mobility barriers and facilitate project implementation, even though these measures increased project management costs.

48. **The second critical factor affecting project implementation was the emergencies that the RPL project had to face, beginning with the onset of the COVID-19 pandemic in March 2020, followed by the devastation of the August 2021 earthquake**. The COVID-19 pandemic exacerbated an already critical economic situation in Haiti, disrupting supply chains, including access to inputs and markets, and driving up food prices and food insecurity. The activation of the CERC in response to the COVID-19 pandemic led to the redirection of almost half of the project's IDA/GEF funds (US$9.9 million out of US$21.21 million, or 47 percent) to finance the urgent response required as a result of the pandemic, notably the provision of seeds, fertilizers and technical advice to ensure food production (especially as remittances from Haitian migrants, which provided critical support for many household, fell sharply after the onset of the pandemic). While the November 2020 AF provided an additional US$7.75 million for the RPL project, this did not close the financing gap related

to the originally envisaged project activities, whose targets had to be downsized.[32] The CERC activation was designed to support two cropping seasons, and the support proved critical not only after the onset of the pandemic in 2020, but also in the second year, when a 7.2 Moment Magnitude (Mw) earthquake struck Haiti on August 14, 2021, with its epicenter on in the southern border area of the Department of Nippes. The earthquake produced at least 150 landslides in the Department, and hundreds more in the Department of Sud, according to the United States Geological Service.[33] It claimed more than 2,200 lives, caused more than 12,700 injuries, and destroyed homes, roads, farm-level and other infrastructure. The RPL project increased support under the CERC in 2021, with a strong focus on women farmers and on providing inputs to enhance food security.

49. **The achievement of the RPL project's key performance indicators in this fragile context of repeated, major adverse shocks is a testament to the commitment of MARNDR, the operators, and the Bank team to achieving the project's objectives, and it was favored by the parallel financing provided by the J/P HRO and by the support provided from RESEPAG II**. For example, ISR 1 (June 2018) reported that "preparatory activities are underway, financed through J/P HRO and the [project preparation grant]", and, similarly, ISR 2 (December 2018), reported that "the Project preparation grant supported a number of preparatory activities that have been pursued to some extent with the financial support of J/P HRO (e.g. detailed planning for water management infrastructure rehabilitation/construction)", while ISR 3 (June 2019) noted that "The continuous presence and support from the NGO J/P Haitian Relief Organization (J/P HRO), parallel financier of the Project, has proven to be valuable in moving forward several important activities... J/P HRO has supported the development of participatory plans in all sub-watersheds, and already developed pre-investments plans to carry out infrastructure rehabilitation". In a similar vein, ISR 4 (November 2019) reported that "The PIU has not replaced yet the FM specialist who resigned almost six months ago. The FM aspects are covered by the FM specialist of the RESEPAG project"; ISR 5 (June 2020) reports that "Hands-on support is provided by the PIU of RESEPAG for the implementation of the CERC activities", and ISR 6 (December 2020) reports that "The RESEPAG-II Team continues to give support to the RPL and activities are moving on the ground and particularly for the CERC". In addition, the centralized procurement unit (UPMP) of MARNDR, established under RESEPAG, supported the RPL project, given its familiarity with World Bank procurement policies, as noted in ISR 3. While the RPL project benefitted from these supports, the technical skills, experience gained, and commitment of the RPL PIU enabled it to implement the RPL project successfully in a very difficult context with the Bank team's support, and to provide lessons and experience for subsequent operations, as noted in the PAD of the PARSA project.[34]

IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

M&E Design

50. **The design of the Results Framework at Approval was underpinned by a theory of change (see Annex 9), with indicators that were closely linked to project objectives and were retained throughout implementation**. The PAD provided for the implementation of an M&E system designed to link technical and financial data regarding Project progress, and for the issuance of M&E reports every six months for physical implementation and results monitoring. Responsibility

[32] Certain activities originally envisaged, and even started, under the RPL project eventually had to be taken up by the PARSA project.
[33] See: https://www.usgs.gov/news/featured-story/magnitude-72-earthquake-haiti.
[34] For example, the PARSA project (P177027) PAD (Report No. PAD4673) notes (on page 18) that "...experience under RPL and RESEPAG II with participatory community selection of beneficiaries has proven successful and this approach will be adopted in targeting support under the PARSA Project", and that "The subsidy scheme, which provides improved technical input packages, requires specific commitments by the beneficiaries and is accompanied by technical support and strong controls. This well-tested mechanism under RESEPAG II and RPL will be applied under the Project".

for M&E was to be housed in the PIU, which was to hire M&E staff including at the local PIU level, and was to be conducted in close cooperation with the support staff of the Departmental Directorates for Agriculture (DDA) and for Environment (DDE). The M&E section of the Project Implementation Manual provided details on the results framework, the methodology and the instruments to be used for data collection, the institutional arrangements for M&E functions (identification of actors and definition of their respective responsibilities), the Grievance Redress Mechanism (GRM), and the mechanism to be used for communicating and disseminating information. The AF Project Paper reported improvements in M&E in the months leading up to Approval of the AF (in November 2020), retained the M&E arrangements in its design and noted that the Kobo Toolbox had been adopted to support M&E.

M&E Implementation

51. M&E implementation got off to a slow start, in line with the broader experience of the RPL project, due to delays in recruiting an M&E specialist, but improved significantly with the hiring of M&E staff and the adoption of the Kobo Toolbox. The political turmoil of 2018 and 2019 delayed project start-up in several areas, while the hiring of an M&E specialist was also delayed by the lack of qualified candidates and the impact of the COVID-19 pandemic. The PIU was able to recruit M&E staff by the second half of 2019, although the delays led to a downgrading of the Bank's rating for M&E to Moderately Satisfactory (MS) in ISR 4 (November 2019). The adoption of the Kobo Toolbox, which had been used successfully in the RESEPAG II project, proved effective for the RPL project too, especially in identifying beneficiaries and monitoring support following activation of the CERC. M&E implementation improved substantially in 2022 with the hiring of a new central PIU M&E specialist and a new regional specialist located in the local PIU in Nippes, and the Bank's rating for M&E was upgraded to Satisfactory (S) in ISR 9 (June 2022). Data was gathered on all of the project's key performance indicators and has enabled all PDO and intermediate results indicators to be tracked to completion.

M&E Utilization

52. **M&E utilization started slowly but increased significantly with the activation of the CERC**. The use of the Kobo Toolbox, with support from the RESEPAG project, enabled not only the monitoring of a large volume of emergency support, but also the identification of beneficiaries for that support. Moreover, the MARNDR team implementing the Resilient Productive Landscapes (RPL) Project harmonized its data collection and methodology with those of RESEPAG II and the data entered in the Kobo Toolbox system was used for the preparation of the PARSA project and the follow-on RPL II project. Beyond project-level M&E, the support provided to CNIGS under Component 1 enabled the hosting of relevant geospatial data for dissemination and free exchange on Haitidata.org, and the implementation of the spatial decision support tool for managing climate risks.

Justification of Overall Rating of Quality of M&E

53. **The M&E system delivered reliable information on the PDO and intermediate indicators and the system has proved sustainable**. The M&E system, as designed, implemented and used, was generally sufficient to assess the achievement of the RPL project's objectives and, by reliably tracking all of the projects KPIs, to test the links in the results chain. Moreover, the M&E system has proven valuable beyond the RPL project. While there were shortcomings early in the implementation phase that had to be overcome in the process of strengthening institutional capacity, the strong progress achieved in building that capacity, the adoption of the Kobo Toolbox, and the production of reliable data to track KPIs, all in a fragile context in which the project faced repeated adverse external shocks–taken together justify an **overall rating of quality of M&E as Substantial.**

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

54. **The RPL project was properly classified as a Category B project and triggered six safeguards that were retained throughout project implementation and were complied with.** The safeguards policies triggered at Appraisal were: Environmental Assessment (OP/BP 4.01); Natural Habitats (OP/BP 4.04); Forests (OP/BP 4.36); Pest Management (OP

4.09); Physical Cultural Resources (OP/BP 4.11) and Involuntary Resettlement (OP/BP 4.12). The safeguards instruments included an Environmental and Social Management Framework (ESMF), an Integrated Pest Management Plan (IPMP), and a Resettlement Policy Framework (RPF), all of which were reviewed by the World Bank, found adequate, and disclosed on November 13, 2017. The ESMF was updated and redisclosed on April 30, 2020, to integrate mitigation measures related to COVID-19 for all activities to be undertaken through project funds financed under the CERC. This included hygiene and sanitary protocols for all project-related activities in line with national regulations and international good practice, as well as procedures for virtual and remote consultations.

55. **Social and Environmental Risks were managed satisfactorily**. Social risks were mitigated by closely engaging communities through participatory planning. To mitigate risks related to land acquisition or economic displacement, due to the project's financing of small-scale infrastructure, such as rural roads and water harvesting systems, a RPF guided the preparation of site-specific Resettlement Action Plans (RAPs) or Abbreviated RAPs where necessary. The project avoided activities that could affect land tenure agreements or restrict access to resources. Labor influx risks were considered low and mitigated through prioritization of local labor and clarity regarding external workers' origins and housing conditions. Gender-based violence (GBV) mitigation measures were incorporated into safeguards training, consultation procedures, and communication materials. Environmental risks included the potential misuse of agrochemicals due to increased agricultural activity, which were addressed through the IPMP, promoting biological control methods, safety training, and the use of approved products only. The RPL project was, moreover, designed to avoid financing activities with significant negative environmental impacts and to promote environmental good practices such as improved land management, reforestation and soil and water conservation as part of a resilient landscapes approach. Initial delays in staffing the PIU with environmental and social safeguard skills were addressed via support from the Ministry of Agriculture (see ISR 5, June 2020), and PIU staffing of the function was reported as completed by ISR 6 (December 2020). Environmental and Social Risks were rated Moderate from Appraisal to Project Closing, and compliance with safeguards was rated Satisfactory throughout implementation.

56. **Fiduciary risk was rated high from the outset and compliance was delayed at times, requiring close follow-up by the Bank, although neither financial management (FM) nor procurement fell below a Moderately Satisfactory rating throughout project implementation**. There were delays early in the project in complying with legal covenants related to furnishing a Project Report not later than forty-five days after the end of each calendar quarter, although this covenant was complied with in due course.[35] Due to delays in staffing the FM function in the RPL project in 2019, it was covered by the FM specialist of the RESEPAG II project. As was also the case for RESEPAG II, the RPL project also experienced a significant delay in transitioning from the accounting system in place at Appraisal (known as SYSCOP, see PAD, page 59) to the more efficient accounting and financial system (known as ACCPAC).[36] Moreover, the PIU's FM function suffered directly from the violence in Haiti: as reported in the BCR, project FM officials were kidnapped, prompting some of them to leave the country after that experience, although they continuing to work for the project from abroad. Moreover, the RPL project's accounting system was vandalized in an attack on the office, although disbursement operations were able to continue while the system was being rebuilt, and expenditures were documented and submitted to the Bank via timely Interim Financial Reports and generally timely audit reports.[37] Financial reporting obligations were met, and no ineligible expenditures were reported, although there was an overrun in an expenditure category related to the triggering of the CERC, which was addressed in the May 2024 Restructuring by a reallocation of IDA and GEF Grant proceeds among categories and the increase of the GEF category ratios. The key challenge on the procurement side was time delays, notably in early stages of the project due to staffing issues, and not surprisingly in the fragile context of Haiti, some

[35] Other legal covenants that were complied with after an initial delay related to the establishment of the Project Steering Committee and the Project Advisory Committee, and the finalization of the Project Implementation Manual.
[36] See https://www.sage.com/en-sg/products/sage-accpac/.
[37] No delays were reported in submitting IFRs in any of the project's 14 ISRs, and the same is true for audit reports in the first 13 ISRs, although delayed audit reporting at the very end stages of the project led to a downgrade in the FM risk to High in the RPL project's final ISR – ISR 14, November 2024 – after the risk rating had been reduced from High at Appraisal to Substantial at the time of the AF.

procurement requests for bids resulted in a small number of valid bids and in several unsuccessful bid processes. Nevertheless, support from the UPMP, which had staff that were experienced with Bank procedures, helped the RPL project to successfully complete 111 procurement activities for over US$21 million (see the BCR), and the Bank's rating for procurement, which had been rated MS throughout most of the project, was upgraded to a Satisfactory rating in the final three ISRs of the project.

C. BANK PERFORMANCE

Quality at Entry

57. **The Bank's preparation of the RPL project presents a number of strengths.** It focused on a key priority for GoH, namely to address the negative feedback loop between agriculture and environmental degradation via a resilient landscapes approach, to be closely coordinated between MARNDR and MdE, which had previously not worked together as closely. This resilient landscapes approach was underpinned by a well-thought-out theory of change, by a realistic project objective and by PDO and intermediate indicators that proved to be appropriate throughout project implementation. The selection of the four sub-watersheds was based on a careful analysis and application of criteria (see Annex 1 of the PAD), and provided an opportunity to test the RPL approach across different agroecological zones from "ridge to reef". The RPL project's support, via GEF financing, for linking Haiti to the CBF created an important avenue for sustainable financing of biodiversity conservation in Haiti. The design of the RPL project also drew on lessons from previous and ongoing Bank-financed operations, notably the RESEPAG II operation, and was able to draw on experience from the RESEPAG II team for project implementation, notably with regard to fiduciary (FM and procurement) activities and for the rapid implementation of the CERC. The decision to establish a central PIU in Port-au-Prince and a local PIU in the Nippes proved to be critically important for the success of the project, in light of the worsening security context (and road blockages), as was the decision to rely heavily on local suppliers and distributors. In addition, the establishment of a Project Advisory Committee, (comprising municipal, private sector and community representatives) and of participatory planning modalities provided ample scope for social engagement with and support for the project. Another positive aspect of the Bank's performance at the design stage was the appropriate identification of, and mitigation measures for, environmental and social risks, as well as measures designed to ensure the inclusion of women beneficiaries and track related indicators. Moreover, the inclusion of a CERC component in the design of the operation proved to be of critical importance.

58. **There were only modest shortcomings in terms of quality at entry**. In particular, once the CERC had been activated, the Bank's preparation of the AF Project Paper could have included a PDO indicator to track the outcome-level benefits of this dimension of the project's objectives. Another modest shortcoming was in relation to project readiness, as key technical consultant resources and certain procedures (e.g., for M&E), and a robust accounting system, were not in place at Board Approval, and in the worsening political turmoil after Board approval these readiness issues delayed the start of project implementation. At the same time, the project was able to rely on support from the RESEPAG II PIU, and the project's coordination with the J/P HRO for parallel financing proved extremely valuable in accompanying GoH in the increasingly difficult political context after Board Approval to advance on key steps to be able to launch implementation, including via technical support to the PIU and assistance with participatory planning and pre-investment planning.

Quality of Supervision

59. **The Bank provided continuous, proactive and solutions-oriented implementation support to GoH, which contributed significantly to the success of the RPL project**. In particular:

- The RPL project was supervised intensively throughout the life of the project, with implementation support provided both from Headquarters and by locally based staff, including multiple field visits by Bank teams and regularly filed and updated ISRs. In particular, the RPL project's Task Team Leader relocated to Port-au-Prince, which greatly enhanced Bank supervision via close interaction with the PIU and key government counterparts. When Covid-19-related travel

restrictions impeded Bank travel to Haiti, the Bank supervision switched to regular formal monthly virtual supervision meetings combined with almost daily contact with the PIU. These continued until the end of the project due to the inability to meet regularly in person for security reasons. The Bank team also undertook a Mid-Term Review that highlighted key areas to be addressed to accelerate project implementation and processed two restructurings to enable the RPL project to be completed satisfactorily.

- As mobility restrictions due to both political violence and to Covid-19 increasingly impeded local movement into/out of Port-Au-Prince, and as kidnapping risks increased, the Bank ensured that, as part of the contingency plan adopted for the project, the PIU could operate effectively virtually, including by supporting multiple internet service providers and technology tools to be able to engage with and support/monitor local implementation in the Department of Nippes.
- The Bank team ensured that the RPL project was highly responsive in emergencies, rapidly triggering the CERC component following the declaration of the COVID-19 pandemic-related emergency by GoH and making available almost half of the project's financing (47 percent) to address the emergency, while also promptly processing an AF to address most of the financial shortfall for the core project activities. The CERC support was made available in the Nippes beyond the four sub-watersheds, as well as in the Department of Sud, and CERC resources proved to be of great importance following the devastating 7.2 Mw earthquake that struck southern Haiti (with its epicenter in the Nippes) in August 2021.
- In terms of institutional support, the Bank teams engaged closely with GoH counterparts to ensure that the requisite fiduciary, safeguards, and M&E skills were hired and retained and that the requisite IFRs and Audit reports were submitted, almost all on time; it supported GoH with the implementation of the Kobo Toolbox for M&E and the STEP system for procurement,[38] and placed considerable emphasis on strengthening M&E and on monitoring gender outcomes to ensure successful project implementation.

Justification of Overall Rating of Bank Performance

60. **As the Bank's performance during project design reflected a number of strengths with some minor shortcomings, and the Bank's proactive, responsive and solutions-oriented implementation support was decisive in ensuring the success of the RPL project in a context of extreme fragility and repeated external shocks, the overall rating for the Bank's performance is Satisfactory.**

D. RISK TO DEVELOPMENT OUTCOME

61. **The risks to the achievements of the project being sustained are Substantial, although the implementation of the PARSA Project (approved in March 2022) and the approval of the RPL II project (in March 2025) represent important sources of mitigation of future risks, and the RPL project has greatly strengthened direct beneficiaries' capacity to cope with future risks.** The project's approach continues to enjoy strong sectoral strategic support and technical/institutional continuity as evinced by the PARSA and RPL II projects. Indeed, the adoption of RPL project (and RESEPAG II) institutional arrangements and capacity to implement PARSA, as well as the continued support to producers in the Nippes using similar methodologies to those delivered by the RPL project constitute important mitigation measures for these risks. The continuation of the RPL approach under the RPL II project, as well as the adoption of various aspects of this approach in the PARSA project, also demonstrates the RPL project's success as a "proof of concept" under the Haiti Takes Roots (HTR) initiative, consolidating the behavioral changes achieved under the RPL project in terms of inter-ministerial coordination, adoption of improved agricultural technologies by farmers and land under sustainable land management practices, and reducing the risk to the sustainability of the productive landscapes approach supported under the RPL project.

[38] The STEP system is the Bank's Systematic Tracking and Exchanges in Procurement system for overseeing procurement activities with clients.

62. **Three key sources of risk could affect the sustainability of achievements under the RPL project, namely political, economic and environmental risks, with both the likelihood and severity of these risks being High**. There is a high risk that political turbulence and gang violence will continue to constrain Haiti's broader economic development, and to hinder the ability of farmers and local suppliers in the project areas to access inputs and markets in Port-au-Prince, especially due to blockages of key roads into and out of the capital. The political crisis is both driven by and fueling continued macroeconomic challenges for the country, including inflation and the devaluation of the Haitian Gourde which affects access to fuel and other inputs. Haiti also remains one of the most vulnerable countries in the world to natural disasters, with key risks in terms of earthquakes, hurricanes, flooding and droughts, especially as most agriculture is rainfed. Even with the support provided under the project, food insecurity has continued to worsen across Haiti in light of the above challenges, with the broader Nippes Department projected to face crisis levels of acute food insecurity in March-June 2025.[39] However, without the technical solutions that the RPL project provided to promote resilient productive landscapes in the selected sub-watersheds, in terms of capacity building; improved agricultural technologies; better management of watersheds via agroforestry and protection of riverbanks and gullies, and improved access to water, the ability of the project's direct beneficiaries to cope in the event that the risks materialize would be significantly lower. The consolidation of the productive landscapes approach under the follow-on RPL II project, which builds on the institutional achievements and adaptability embodied in the RPL project, also serves to strengthen resilience against the continuing risks.

V. LESSONS AND RECOMMENDATIONS

63. **The RPL project's exemplary success in achieving all its PDO indicators in a fragile context despite extraordinary political, economic and natural disaster challenges, offers several key lessons for operations in Haiti and beyond**:

- **Addressing a negative feedback loop between increasing agricultural production and environmental degradation requires a holistic, landscape-level, productive approach and close coordination between agricultural and environmental authorities.** The RPL project experience provided a successful 'proof of concept' with regard to this holistic, landscape-level approach. A key lesson from the RPL project, that has been incorporated in the follow-on RPL II project, was the need for close coordination between MARNDR and MdE to promote a resilient landscapes approach that addressed intertwined human and ecological vulnerabilities. *In this context, it is important not only to invest in increasing environmental resilience but also to create climate-smart economic opportunities for beneficiaries in the targeted areas, and to mobilize communities to participate in promoting watershed protection for their benefit.*
- **When a watershed approach is undertaken that involves addressing a range of constraints, it is important that all the activities financed contribute together to the broader goals of the project within the watershed**. Since the RPL project's design was comprehensive and aimed to tackle multiple constraints simultaneously within a watershed, (related to agriculture, the environment and water resources), it was essential to ensure that project activities were chosen in a way that made the whole effort greater than the sum of its parts. *A key selectivity lesson is, therefore, that project activities should not be determined simply based on their individual merits, but importantly on how they contribute together with other project activities to achieving the broader goals of the project within the watershed.*
- **The Farmer Field Schools model of innovation encourages both community-level and broader sharing of lessons**. These schools, which involve a participatory learning process for agricultural producers, have proven valuable to strengthen communities and to test and disseminate innovative agricultural techniques and improved varieties that

[39] See information from the IPC at https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1157971/?iso3=HTI. The Integrated Food Security Phase Classification (IPC) was developed by FAO to provide a rigorous standard for classifying food insecurity contexts in five stages, to inform policymaking and responses: 1: Minimal; 2: Stressed; 3: Crisis; 4: Emergency; and 5: Famine. Thus, a level 4 or crisis assessment is just one level below famine. See https://www.ipcinfo.org.IPC 2020..

are closely adapted to local agro-ecological contexts and to local capacities, with the knowledge dissemination closely linked to the provision of farmer subsidy incentives. *An approach that combines capacity building through small groups, to better understand their agro-ecological constraints in a context of climate change, together with subsidies to test and to set up resilient productive systems applicable to their environment, can prove effective in promoting the adoption of more sustainable and resilient productive practices*.

- **Facilitating civic engagement greatly increases local commitment, improves results and reduces social risks**. Close collaboration with local institutions including municipalities, local community representatives, local staff in the Departmental Directorates for Agriculture and Environment and local private sector actors to provide inputs for GoH's consideration via a Project Advisory Committee, and engaging local actors in participatory processes to prioritize and define interventions yielded major dividends in terms of commitment, the likelihood of successful implementation and sustainability. The RPL project's participatory approach and its transparency in executing grant support for farmers, together with the definition of clear selection criteria and approval processes in the operations manual, mitigated political interference and contributed to better, more sustainable results. *Thus, the PARSA PAD states: "experience under RPL and RESEPAG II with participatory community selection of beneficiaries has proven successful and this approach will be adopted in targeting support under the PARSA Project".*[40]
- **Building institutional capacity both at a local and central level in the targeted project areas is essential in a fragile context such as that of Haiti**. A key lesson from the RPL project is that the establishment of both a central and a local PIU greatly mitigated risks and facilitated project implementation in an extremely fragile and volatile political and security context. The central PIU was able to oversee broader project implementation, interact with key central agencies, including the UPMP, CNIGS and the parallel financiers, J/P HRO, while the local PIU was able to interact closely with local farmer communities, input suppliers and distributors, and local partners in the municipalities and the departmental directorates. This model, combined with heavy reliance on local suppliers and distributors and with the broad use of virtual tools for communications and authorizations, enabled the RPL project to continue to be implemented effectively notwithstanding the major disruptions to mobility occasioned by the COVID-19 pandemic and the security context. *Thus, the structuring of the PIU should be designed to reflect the local context and facilitate both central and local oversight of project implementation*.
- **Adapting flexibly and responding rapidly to changing circumstances is essential in a fragile context.** The RPL project was affected by the extraordinary shocks of the COVID-19 pandemic, the August 2021 earthquake and Tropical Storm Grace, as well as the political and macroeconomic shocks experienced by Haiti during project implementation. The project's strong grounding in core strategic priorities agreed between MARNDR and MdE, and the project's flexibility in responding to emergencies via the activation of the CERC component proved invaluable for its success. *Responsiveness and flexibility are essential for success in a fragile context, and the related responses can ideally include interventions that address immediate livelihood needs while promoting longer-term resilience, so as to generate more sustainable positive impacts and at the same time address environmental drivers of fragility*.

[40] Cf. the PAD for the PARSA project (P177072), Report No. PAD4673, Lessons Learned, page 18.

ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS FRAMEWORK

PDO Indicators by Outcomes

Improve the adoption of resilience-enhancing agricultural and landscape management practices								
Indicator Name	Baseline		Closing Period (Original)		Closing Period (Current)		Actual Achieved at Completion	
	Result	Month/Year	Result	Month/Year	Result	Month/Year	Result	Month/Year
Farmers adopting improved agricultural technology (Number)	0.00	Oct/2017			3,000.00	May/2024	4,267	Oct/2024
	Comments on achieving targets		Target achieved / exceeded by 43%					
of which female (in percentage) (Percentage)	0.00				33.00		38.00	
	Comments on achieving targets		Target achieved					
Land area under sustainable landscape management practices (Hectare(Ha))	0.00	Oct/2017			2,000.00	May/2024	2,050.34	Oct/2024
	Comments on achieving targets		Target achieved					
Share of targeted farmers with improved market access (%) (Percentage)	0.00	Oct/2017			40.00	May/2024	80.85	Oct/2024
	Comments on achieving targets		Target achieved / exceeded by 50%					

Intermediate Indicators by Components

Strengthening of institutional and organizational capacities for landscape level interventions								
Indicator Name	Baseline		Closing Period (Original)		Closing Period (Current)		Actual Achieved at Completion	
	Result	Month/Year	Result	Month/Year	Result	Month/Year	Result	Month/Year
	No	Oct/2017			Yes	May/2024	Yes	Oct/2024

1.1. Comprehensive Master Plan (MARNDR / MdE) in place for the implementation of the Resilient Productive Landscapes approach (Yes/No)	Comments on achieving targets		Target achieved					
1.2a. Number of sub-watersheds with participatory plans developed (Number)	0.00	Oct/2017			4.00	May/2024	4.00	Oct/2024
	Comments on achieving targets		Target achieved.					
1.2b. Number of sub-watersheds with investments plans developed (Number)	0.00	Oct/2017			4.00	May/2024	4.00	Oct/2024
	Comments on achieving targets		Target achieved					
1.3a. Spatial decision support tool for the prevention and / or management of climatic risks operational (Yes/No)	No	Oct/2017			Yes	May/2024	Yes	Oct/2024
	Comments on achieving targets		Target achieved					
1.3b. Spatial decision support tool for the prevention and / or management of climatic risks applied to the area covered by the Project. (Hectare(Ha))	21,968.31	Oct/2017			8,000.00	May/2024	21,968.31	Oct/2024
	Comments on achieving targets		Target achieved / exceeded by 174.6%					
1.4a. Haiti National Trust legally established (Yes/No)	No	Oct/2017			Yes	May/2024	Yes	Oct/2024
	Comments on achieving targets		Target achieved - The Haiti National Trust Fund for Biodiversity (Fond Haitien pour la Biodiversite) has been legally established (published in Le Moniteur on April 30,2020)					
1.4b. Haiti National Trust operational (Yes/No)	No	Oct/2017			Yes	May/2024	Yes	Oct/2024
	Comments on achieving targets		Target achieved					
Investments to strengthen resilient agricultural production and practices								
Indicator Name	Baseline		Closing Period (Original)		Closing Period (Current)		Actual Achieved at Completion	
	Result	Month/Year	Result	Month/Year	Result	Month/Year	Result	Month/Year
2.1a. Farmers' field schools promoting a RPL approach established FFS (Number)	0.00	Oct/2017			50.00	May/2024	112.00	Oct/2024
	Comments on achieving targets		Target achieved / exceeded by 124%					
	0.00	Oct/2017			1,000.00	May/2024	2,800.00	Oct/2024

2.1b. Farmers participating in the FFS (Number)	Comments on achieving targets		Target achieved / exceeded by 180%					
of which female (in percentage) (Percentage)	0.00				33.00		37.83	
	Comments on achieving targets		Target achieved / exceeded by 14.6%					
2.2a. Sub-projects supported by the RPL Project improving access to markets for products from targeted areas (Number)	0.00	Oct/2017			20.00	May/2024	20.00	Oct/2024
	Comments on achieving targets		Target achieved					
2.2b. Members of the groups benefiting from sub-projects (Number)	0.00	Oct/2017			500.00	May/2024	1,511.00	Oct/2024
	Comments on achieving targets		Target achieved / exceeded by more than 500% (original end target 220)					
of which female (in percentage) (Percentage)	0.00				33.00		47.00	
	Comments on achieving targets		Target achieved / exceeded by 42.4%					
3. Percentage of beneficiaries satisfied with Project interventions (Percentage)	0.00	Oct/2017			75.00	May/2024	85.67	Oct/2024
	Comments on achieving targets		Target achieved					
of which female (in percentage) (Percentage)	0.00	Oct/2017			33.00	Dec/2023	54.31	Oct/2024
	Comments on achieving targets		Target achieved					
4. Number of farmers provided with climate-resilient crop varieties/seeds (Number)	0.00	Oct/2017			9,000.00	May/2024	20,968.00	Oct/2024
	Comments on achieving targets		Target achieved / exceeded by 132.9% - This achievement was reached mainly as a consequence of the successful distribution of inputs carried out under the CERC emergency component and in response to the Earthquake that hit the region on August 2021.					
5. Farmers receiving urgent production inputs and services under CERC (Number)	0.00	Apr/2020			21,490.00	Apr/2021	137,611.00	Oct/2024
	Comments on achieving targets		Target achieved / exceeded by 540.5% (end target 21,490)					
of which female (in percentage) (Percentage)	0.00				33.00		40.10	
	Comments on achieving targets		Target achieved					

B. KEY OUTPUTS

Objective/Outcome 1: To improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds	
Outcome 1 Indicators	1. ***Land area under sustainable landscape management practices (Hectares).*** This outcome was **achieved**, with 2,053 hectares under sustainable landscape management practices, exceeding the target of 2,000 hectares by 2.6 percent. 2. ***Farmers adopting improved agricultural technology (Number).*** This outcome was **achieved**, with 4,196 farmers adopting improved agricultural technology, thereby exceeding the target of 3,000 farmers by 40 percent. 3. ***Farmers adopting improved agricultural technology - of which female (Percentage).*** This outcome was **achieved**, with 38 percent of these farmers being women, compared to the target of 33 percent, thus exceeding the target by 15 percent. 4. ***Share of targeted farmers with improved market access (Percentage).*** This outcome was **achieved**, with 80.85 percent of targeted farmers with improved market access, more than double the original target of 40 percent.
Outcome 1 was supported by Component 1 - Strengthening of institutional and organizational capacities for landscape level interventions. **Component 1 - Intermediate Results Indicators**	1.1. *Comprehensive Master Plan (MARNDR / MdE) in place for the implementation of the Resilient Productive Landscapes approach (Yes/No)* - **Achieved**. (Result: Yes, vs. Target: Yes; 100%) 1.2a. *Number of sub-watersheds with participatory plans developed (Number)* - **Achieved** (Result: 4, vs. Target: 4; 100%) 1.2b. *Number of sub-watersheds with investments plans developed (Number)* - **Achieved** (Result: 4, vs. Target: 4; 100%) 1.3a. *Spatial decision support tool for the prevention and / or management of climatic risks operational (Yes/No)* - **Achieved**. (Result: Yes, vs. Target: Yes; 100%) 1.3b. *Spatial decision support tool for the prevention and / or management of climatic risks applied to the area covered by the Project (Hectares)* - **Achieved** (Result: 21,968, vs. Target: 8,000; 365%) 1.4a. Haiti National Trust legally established (Yes/No) - **Achieved**. (Result: Yes, vs. Target: Yes; 100%) 1.4b. Haiti National Trust operational (Yes/No) - **Achieved**. (Result: Yes, vs. Target: Yes; 100%)
Key Outputs under Component 1	1. Establishment and operation twice per year of the National Committee for Climate Change. 2. Technical support and regional workshops conducted for the National Directorate for Climate Change in the Ministry of Environment. 3. Workshops implemented for the development of participatory plans in each sub-watershed, and related pre-investment plans developed.

	4. Intensive technical training provided in MARNDR and MdE, at the national and local level, as well as for local governments and key stakeholders in the four selected sub-watersheds. 5. Gender gap analysis conducted to inform the RPL project's activities. 6. Cooperation agreement signed and implemented with the French Agricultural Research Centre for International Development (CIRAD) to provide TA to the PIU on geospatial technologies and socio-economic analysis. 7. One-month training on GIS provided to two executives of National Center for Geo-Spatial Information (CNIGS) for the design of the spatial decision support tool. 8. Development of a GIS application for CNIGS' Risk Analysis Tool. 9. Training provided to CNIGS personnel on the land parcel identification system (LPIS) and on climate parameters regarding satellites and field measurement sensors to better identify drought areas at land scale. 10. Tripartite agreement signed between the Caribbean Biodiversity Fund, Haiti National Trust and MARNDR. 11. Operational manual produced for the Haiti National Trust, and HNT Secretariat established. 12. Capitalization of the Haiti National Trust with funding from the GEF grant.
Outcome 1 was supported by Component 2 - Investments to strengthen resilient agricultural production and practices. **Component 2 - Intermediate Results Indicators**	2.1a. *Farmers' field schools promoting a RPL approach established FFS (Number)* - **Achieved** (Result: 112, vs. Target: 50; 224%) 2.1b. *Farmers participating in the FFS (Number)* - **Achieved** (Result: 2,800, vs. Target: 1,000; 280%) > *Farmers participating in the FFS - of which female (Percentage)* - **Achieved** (Result: 37.8, vs. Target: 33; 115%) 2.2a. *Sub-projects supported by the RPL Project improving access to markets for products from targeted areas (Number)* - **Achieved** (Result: 20, vs. Target: 20; 100%) 2.2b. *Members of the groups benefiting from sub-projects (Number)* - **Achieved** (Result: 1,511, vs. Target: 500; 302%) > *Members of the groups benefiting from sub-projects - of which female (Percentage)* - **Achieved** (Result: 47, vs. Target: 33; 142%)
Key Outputs under Component 2	1. Service providers contracted to implement Farmers' Field Schools (FFS). 2. Farmer subsidy scheme, following the example of RESEPAG II, rolled out to provide incentives to farmers to access inputs and services with vouchers so as to implement good agricultural practices learned from the FFS, with 8,325 farmers receiving incentives.

	3. Matching grants provided to groups of producers/small enterprises via the "Market Support Facility" (MSF), as implemented under RESEPAG II, to enable recipients to improve the quality and add value to agriculture production, and link better to markets. 4. Training events conducted to improve business/marketing skills and increase agri-business capacity. 5. Investments undertaken based on participatory investment plans to upgrade infrastructure and resilience, including via water management, in the selected sub-watersheds, as follows: • Rehabilitation of 109.4 hectares of irrigated areas; • Reprofiling and Cleaning of 18,850 linear meters of canals and irrigation infrastructure; • Dredging and reshaping of 800 linear meters of the Froide River, together with gabion basket protection and masonry dike construction on 100 linea meters of the river; • Gulley corrections on 1,910 linear meters; • Rehabilitation of 700 linear meters of earthen tracks and 153 linear meters of concrete farm tracks, as well a 70 linear meters of protection walls and 2 crossing structures, opening access to farmlands in the Charlier area of the Petite Rivière Commune; • Construction of 50 water cisterns for rural families; • Provision of 5 kilometers of biological structures (bamboo, elephant grass, etc.), together with 112 dry stone thresholds to consolidate landscapes and prevent erosion; • Reforestation and protection for 9 water springs; • Restoration of 6 hectares of mangrove.
Objective/Outcome 2: To enable the Government to respond promptly and effectively to an eligible emergency	
Outcome 2 Indicators	No outcome indicators were established for this objective, which was supported by a contingent emergency component with an initial zero allocation. Nevertheless, the strength of the outcomes as measured by the indicators registered as intermediate results indicators for this outcome suggest that this outcome was achieved.
Outcome 2 was supported by Component 4 - Contingency Emergency Response Component **Component 4 - Intermediate Results Indicators**	4. *Number of farmers provided with climate-resilient crop varieties/seeds (Number)*[41] - **Achieved** (Result: 20,968, vs. Target: 9,000; 233%) 5. *Farmers receiving urgent production inputs and services under CERC (Number)* - **Achieved** (Result: 137,611, vs. Target: 21,490; 640%)

[41] Note: While a sub-indicator target (4a.) of 33 percent was set in the AF Project Paper to measure the share of farmers provided with climate-resilient crop varieties/seeds that were female, this sub-indicator was not subsequently included or tracked in the Bank's ISRs.

	> *Farmers receiving urgent production inputs and services under CERC - of which female (Percentage)* - **Achieved** (Result: 40.1, vs. Target: 33; 22%)
Key Outputs under Component 4	1. Twenty-five (25) contracts implemented with inputs suppliers (wholesalers) together with fifty-five (55) contracts with local retailers (in charge of distribution), plus an operator contracted to support the PIU in the CERC activities. 2. Spring Summer 2020 campaign: 163 tons of seeds provided to beneficiary farmers (compared to a total of 133 tons planned) and 1,334 tons of fertilizer were provided to farmers (compared to 1,470 planned), with the latter shortfall due to impassable roads during the rainy season. 3. 99% of the contracts signed with the various suppliers were fully implemented.
Outcomes 1 and 2 were both supported by Component 3 - Project Coordination and Monitoring and Evaluation (M&E) **Component 3 - Intermediate Results Indicators**	3. *Percentage of beneficiaries satisfied with Project interventions (Percentage)* - **Achieved** (Result: 85.7, vs. Target: 75; 114%) > *Percentage of beneficiaries satisfied with Project interventions - of which female (Percentage)* - **Achieved** (Result: 40, vs. Target: 33; 121%)
Key Outputs under Component 3	1. Implementation of the Kobo Toolbox to identify beneficiaries, conduct M&E and manage beneficiary surveys. 2. Realization of field surveys (data collection and processing) by the Agricultural Statistics and Informatics Unit (USAI) for the realization of the baseline of the project. 3. Implementation of the Grievance Redress Mechanism, which received and addressed 112 "complaints", almost half of which were in fact applications for employment in the implementation of community-level sub-projects. 4. Implementation of sanitary precautions in order to ensure social distancing and reduction of virus spread while continuing to provide support during the COVID-19 pandemic 5. Implementation of distance work, virtual meetings, electronic signatures and bank transfers to overcome mobility barriers due to both the COVID-19 pandemic but above all the high insecurity and mobility barriers especially in and around Port-au-Prince.

ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Caroline Aurelie Plante	Team Leader
Nyaneba E. Nkrumah	Team Leader
Danilo Pereira de Carvalho	Procurement Specialist
Rose Caline Desruisseaux- Cadet	Procurement Specialist
Lydie Madjou	Financial Management Specialist
Asli Gurkan	Social Safeguards Specialist
Felipe Jacome	Social Safeguards Specialist
Nicolas Kotschoubey	Environmental Specialist
Robert H. Montgomery	Environmental Specialist
Isabella Micali Drossos	Counsel
Behnaz Bonyadian Dehkordi	Team Member
Benjamin Billard	Team Member
Christophe Frederic Robert Grosjean	Team Member
Faly Diallo	Team Member
Garry Charlier	Team Member
Katie Kennedy Freeman	Team Member
Klas Sander	Team Member
Mario I. Mendez	Team Member
Tobias Baedeker	Team Member
Diego Arias Carballo	Peer Reviewer
Erick C.M. Fernandes	Peer Reviewer
Darshani De Silva	Peer Reviewer
Philippe Eric Dardel	Peer Reviewer
Roble Sabrie	FAO Economist
Yerania Sanchez	FAO Economist
Barbara Coello	Consultant

Name	Role
Preparation - Additional Financing	
Soulemane Fofana	Team Leader
Mamata Tiendrebeogo	Procurement Specialist
Aboubacar Magassouba	Procurement Specialist
Lucas Carrer	Financial Management Specialist
Bruce MacPhail	Social Specialist
Kevin McCall	Environmental Specialist
Isabella Micali Drossos	Counsel
Aida Alejandra Romero Jimenez	Team Member
Christophe Frederic Robert Grosjean	Team Member
Eliana Carolina Rubiano Matulevich	Team Member
Evans Jadotte	Team Member
Evelyn Awittor	Team Member
Hira Channa	Team Member
Ingrid Sandra Milord	Team Member
Leah Arabella Germer	Team Member
Lucia Veronica Amiri-Talesh Ramirez	Team Member
Mario I. Mendez	Team Member
Patricia Oonagh Van de Velde	Team Member
Remi Charles Andre Trier	Team Member

Name	Role
Supervision/ICR	
Caroline Aurelie Plante	Team Leader (ISR 1 - ISR 3)
Nyaneba E. Nkrumah	Team Leader (ISR 1)
Remi Charles Andre Trier	Team Leader (ISR 4 - ISR 5)
Soulemane Fofana	Team Leader (ISR 6 - ISR 9)
Kilara Constance Suit	Team Leader (ISR 10 - ISR 14)
Ziva Razafintsalama	Team Leader (ISR 10 - ISR 14)

Danilo Pereira de Carvalho	Procurement Specialist
Mamata Tiendrebeogo	Procurement Specialist
Aboubacar Magassouba	Procurement Specialist
Paul Eliz Viannica Jean-Jacques	Procurement Specialist
Itchi Gnon Ayindo	Procurement Specialist
Patricia Yamilee Payen	Procurement Specialist
Rahmoune Essalhi	Procurement Specialist
Khadija Faridi	Procurement Specialist
Maria Cristina Rosa Lucia Villani	Procurement Specialist
Vladimir Mathieu	Procurement Specialist
Maurice Adoni	Procurement Specialist
Stephanie Ambroise	Procurement Team
Maria Laettitia Antoine	Procurement Team
Lucas Carrer	Financial Management Specialist
Luis Barajas Gonzalez	Financial Management Specialist
Lydie Madjou	Financial Management Specialist
Emeline Bredy	Financial Management Specialist
Alfred Jean-Marie Borgonovo	Financial Management Specialist
Beth Wanjeri Mwangi	Financial Management Specialist
Celestin Adjalou Niamien	Financial Management Specialist
Amadou Konare	Environmental Specialist
Robert H. Montgomery	Environmental Specialist
Kevin McCall	Environmental Specialist
Bruce MacPhail	Environmental Specialist
Lisbet Kugler	Environmental Specialist
Khalid Anouar	Environmental Specialist
Asli Gurkan	Social Specialist
Barnet Joseph	Social Specialist
Markus Friedrich Vorpahl	Social Specialist
Ingrid Mollard	M&E Specialist
Isabella Micali Drossos	Counsel

Escarlata Baza Nunez	Counsel
Behnaz Bonyadian Dehkordi	Team Member
Benjamin Billard	Team Member
Christophe Frederic Robert Grosjean	Team Member
Faly Diallo	Team Member
Garry Charlier	Team Member
Katie Kennedy Freeman	Team Member
Klas Sander	Team Member
Mario I. Mendez	Team Member
Ingrid Sandra Milord	Team Member
Tobias Baedeker	Team Member
Tatiana Tassoni	Team Member
Aida Alejandra Romero Jimenez	Team Member
Guzman P. Garcia-Rivero	Team Member
Jean Marie Dominique Lebon	Team Member
Andrea Patton	Team Member
Iris Teluska	Team Member
Benoit Guy Marie Faucheux	Team Member
Tharcisse Guedegbe	Team Member
Yerania Sanchez	FAO Economist
Roble Sabrie	FAO Economist
Yerania Sanchez	FAO Economist
Barbara Coello	Consultant
McDonald Benjamin	Economic Development Consultant

B. STAFF TIME & COST

Stage of Project Cycle	Staff Time & Cost	
	No. of Staff Weeks	US$ (including travel and consultant costs)
Preparation		
FY17	12.675	86,871.96
FY18	39.492	283,717.01
Total	52.17	370,588.97
Supervision/ICR		
FY17	0.000	.00
FY18	10.915	71,079.45
FY19	30.547	228,975.52
FY20	35.837	260,665.09
FY21	30.382	188,157.27
FY22	17.059	113,350.06
FY23	30.920	188,499.01
FY24	32.365	204,000.38
FY25	9.075	88,836.71
Total	197.10	1,343,563.49

ANNEX 3. PROJECT COST BY COMPONENT[42]

Component	Amount at Approval (US$ millions)	Amount at Additional Financing (US$ millions)	Amount at 2023 Restructuring (US$ millions)	Amount at 2024 Restructuring (US$ millions)	Actual at Project Closing (US$ millions)	Actual as Percent of Approval	Actual as Percent of AF
1. Strengthening of institutional and organizational capacities for landscape level interventions	5.60	5.66	5.66	5.66	4.20	75%	74%
2. Investments to strengthen resilient agricultural production and practices	12.11	10.73	10.73	10.73	10.68	88%	100%
3. Project Coordination and Monitoring and Evaluation	3.50	2.67	2.67	2.67	3.63	104%	136%
4. Contingency Emergency Response Component	0.00	9.90	9.90	9.90	9.64	N/A	97%
Total	**21.21**	**28.96**	**28.96**	**28.96**	**28.15**	**133%**	**97%**
	Approval	**Additional Financing**	**2023 Restructuring**	**2024 Restructuring**	**Actual**	**Disbursed Percent**	**Undisbursed Percent**
Of which: IDA D2720	15.00	15.00	15.00	15.00	14.87	100%	0%
Of which: IDA D7420	0.00	7.75	7.75	7.75	7.46	100%	0%
Of which: GEF TF-A6551	6.21	6.21	6.21	6.21	5.95	96%	4%

Notes: (1) These values do not include the Parallel Financing by J/P HRO. Nor do they include counterpart funding by beneficiaries under the Matching Grants, estimated at US$0.3 million. (2) Values in the column "Actual at Project Closing" are sourced from the Interim Financial Report for the period Jul 1 – Sep 30, 2024. (3) While the IDA grants were fully disbursed in SDR terms, they show actual disbursed amounts in US dollar equivalents that are below the dollar equivalents for the SDR values at approval, due to fluctuations in the SDR-US dollar exchange rate. The GEF grant was denominated in US dollars.

[42] The total cost does not include US$5 million in parallel financing by J/P HRO, of which US$1.4 million was allocated for Component 1 and US$3.6 million for Component 2.

ANNEX 4. EFFICIENCY ANALYSIS

1. **This Annex presents the methodology and results for the economic and financial analyses (EFA) that were conducted at completion to assess the impact and viability of the various activities supported under the Project**. The first section presents the financial analysis of the outcomes for end-beneficiaries, particularly farmers and rural producer organizations. It covers activities financed under Sub-components 2.1, 2.2, 2.3, and Component 4. The second section of this Annex presents the economic analysis of the project's viability from a national standpoint. It indicates which benefits could be quantified and valued in the analysis and which could not, describes the methodology and assumptions that were applied, and provides a summary of the results, including a sensitivity analysis and how these results can be interpreted in light of data limitations. The final section of this Annex compares the results of the economic analysis at Project Closing with those estimated at Appraisal and at the time of the Additional Financing.

A. FINANCIAL ANALYSIS

Sub-component 2.1: Investments in resilient, sustainable agriculture and ecosystems, and Component 4: Contingency Emergency Response Component

2. **The RPL project supported targeted farmers/households to enhance their agricultural production and incomes through Farmer Field Schools (FFS) and a Farmer Subsidy Scheme under Sub-component 2.1**. This scheme built on the experience and lessons learnt under the RESEPAG and IDB-funded projects, and was implemented via a voucher mechanism that enabled participants to access inputs (improved seeds and planting material, fertilizers, chemicals, small agricultural tools) to apply improved technologies on their plots (*"paquets techniques"*). The access to inputs was coupled with technical advice delivered by private service providers ("*opérateurs prestataires de services* - OPS") contracted by the project. The OPS were responsible for: selecting the farmers; distributing the vouchers; monitoring their use to access inputs via registered input dealers (identified and supported in parallel by the project); providing farmers with technical advice; reporting on progress (including the number of beneficiaries, the quantities of inputs delivered to farmers, and the value of vouchers used); and assessing the extent to which participating farmers applied the technology packages.

3. **Under Sub-component 2.1, the project supported 115 farmer fields school (FFS) that benefitted 2,500 beneficiaries (compared to 50 FFS and 800 members targeted at Appraisal).** The project also provided individual assistance to 8,325 farmers in the form of incentives, and 4,196 farmers adopted an improved agricultural technology promoted by the project, thereby greatly exceeding the initial target. However, in terms of the area covered (2,053 hectares), the actual result was very similar to the forecast (2,000 hectares), because the beneficiaries had smaller plots than planned. Women accounted for 38 percent of the beneficiaries of FFS and individual assistance.

4. **An evaluation of the winter campaign 2023-2024, conducted together with the beneficiaries, revealed that with the RPL project's support, beneficiaries achieved an average production value of HTG 154,587 (US$1,189).** However, the value of production varied greatly by commune and by gender. For example, the commune of Paillant achieved a lower production value, averaging HTG 109,996 (US$846). In addition, women produced significantly less than men, with an average of HTG 69,041 (US$531) compared to an average of HTG 225,565 or US$1,735 for me. The difference in performance between men and women is explained by the fact that women cultivated smaller plots than men and faced labor shortages during the peak season, while men cultivated less labor-intensive crops (such as bananas and yam) that generated higher incomes. Two key reasons that men managed to overcome the challenge of labor shortages more easily than women were that: (a) men were much more likely than women to be organized in work associations, which provided mutual rotating voluntary labor support to their members, and (b) women carried significantly higher non-agricultural household work burdens that took up an important share of their time.

5. **The RPL project did not systematically collect data on the financial impacts at the level of final beneficiaries during project implementation**. There were no strict requirement in the OPS contracts to task them to collect and analyze

data on increases in yields, production, sales and expenses, in order to analyze financial impacts of technical packages and increases in net incomes with RPL project assistance for targeted farmers/households. Instead, the required reporting concentrated on the number of beneficiaries, inputs distributed, training delivered, etc. With all the challenges and external shocks faced by the project, and the steep learning curve in M&E to be able to monitor even the project's basic key indicators, financial impact data were not at the center of the project's attention, especially in the earlier years. While the OPS were requested to provide this information later during the life of the project, they did not always deliver comprehensive data sets.

6. **The need to produce data on financial impacts at the beneficiary level was only brought to light in 2024, when the Borrower Completion Report was being prepared.** A rapid impact survey was carried out via questionnaires ("*fiches technico-économiques*") that were filled out in the field by MARNDR surveyors in June-July 2024. A total of 119 questionnaires were answered by farmers in the three targeted communes. A database was produced by an international consultant and a national consultant who were hired under the RPL project to draft the Borrower's Completion Report and conduct the ex-post EFA analysis. These data were used by this ICRR to elaborate the agricultural and agro-processing models presented below.

7. **Eight main models/technologies were developed to illustrate the impact of the individual assistance to farmers under Sub-component 2.1 and Component 4**. These were: annual crops (Congo peas, beans, maize, sorghum); semi-perennial crops on pure stands (cassava, yams, bananas); and a commercially oriented vegetable gardening model. In terms of area, the most widely supported models were yams and black beans (30 percent of the total area), bananas (16 percent), vegetables (15 percent) and maize, Congo beans and sorghum (12 percent). Together, they accounted for 73 percent of total supported area and 78 percent of the beneficiaries.

8. **The results of the financial models indicate a substantial increase in revenues and gross margins in the "with project" situation for all models (see Table A4.1)**. However, the results should be treated with a measure of caution as: (i) the technical and financial data reported by farmers in 2024 were declared and are not based on written records; (ii) the "without project" figures are derived from the baseline study carried in 2021; and (iii) the number of respondents for each model differs, which could have affected the average revenue, production cost and gross margin estimates. A deeper analysis of the database by the RPL project's M&E unit would be needed to confirm (or correct as needed) the results of the analysis.

Table A4.1. Summary of Financial results of agricultural models

Model (base 1 ha)	Without project situation			With project situation			Incremental Gross Margin (HTG)
	Income (HTG)	Production expenses (HTG)*	Gross Margin (HTG)	Income (HTG)	Production expenses (HTG)*	Gross Margin (HTG)	
Banana	278,139	67,500	210,639	867,840	204,823	663,017	452,378
Yam + black beans	147,380	114,900	32,480	383,637	195,246	188,391	155,911
Vegetables (chili, pepper, cabbage, carrot)	68,400	21,000	47,400	662,473	402,687	259,786	212,386
Various beans	17,794	16,000	1,794	122,001	44,848	77,153	75,358
Cassava + Sweet potato	198,384	15,000	183,384	477,636	81,611	396,025	212,641
Maize + Congo beans + Sorghum	66,465	11,600	54,865	294,058	98,419	195,639	140,774
* Labor considered as family labor							

Sub-component 2.2: Intensification, diversification and commercialization of agriculture

9. **Twenty sub-projects were funded under Sub-component 2.2 via a matching grant scheme that benefitted 1,457 members of Rural Producer Organisations (RPOs).** The total cost of these projects is estimated at US$1.7 million. Thirteen (13) sub-projects were for fruit and vegetable processing, three (3) sub-projects were for grain (rice, maize) milling, three (3) sub-projects supported honey production and processing, and one (1) sub-project supported fish farming. These sub-

projects were financed in the last two years of project implementation: some of them were functional and in production at the time of the ex-post internal evaluation in 2024 and some were still completing their investment phase in the third quarter of 2024.

10. Four sub-projects that had been in production for at least one year were evaluated to illustrate the profitability of funded sub-projects, and all four sub-projects were found to be profitable to varying degrees. The four sub-projects that were evaluated were for honey production in Morne Blanc, breadfruit processing at Petite Rivière de Nippes, fish farming at Petite Rivière de Nippes, and rice and maize milling at O'Rouck/Anse-à-veau. Assumptions were made to forecast the production, sales and costs in future years since production had only started recently. To this end, a prudent and progressive increase of the production and sales was considered in the four models. Financial results for these sub-projects are summarized in Table A4.2 below. The most profitable activity were rice/grain milling and fish farming, which were calculated to generate a yearly cash flow of US$25,067 and US$17,023, respectively, in year 5 and a cumulative cash flow after ten years (after financing) of US$ 180,321 and US$137,621, respectively.

Table A4.2. Summary of Financial Results for Sub-projects Supported by the RPL project

Sub-project model	Investment cost (USD)	Yearly sales (USD) a/	Operational expenses (USD) b/	Yearly cash flow (USD) before financing b/	Cumulated cash flow after 10 years (USD) c/	Financial interest rate of return (FIRR)	Net present value (USD)
1. Rice/maize milling	44,840	443,984	418,898	25,067	180,321	24%	63,628
2. Fruit/vegetable processing	40,410	23,415	13,226	10,189	84,548	14%	15,783
3. Honey production	47,330	53,758	37,175	3,314	63,677	13%	29,839
4. Fish farming	46,747	30,015	12,992	17,023	137,621	28%	50,212

a/ at full production; b/ in year 5; c/ after financing (e.g. including the matching grant).

Sub-component 2.3: Protection of infrastructure and watersheds

11. **Sub-component 2.3 financed the protection of infrastructure and watersheds via investments in small infrastructure construction or rehabilitation so as to increase the resilience of both landscapes and of farmers' enterprises.** In particular, Sub-component 2.3 financed the protection of gullies in the localities of Javel and Dupouille; the restoration of mangroves in the locality of Bondeau; reforestation for the protection of springs in eight localities (Sault du Baril, Lebrun, Rocher Laval, Corail, Puits Barbe, Bondeau, Ravine Diable and Mathurin); reprofiling and cleaning of canals and irrigation infrastructures to restore irrigation schemes after the August 2021 earthquake; the construction of cisterns to ensure the supply of drinking water to families in earthquake-affected areas, and the rehabilitation of a feeder road. The financial impacts of various of these activities for which assessments were made are presented below.

- **Watershed management**. Gully correction activities in Javel and Manyan/Dupouille were carried out with dry stone mechanical structures and vegetative coverage to stabilize the soil (bamboo, elephant grass, sugarcane cuttings, pineapples). These activities reduced erosion and sedimentation downstream, and helped rainwater filtration, and thus soil moisture retention for some time. In the rehabilitated gullies, farmers were able to plant tuber crops (such as taro and yams) associated with short cycle crops (such as black peas and corn). In addition, livestock could be fed with the planted elephant grass. Before the remediation work, it was impossible for farmers to plant anything in these gullies due to the high risk of crops being washed away. About 250 farmers benefitted from these activities. Based on interviews conducted with farmers, the average benefit per farmer is estimated at HTG 99,680 (US$760) per year.
- **Construction of family water tanks**. The project supported the construction of 50 water tanks (each with a capacity of 18 cubic meters) that benefitted 250 households. Each tank was built for five households composed of an average of five people. This has significantly reduced the expenditure of beneficiary households in purchasing and transporting water for domestic use. Thanks to the collection of rainwater in tanks, families only spent money on water transport during prolonged dry periods (between June and August). Each family spent an average of HTG 7,800 per year for

water transport instead of HTG 52,000 per year without access to a tank, e.g. a yearly benefit of HTG 44,200 (US$337) per household per year, which is significant in light of the low income level of these households.

- **Improvement of irrigation schemes**. The RPL project supported the improvement of the O'Rouck irrigation scheme via the masonry lining of irrigation canals (over a length of 700 meters out of a total length of 1,500 meters in the irrigation scheme), together with infrastructure to limit silting and regulate the water flow. Before the rehabilitation, the earthen canals produced a lot of sediment that had to be cleaned almost every month and only 10 percent of the farmers (those upstream) were able to receive water without problems, while other users had a random access to water which impeding their ability to irrigate their land every year. After the canal lining, 80 percent of the farmers in the O'Rouck irrigation scheme had access to water without problems, making it possible to add production value on an additional 59 hectares of irrigated land. The project also supported the rehabilitation of the Charlier irrigation scheme, by supporting the lining of the main and secondary canals and water catchment infrastructure, which resulted in increased water availability and irrigated areas in the irrigation scheme. As a result, farmers can grow vegetables that are considered more profitable compared to the crops they used to grow, such as corn and Congo peas. Table A4.3 below illustrates the farmers' incomes after the rehabilitation of the two schemes. Depending on the cropping pattern, gross income margins after rehabilitation varied from HTG 20,896 (US$160) to HTG 281,559 (US$2,150) per farmer (cropping an average of 0.16 hectares of irrigated land).

Table A4.3. Summary of Production and Financial Results in rehabilitated irrigation schemes

Crop (base 0.16 Ha or 0.125 Carreau)	Production costs (HTG)	Revenue			Gross margin (HTG)	Gross margin per ha (HTG)
		Yield	Unit price (HTG)	Value (HTG)		
		Yield				
Rice system	29,000	648 Kg	77	49,896	20,896	130,600
Black beans, maize and Congo beans						
Black beans	39,646	135 kg	407	90,249	50,603	316,269
Maize		108 Kg	172			
Congo beans		68 Kg	246			
Vegetables system						
Egg plant	71,100	1,663 Kg	83	352,659	281,559	1,759,744
Chilli		45 Kg	414			
Pepper		736 Kg	125			
Okra		832 Kg	125			
Banan and black beans						
Banana	47,000	2,400 Kg	100	250,582	203,582	1,272,388
Black beans		26 Kg	407			
Yam and bleack beans						
Yam	51,500	938 Kg	200	198,182	146,682	916,763
Black beans		26 Kg	407			
Cocoyam and black beans						
Cocoyam (Malanga)	58,000	625 Kg	200	135,582	77,582	484,888
Black beans		26 Kg	407			

B. ECONOMIC ANALYSIS

12. **A cost-benefit analysis was conducted to assess the economic viability of the RPL project from the overall standpoint of the national economy**. Detailed calculations for the aggregation of economic benefits by model and by sub-component, investment costs, economic cash flows and sensitivity analyses were made for a 20-year period and are available in Project Files. The main features, assumptions made, limitations and results of the analysis are described below.

Project development impact and economic benefits

13. **The RPL project had generated numerous tangible socio-economic benefits, including the following**:

(i) Increased agricultural and livestock production as a result of the access that the project facilitated for smallholders to inputs, knowledge, value chain finance, improved technologies, and markets;

(ii) Improved food and nutrition security for targeted households, as an increased share of production could be sold to generate monetary revenues;

(iii) Increased incomes for both direct and indirect beneficiaries;

(iv) Enhanced market opportunities for smallholder rural producers and their organizations that were strengthened (via enhanced technical and managerial capacity), provided with access to finance (via matching grants), and that achieved better linkages to markets and traders, which in turn is expected to lead to increased average producer prices and greater share of benefits accruing to producers;

(v) Reduced asymmetry of technical and market information between value chain actors;

(vi) Longer-term multiplier effects of strengthened capacities of smallholders and their organizations;

(vii) Both restored and increased water productivity (in physical and monetary terms), thanks to the rehabilitation of small-scale irrigation schemes; and

(viii) A shift to more sustainable land and crop management practices, with an expanded cultivated area under agroforestry, with associated carbon sequestration and reduced greenhouse gases (GHG) emissions.

14. **Some of these benefits could be quantified in the ex-post economic analysis**. The non-quantified benefits (including from carbon sequestration) suggest that the overall benefit of the RPL project calculated below may be significantly underestimated.

Economic benefits considered in the analysis

15. **The quantified economic benefits considered in the analysis are tangible benefits generated via the implementation of Components 2 and 4**, in particular:

(i) The incremental agricultural production generated by activities financed under Sub-component 2.1 (FFS and the farmer subsidy scheme) and Component 4;

(ii) The incremental cash flows from the agricultural processing and value chain enhancement sub-projects funded by the matching grant scheme that benefitted 20 Rural Producer Organizations (RPOs) under Sub-component 2.2;

(iii) The significant value of reduced GHG emissions, especially as a result of the wider application of agroforestry and more sustainable land management practices.

16. **The benefits that are not considered are those that could not be valued in the analysis, even though they may play an important role in reducing inequities and tensions and in improving social stability in the project areas**. They include:

(i) Benefits generated under Sub-component 2.3 (improvement of small-scale irrigation schemes, gully protection, mangrove restoration, feeder road improvement, etc.), for which limited data were available. They are, however, limited in scope relative to the benefits generated by Sub-component 2.1 and Component 4;

(ii) The longer term multiplier effects of strengthened capacities and enhanced access to technologies for smallholder farmers and their organizations, and the reduced asymmetry between value chain actors regarding technical and market information.

17. **In valuing incremental production, the financial prices of outputs at farm or factory gate or at local markets (as declared by smallholders and RPOs in the June 2024 impact survey) were considered identical to economic prices**. That is, a conversion factor of 1.0 was applied to convert financial to economic values. This is because the bulk of the additional agricultural production and the production of RPOs that received matching grants was meant for household self-consumption (food security enhancement objective) and for domestic markets, while a negligible share involved internationally traded commodities (imported or exported).

18. **A value of HTG 500 (US$3.80) per day and a conversion factor equal to 1.0 were also applied to casual labor and to value family labor used in production**. This takes into consideration the scarcity of labor in rural areas due to high pressure to access land; rural migration to the main cities (notably the suburbs of Port-au-Prince) to access basic facilities such as education and health services, energy and employment; emigration to the Dominican Republic, among other countries, in search of a better life and job opportunities; and the poor and deteriorating security and sanitary conditions in rural areas.[43]

Economic Benefits from Sub-component 2.1 (FFS and farmer subsidy scheme) and Component 4 (CERC)

19. **The incremental gross margins for the models calculated in the financial analysis were aggregated over 20 years, taking into account the pace of implementation of Sub-component 2.1 and Component 4 and the number of new beneficiaries per agricultural campaign**.[44] In the "without project" situation, farmers typically used their own-produced seeds, applied no or very little fertilizers and chemicals, and used their own labor. Under the technologies promoted by the project (the "with project" situation), they accessed packages/kits inclusive of improved seeds and planting materials, fertilizers and chemicals, small agricultural tools, etc. coupled with technical assistance provided by the OPS.

20. **A progressive adoption of the recommended packages and associated yields/income was projected**. It was estimated that in the year when an improved technical package was adopted, participating farmers would reach half of the target yield/income with the improved technology while bearing the full cost associated with the improved practice. The proportion of the targeted yield/income reached would progressively increase to 70 percent in year 2 of the application of the package, 80 percent in year 3, and 85 percent from year 4 onwards. This progression towards a maximum of 85 percent of the targeted yield/income was considered for a number of reasons, including: the difficulties involved in fully applying the package; the cash generated via the sale of a portion of the incremental production resulting from the application of the package (at no personal cost in the first year thanks to project support) might not be sufficient to meet all the purchasing costs of the improved inputs and reach target yields the following season; unfavorable weather conditions or natural disasters (drought, flood, earthquake, etc.) might occur, affecting yields; and the pressure to meet day-to-day living expenses as well as extraordinary events (notably ceremonies such as funerals, weddings, religious events, etc.) can affect the full application of the packages.

Benefits from Sub-component 2.2 (sub-projects funded under the Market Support Facility's matching grant scheme)

21. **A profile of the evolution of incomes, expenses and incremental gross margins over ten years (before financing) was developed for four sub-project models financed under the MSF**. Table A4.4 was developed using the technical and financial data provided by the four RPOs that started production and that were interviewed during the 2024 impact survey, with assumptions made for futures years. The four sub-projects were considered representative of each type of sub-project (grain milling, fruit and vegetable processing, honey production and fish farming). The analysis calculated a

[43] The data set and financial models do not specify whether family labor was valued (or only paid casual labor and services).
[44] Eight agricultural models for the farmer subsidy scheme.

weighted average incremental gross margin (over 10 years) per US dollar invested, before investment costs, taking into account the share of each model type in the overall data.

Table A4.4. Incremental Gross Margin generated over 10 years for a typical Sub-project under Sub-component 2.2 (in percent of each US dollar invested)

Sub-project model	Number of sub-projects funded	Number of sub-projects evaluated	Weight by model type (%)	Additional yearly cash flow per US$ invested (percent)*									
				1	2	3	4	5	6	7	8	9	10
1. Rice/maize milling	3	1	15%	-17%	2%	20%	37%	56%	56%	52%	56%	39%	55%
2. Fruits & vegetable processing	13	1	65%	3%	11%	18%	23%	25%	23%	17%	25%	22%	23%
3. Honey production	3	1	15%	-3%	5%	10%	9%	7%	12%	12%	24%	28%	30%
4. Fish farming	1	1	5%	3%	23%	36%	35%	36%	14%	35%	36%	29%	35%
Total	**20**	**4**	**100%**										
Incremental cash flow per US$ invested (weighted average)*				**-1%**	**9%**	**18%**	**24%**	**28%**	**26%**	**22%**	**30%**	**25%**	**29%**

* Excluding up-front investment costs

22. The pace of financing of the matching grants over the years of project implementation was taken into consideration in order to aggregate the benefits derived from the sub-projects. The 20 sub-projects were funded in tranches during the last three years of project implementation via US$1.39 million in matching grants under the MSF. The total investment cost of these 20 sub-projects was estimated at US$1.7 million, including RPO members/beneficiaries' contributions, which were estimated at US$0.3 million (18 percent of total costs).

23. As is generally the case for these kinds of activities, not all funded sub-projects would generate positive incremental gross margins over 10 years and some would fail. The sub-project failure rate was estimated at 30 percent. This assumption enabled the calculation of investment costs (by project year) of "successful" sub-projects, to which the profile of incremental gross margin per year and per US dollar invested (see above) was applied, in order to estimate the incremental benefits generated by successful sub-projects by project year. This benefit stream was then used below in the overall economic analysis of the project. The total discounted value of benefits drawn from "successful" sub-projects (at the opportunity cost of capital rate of 6 percent) was estimated at US$2.16 million over 20 years. Based on the above assumptions, and given the delayed and slow pace of accrual of benefits, Sub-component 2.2 was calculated to yield an economic internal rate of return (EIRR) of 3 percent and an economic net present value (ENPV) of US$0.7 million (before accounting for the sub-project preparation and matching grant delivery costs).

24. The Project generated significant positive climate change co-benefits (CCB). The adoption of technologies and practices that enhance climate resilience and natural resource management was designed to increase the productivity and efficiency of the food system while improving environmental and social outcomes, when compared to the conventional scenario. The investment models consider the impact of climate change and estimated an adoption rate that was consistent with the challenges posed by the complexity of the context. In addition, the analysis incorporated the co-benefits of climate change mitigation. The ICRR's assessment of the RPL project's GHG balance indicates a potential net reduction in GHG emissions of 585,166 tons of carbon dioxide equivalent (tCO_2e) over 20 years (i.e., on average 3.1 tCO_2e per hectare per year).[45] The EFA considered a reference scenario without including co-benefits linked to climate change mitigation, a low carbon price scenario (LCP) and a high carbon price scenario (HCP). These are important co-benefits that contribute to Haiti's Nationally Determined Contribution (NDC).

[45] The analysis was conducted using FAO's Ex-Act Tool. The methodology for the economic assessment of GHG mitigation potential follows the World Bank guidelines (World Bank, 2017) and applies an inflation-adjusted economic carbon price (US CPI 2022).

Results of the Economic Analysis

25. The RPL project generated a substantial positive economic impact. The economic analysis for the reference scenario (base case), excluding climate change mitigation co-benefits, was conducted considering all Project costs. The EIRR was found to be 19 percent, which is well above the economic opportunity cost of capital (OCC) (12 percent per year, as also applied in the EFA analysis at Appraisal), and the ENPV was found to be US$8.4 million. A variant to the reference scenario was considered that excludes the costs of Component 1 (institutional strengthening), for which no economic benefits could be quantified in the analysis, and part of Component 3 (project coordination and monitoring and evaluation) costs. The scenario excludes a relatively small share (17 percent) of Component 3 costs that corresponds to the weight of Component 1 in total project costs. In this second case, the project yielded an EIRR of 22 percent over a 20-year period, which is substantial, and an ENPV of US$10.9 million (applying a social discount rate of 12 percent). The Low Carbon Price Scenario (LCP) and the High Carbon Price Scenario (HCP) include the economic valuation of the Project´s GHG balance (in terms of climate change mitigation potential over the 20-year period of analysis). For the LCP, the EIRR increases to 26 percent and the ENPV is US$17.5 million. For the HCP, the EIRR increases to 33 percent and the ENPV is US$26.6 million. Table A4.5 below summarizes the economic performance of the Project under the reference (full cost), LCP and HCP scenarios.

Table A4.5. Summary of the RPL Project's Economic Performance Indicators

Economic Performance Indicators	Reference Scenario (not including climate co-benefits from GHG mitigation)	Low Carbon Price Scenario (LCP)	High Carbon Price Scenario (HCP)
Economic Internal Rate of Return (EIRR)	19%	26%	33%
Economic Net Present Value (ENPV), in US dollars	8,396,896	17,531,893	26,635,332
Economic Net Present Value for benefits (ENPV-b), in US dollars	90,156,031	99,291,028	108,394,467
Economic Net Present Value for costs (ENPV-c), in US dollars	81,759,135	81,759,135	81,759,135
Benefit/Cost (B/C) ratio	1.10	1.21	1.33
Switching value for benefits (SVB)	-9%	-18%	-25%
Switching value for costs (SVC)	10%	21%	33%
Economic discount rate	12%	12%	12%

26. Sensitivity Analysis

27. A sensitivity analysis was carried out for the different economic performance scenarios in order to test the impact on the EIRR and ENPV of modifying key parameters of the analysis. In all cases, the Project is more sensitive to changes in benefits than in costs. The switching value for benefits (SVB) under the reference scenario is -9 percent, meaning that a reduction of 9 percent in benefits would lead to a value of zero for the ENPV, applying a 12 percent social discount rate. For the base-case scenario, the switching value for costs (SVC) is +10 percent. In the base case, the economic performance is also very sensitive to delays in increments of the benefit stream. At the same time, it is generally advised to apply a social discount rate of 6 per cent to investment projects pursuing longer-term development objectives. Applying such a rate, the Project would be considered much less sensitive to changes in benefits and costs: it would take a two-year delay in the accrual of benefits to reduce the EIRR to 6 per cent. The economic performance of the Project is significantly more robust to any change when accounting for climate change mitigation co-benefits. Under the HCP, the SVB is -25 percent and the SVC is +33 per cent, at a social discount rate of 12 percent. The results of the sensitivity analysis are summarized in Tables A4.5 above and A4.6 below.

Table A4.6. Summary of Sensitivity Analysis
(Base case including all project costs and excluding Sub-component 2.3 benefits and climate co-benefits)

	Base case	Decrease in benefits		Increase in costs		Delay in benefits	
		5%	10%	10%	20%	1 year	2 years
EIRR	**19%**	15%	11%	15%	12%	10%	6%
ENPV (US$ Millions, OCC 12%)	**8.4**	3.9	-0.6	4.3	0.2	-2.7	-12.6

Caution in Interpreting Results due to Limitations in the Data Set

28. It should be highlighted that the EFA calculations and results presented above remain estimates as:

(i) The calculations are based on information generated in the June-July 2024 survey that targeted a small share of total beneficiaries, with data gaps in the questionnaires completed in the field by MANRDR surveyors;

(ii) The data on production, input usage, technology applications, expenses, sales and incomes were declared by respondents and are not based on registered figures;

(iii) High inflation and the depreciation of the HTG/US dollar exchange rate over the years of project implementation (from HTG 62 per US dollar at appraisal end December 2017 to HTG 131 per US dollar at Project Closing) make it difficult to compare incomes, expenses and net incomes across years;[46]

(iv) For sub-projects funded under the matching grant scheme, the technical support and management advice by the contracted OPS was limited in time (maximum two years) and technical monitoring or simple accounting records by RPOs covered a limited period of production after the investment phase (maximum one year), thus the medium-term financial impact of funded sub-projects is based on forecasts;

(v) The OPS sometimes reported increases in yields, production and gross incomes but rarely expenses and net incomes experienced by targeted farmers/households and RPOs as a result of RPL's support. While Bank implementation support missions pursued improvements in the M&E function, the focus was on producing data for informing the indicators in the Results Framework, rather than on evaluating financial impacts on beneficiaries at the field level. The remedy was, therefore, to carry out a rapid financial impact survey in June-July 2024, with the methodological and data interpretation shortcomings explained above.

29. At the same time, the results presented above may be significantly underestimated and conservative, as the analysis could not take into account several economic benefits derived from project implementation. The primary benefits excluded are those derived from the rehabilitated hectares of irrigation schemes for smallholders, the substantial emergency support provided to farmers hit by the 2021 earthquake in the South, and some environmental co-benefits, especially those associated with improved ecosystem services from restoration and improved management of productive landscapes, as explained above.

C. COMPARISON OF THE EFA ANALYSIS IN THE ICRR WITH THE EFA ANALYSES AT APPRAISAL AND AF

EFA at Appraisal

30. **An EFA was carried out in 2018 during project preparation, when the RPL project's costs were estimated at US$26.1 million**. The analysis was based on the following assumptions:

- Agricultural income increases from “without project” to “with project” situations were estimated using six crop models, including for vegetables, food crops such as yams and mixed farming (“*jardin créole*”), fruit trees, and dry

[46] The HTG/US dollar exchange rate at completion was considered to convert the incremental gross margins from HTG to US dollars.

forests, considering the various agroecological conditions. The analysis considered a total target area of 4,850 hectares and 6,000 beneficiaries, and an adoption rate of improved technologies of 70 percent;

- Models for processing units, including for fruit, cocoa, yam processing and compost production, estimated that 50 sub-projects would be funded, with an assumed failure rate of 30 percent;
- The economic cost-benefit analysis was conducted over a period of 20 years, excluding Component 1 costs, applying a conversion factor of 0.8 to project costs and of 0.9 to crop values, and considering an opportunity cost of labor of US$3 per day.

31. **Based on these assumptions, the EIRR at Appraisal was estimated at 20.8 percent and the ENPV at US$7.5 million, applying a social discount rate of 12 percent over the twenty-year period of assessment**. It was estimated at Appraisal that if the adoption rate were to fall to 45 percent, the EIRR would decline to 12 percent. The Appraisal calculation of the GHG balance estimated that the RPL project would lead to a net reduction of 572,397 tCO_2e over 20 years (5.9 tCO_2e per hectare per year, on average). This analysis assumed that most of the areas targeted by the Project would be subject to land use changes from annual cropping systems to perennial systems, whereas in the ex-post EFA for the ICRR, no land use changes are considered in the GHG balance, whence the difference between the potential reduction of GHG emissions per hectare per year estimated at Appraisal and the updated assessment at Project Closing (3.1 tCO_2e per hectare per year). At the same time, the revised GHG balance as of the ICRR reflects the relevance of the RPL project's contribution to the application of enhanced technologies and practices in productive systems and the implications in the sustainable management of critical ecosystems over the long run.

EFA at Additional Financing

32. **An Additional Financing in the amount of US$7.75 million was approved in November 2020**. The AF was approved to cover in part the reallocation of US$9.9 million to Component 4 (CERC) that was activated in March 2020 as a result of the COVID-19 pandemic. As a result, the RPL project's targets in terms of beneficiaries and agricultural area/sub-projects to be supported were revised. The revised calculations estimated the EIRR at 20.3 percent and the ENPV at US$9 million, applying a 12 percent social discount rate over the twenty-year period of analysis. At this stage, a GHG accounting analysis was conducted only to assess the revised indicator of hectares under sustainable landscape management. As in the case of the GHG balance at Project appraisal, the analysis included significant assumptions regarding land use changes corresponding to greater climate change mitigation potentials per hectare. It was estimated that the RPL project's interventions would result in an area of 1,500 hectares under sustainable landscape management, and would generate a net reduction of 384,452 tCO_2e over 20 years (equivalent to 12 tCO_2e per hectare per year, on average).

D. CONCLUSION ON THE EFFICIENCY RATING

33. **The RPL project's Efficiency at Project Closing is Substantial.** Considering the strong results of the EFA at Project Closing, the fact that not all economic benefits could be taken into account, and the fact that the results of the ex post EFA compares favorably with the EFA analyses carried out at Appraisal and at AF, then, even with the limitations in calculations and assumptions described above, **it can be concluded that the RPL project's Efficiency at Project Closing is Substantial**.

ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

1. **The Recipient was engaged early on in the process of producing the ICRR, including reviewing earlier drafts and provided brief inputs on the final draft of the ICR for the Decision Meeting**. The Bank team is very grateful to the Project Coordination Unit for the inputs received in the course of the preparation of the ICRR. The draft ICR was submitted to the Recipient for their final review and comments after the Quality Enhancement Review of the ICRR, held virtually during May 6-13, 2025. The Recipient provided additional information to the Bank on May 19, 2025, related to questions emerging from the QER, and had no further comments on the ICR's findings and ratings.

ANNEX 6. SUMMARY OF THE RECIPIENT'S COMPLETION REPORT

Context

1. **The project contributes to the achievement of the objectives of the National Adaptation Action Plan (PANA) and is aligned with the Agricultural Development Policy 2010–2025 of Haiti**. The Resilient Productive Landscapes (RPL) Project focused on enhancing the resilience of local communities in the Nippes department through integrated and climate-smart landscape management. Its activities were structured around four components: (1) Strengthening of institutional and organizational capacities for landscape level interventions; (2) Investments to strengthen resilient agricultural production and practices; (3) Project Coordination and Monitoring and Evaluation, and (4) a Contingency Emergency Response Component. The project promoted the adoption of improved agricultural practices through technical assistance, co-financing schemes, and Farmer Field Schools (FFS), while supporting sustainable land and water management. It helped build a geospatial decision support tool and funded the establishment of the Haitian Biodiversity Fund. The RPL project strengthened local agricultural value chains and improved access to markets, especially for smallholder farmers, including women. The project ultimately enhanced the capacity of beneficiaries to cope with climate shocks, restore degraded ecosystems, and generate stable incomes through improved agricultural productivity and infrastructure.

Changes During the Life of the Project

2. **The project experienced several significant changes during its implementation, including adjustments to its budget, the activation of the emergency response mechanism, and the addition of supplementary financing**. Initially approved in July 2018 and closed in November 2024, the RPL project underwent key shifts due to evolving challenges on the ground. A major restructuring occurred in 2020, which included a reallocation of US$9.9 million to the emergency component (CERC) and an additional IDA financing of US$7.75 million. Multiple external shocks affected implementation:

- The Covid-19 pandemic, which triggered the activation of the CERC in April 2020 to address food insecurity, and which caused supply chain disruptions and market inaccessibility;
- The August 2021 earthquake, which damaged critical infrastructure and drove the project to deliver emergency agricultural inputs and community support;
- Persistent socio-political instability and growing insecurity since 2021, which severely hindered field activities by limiting staff mobility, delaying procurement, and increasing project costs;
- Inflation and currency depreciation, which required amendments to funding agreements to maintain the financial viability of sub-projects.

3. **Despite these challenges, the project adapted through remote management tools, digital systems for monitoring, and close coordination with local stakeholders to ensure continuity in implementation and emergency response**.

Original versus Actual Project Costs

4. **As of June 30, 2024, the project had spent US$27,866,611.21 of the total adjusted budget of US$28.96 million**, i.e. 96.22 percent (see Table A6.1 below):

Table A6.1. Spending by component, as of June 30, 2024

Component	Initial Budget (US$ Millions)	Expenditures as of June 30, 2024 (US$ Millions)	Difference (US$ Millions)
Component 1	5,651,500.00	4,105,505.42	1,545,994.58
Component 2	8,981,546.00	8,764,351.80	217,194.20
Component 3	4,415,000.00	4,176,361.89	238,638.11
Component 4	9,905,000.00	9,642,613.00	262,387.00
Total	28,953,046.00	27,866,611.21	1,086,434.79

Project Relevance, Efficiency, Outcomes, and Ratings

5. **Relevance: The RPL project was highly relevant given Haiti's vulnerability to erosion from climate events and human activity.** Based on a theory of change, it aimed to improve environmental and living conditions by enhancing community well-being. Through components 1 and 2, it promoted sustainable agricultural practices, improved market access, and invested in rural infrastructure to boost resilience and productivity. The project also strengthened institutional capacities and encouraged inclusive land-use planning. Beneficiary satisfaction was high: 84 percent for Sub-component 2.1, 92 percent for Sub-component 2.2, and 61 percent for Sub-component 2.3, demonstrating strong alignment with community needs.

6. **Efficiency: In terms of efficiency, 16 percent of the budget was allocated to Component 3 (project management), while the amount directly allocated to farmer support (Components 2 and 4) accounted for 69 percent of the total budget.** The cost per beneficiary, calculated by dividing total disbursements by the total number of beneficiaries reached, was US$954.40. The project's investments created added value, as the evaluation of the economic performance of Sub-components 2.1 and 2.2 showed that beneficiaries were able to generate income from their farms or sub-projects supported by the RPL project.

7. **Outcomes: In terms of outputs, all indicators on the RPL project's monitoring and evaluation matrix are marked green, confirming that all project objectives were achieved**. See Tables A6.2, A6.3, A6.4, A6.5 and A6.6.

Table A6.2. Final Values of PDO Indicators

Indicator	Initial value	Initial target value	Revised target value	Actual value
1) Land area under sustainable landscape management practices (hectares)	0 Hectares		2,000 Hectares	2,053.347 Hectares
2)Farmers adopting improved agricultural technology (number), of which female (in percentage)	0		3,000	4,196
	0%		33%	38%
3) Share of targeted farmers with improved market access (percentage)	0%		40%	80.55%

Table A6.3. Final Values of Component 1 Indicators

Indicator	Initial value	Initial target value	Revised target value	Actual value
4) Comprehensive Master Plan (MARNDR / MdE) in place for the implementation of the Resilient Productive Landscapes approach (Yes/No)	No		Yes	Yes
5) Number of sub-watersheds with participatory plans developed (Number)	0		4	4
6) Number of sub-watersheds with investments plans developed (Number)	0		4	4
7) Spatial decision support tool for the prevention and / or management of climatic risks operational (Yes/No)	No		Yes	Yes
8) Spatial decision support tool for the prevention and / or management of climatic risks applied to the area covered by the Project. (Hectare)	0 Hectares		8,000 Hectares	21,968.31 Hectares
9) Haiti National Trust legally established (Yes/No)	No		Yes	Yes
10) . Haiti National Trust operational (Yes/No)	No		Yes	Yes

Table A6.4. Final Values of Component 2 indicators

Indicator	Initial value	Initial target value	Revised target value	Actual value
1) Land area under sustainable landscape management practices (Hectares)	0 Hectares		2,000 Hectares	2,053.347 Hectares
2) Farmers adopting improved agricultural technology (Number), of which female (in percentage)	0		3,000	4,196
	0%		33%	38%
3) Share of targeted farmers with improved market access (Percentage)	0%		40%	80.55%
11) Farmers' field schools promoting a RPL approach established FFS (Number)	0	50	50	115
12) Farmers participating in the FFS (Number), of which female (Percentage)	0		800	2,500
	0%		33	37.83
13) Sub-projects supported by the RPL Project improving access to markets for products from targeted areas (Number)	0	50	20	20
14) Members of the groups benefiting from sub-projects (Number), of which female (Percentage)	0		220	1,511
	0%		33	47
15) Percentage of beneficiaries satisfied with Project interventions, of which female (Percentage)	0%		78	85.67
	0%			50.03

Table A6.5. Number of Households Directly Benefitting from Infrastructure Activities (Sub-component 2.3)

Activities	Male	Female	Total
Rehabilitation of irrigated perimeters	3,000	850	3,850
Cleaning and reshaping works on irrigation canals (18,850 linear meters)	2,000	855	2,855
Household water tanks	147	103	250
Soil conservation (1,910 linear meters of ravine protection structures)	1,340	590	1,930
Total	6,487	2,398	8,885

Table A6.6. Final Values of Component 4 Indicators

Indicator	Initial value	Initial target value	Revised target value	Actual value
16) Number of farmers provided with climate-resilient crop varieties/seeds (Number)	0		9,000	20,968
17) Farmers receiving urgent production inputs and services under CERC (Number)	0		21,490	137,611

8. **The RPL project directly supported 4,196 farmers (of whom 38 percent were women) through technical assistance and farmer field schools, and 20 agro-processing sub-projects (of which 5 percent were led by women).** It also benefited 1,511 value chain actors (of whom 47 percent were women) via co-financing, 8,885 individuals (including 2,398 women) through community works, and 137,611 farmers through CERC support in response to COVID-19 and the 2021 earthquake.[47] Additionally, a training plan for over 100 government staff from MARNDR and MDE was approved. The project prioritized women's inclusion, recognizing their key role in resilience, social cohesion, gender balance, and fostering diversity and innovation.

9. **Ratings: The evaluation of the project is deemed "Satisfactory"**. See Table A6.7.

Table A6.7. Summary of Project Ratings

Criteria	Rating
Implementation Performance	Satisfactory
Project results	Satisfactory
Component 2	Satisfactory
Safeguards (Environment and Social)	Satisfactory
Financial management	Satisfactory
Procurement	Satisfactory

Project Impacts and Strengths

10. The RPL project has generated lasting impacts.

- Under Component 1, the training and capacity-building of institutions linked to the Ministries of Agriculture and Environment are likely to have lasting effects. The preparation of participatory and investment plans, as were

[47] This includes 72,755 farmers in the Nippes Department and 64,856 farmers in the South Department. While the CERC support in the South Department was delivered with RESEPAG support, it was financed under the RPL project's CERC component. See Table A9.1 in Annex 9.

developed at the watershed level in the RPL project, can be replicated nationally. Support to CNIGS also has long-term potential through spatial tools for climate and landscape monitoring;

- Component 2 generated significant economic impacts. Under Sub-component 2.1, farmers adopted new techniques such as ridge planting and the use of short-cycle seeds, increasing productivity and resilience. They also learned about pest control methods, like combating the white grub that affects yam crops. Beneficiaries confirmed they could replicate these practices independently;
- In Sub-component 2.2, investments in infrastructure, training, and market access supported the viability of sub-projects, with economic assessments showing profitability and the potential for long-term job creation;
- Sub-component 2.3's infrastructure—irrigation systems, cisterns, and rural roads—reduced household costs, improved access to markets, and boosted agricultural productivity;
- The RPL project stimulated local economies by sourcing seeds, banana suckers, and services from local suppliers, ensuring reinvestment and supply continuity beyond the life of the project;
- On the social front, the emergency response (CERC) improved food security, increasing daily meal frequency and reducing hunger. For Sub-component 2.1, crops like okra and eggplant provided quick income used for education, housing, and healthcare. Group activities like Farmer Field Schools and shared infrastructure strengthened community cohesion, encouraged knowledge sharing, and empowered women through leadership roles and prioritization in project participation;
- Environmental impacts were central to the project's design. It promoted climate-resilient agriculture, agroforestry, composting, and erosion control. Projects that encouraged tree planting—like honey and breadfruit processing—were prioritized, alongside environmental safeguards such as wastewater treatment. Activities like reforestation, source protection, and mangrove restoration supported groundwater recharging, biodiversity, and coastal resilience.

11. The RPL project demonstrated several strengths that contributed to its success, including:

- The integrated landscape approach, which combined sustainable land management, climate-resilient agriculture, and disaster risk reduction;
- Strong coordination among project stakeholders, including local authorities, community organizations, and technical institutions;
- Active involvement of beneficiaries in planning and implementing activities, which promoted ownership and sustainability;
- Effective consideration of cross-cutting issues such as gender inclusion, youth participation, and environmental sustainability;
- Capacity building of local institutions and producer organizations in technical, organizational, and financial management skills;
- Use of Farmer Field Schools and demonstration plots as platforms for knowledge exchange and adoption of good agricultural practices;
- Successful partnerships with the private sector and NGOs, enhancing service delivery and outreach.

Key Lessons Learned and Recommendations

12. Component 1: Institutional Strengthening

- Recommendation to restrict the Project Steering Committee's structure to the supervising ministries and local authorities (due to weak participation and attendance by other government bodies);
- Recommendation of consistent representation in the Project Advisory Committee to improve activity tracking and engagement;
- Participatory and investment plans should be finalized before the launching of project implementation;
- Training for ministry staff should occur during the project to allow practical application;
- Automatic stations should be installed in project areas to better track climate parameters;
- The collaboration framework with CNIGS should be clarified and CNIGS should be included in the Project Steering Committee.

13. Component 2: Landscape Restoration and Livelihoods

- Better analysis of beneficiary needs, considering soil degradation, moisture retention, with a view to recommending more suitable technical packages;
- Ravine protection should precede agroforestry seedling distribution;
- Local nurseries should be favored to avoid transport-related seedling damage;
- Local nurseries and germplasm centers should be strengthened to promote biodiversity conservation and production;
- Inputs must be delivered before planting seasons, which means that procurement processes should start earlier;
- Current environmental actions are still insufficient—increased funding and broader coverage is needed in sub-watersheds;
- Support is needed for families affected by restrictions to access to mangroves;
- Involving local youth in infrastructure projects can enhance local ownership and reduce poverty;
- Provide technical support to all beneficiaries, with more focus on female farmers due to lower productivity;
- Sector tables should promote synergy and avoid duplication among actors in Nippes;
- Information should be shared among beneficiaries of sub-projects to prevent misunderstandings;
- Support should be continued for existing sub-projects as they are still developing.

14. Component 3: Project Management

- A dedicated accountant was needed for the RPL project to avoid low prioritization;
- The high turnover in key roles needed to be addressed to ensure smoother implementation;
- More vehicles were required for the field team to ensure better supervision and activity management.

ANNEX 7. MATRIX OF RESTRUCTURING CHANGES DURING PROJECT IMPLEMENTATION[48]

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
Amount	IDA D2720-HT: SDR 10.6 million (US$15.0 million equivalent) GEF TF0A6551: US$6.21 million J/P HRO parallel financing: US$5 million	Additional Financing (IDA D7420-HT): SDR5.6 million (**US$ 7.75 million equivalent)**	No change	No change
Explanation	Not applicable	Additional financing to support a partial replenishment of the financing gap caused by the CERC activation in April 2020 (US$9.9 million was reallocated to address COVID-19 impacts).	Not applicable	Not applicable
Amount Disbursed	US$0	US$7.36 million	US$21.97 million	US$27.61 million
Closing Date	December 31, 2023	December 31, 2023	May 31, 2024	November 30, 2024
Rationale for extension	Not applicable	Not applicable	*The deterioration of the political, economic, social and security context and recommendations of the April 2023 mission led the Government to request a 5-month extension (to May 31, 2024) to ensure the completion of the project activities.*	*Due to the sociopolitical and security crisis, achieving proper project closure by the end of May was deemed not feasible. Plus, under IDA 2720, after the CERC was triggered in December 2020, spending in certain categories was exceeded. The restructuring, therefore, proposed to: (i) allow for the reallocation of IDA and GEF Grant proceeds across categories, together with an increase in the GEF category ratios, and (ii) extend the closing date to facilitate the completion of project activities.*
Policy Waivers	No	No	No	No
PDO	The Project Development Objectives are: (i) to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-	No change	No change	No change

[48] Note: Changes in items due to Restructurings over the life of the Project are highlighted in **bold**.

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
	watersheds; and (ii) to enable the Government to respond promptly and effectively to an eligible emergency.			
Rationale for change in PDO	Not applicable	Not applicable	Not applicable	Not applicable
Results Framework	See Annex 8 for the original results framework.	**The Results Framework (RF) was updated to reflect both (a) the additional activities financed under the CERC and (b) the reduced scope of initially planned Project activities:** **- The RF was adjusted to reflect the reduction in the original financing by US$2.15 million equivalent.** **- Activities in the original project were downscaled with reduced end targets for three PDO indicators.** **- New intermediate indicators were added to reflect the beneficiaries of CERC activities**.	**The Results Framework was updated to reflect the new closing date**.	No change
Components & Costs: Component 1	Component 1: Strengthening of institutional and organizational capacities for landscape level interventions (US$7.0 million)	Component 1: Strengthening of institutional and organizational capacities for landscape level interventions (**US$7.06 million**)	No change	No change
Component 2	Component 2: Investments to strengthen resilient agricultural production and practices (US$15.7 million)	Component 2: Investments to strengthen resilient agricultural production and practices (**US$14.33 million**)	No change	No change
Component 3	Component 3: Project Coordination and Monitoring and Evaluation (M&E) (US$3.5 million)	Component 3: Project Coordination and Monitoring and Evaluation (M&E) (**US$2.67 million**)	No change	No change
Component 4	Component 4: Contingency Emergency Response Component (US$0 million)	Component 4: Contingency Emergency Response Component (**US$9.90 million**)	No change	No change
Rationale for changes	Not applicable	*CERC activation in April 2020 resulted in a reallocation of US$9.90*	Not applicable	Not applicable

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
		million from Components 1, 2, and 3 to Component 4. As this was only partially replenished by the AF, the financing allocated for the original project activities was reduced by US$2.15 million equivalent, resulting in the downscaling of activities and in a reduction in the end targets for three PDO indicators.		
Safeguards Policies Triggered	- Environmental Assessment OP/BP 4.01 - Natural Habitats OP/BP 4.04 - Forests OP/BP 4.36 - Pest Management OP 4.09 - Physical Cultural Resources OP/BP 4.11 - Involuntary Resettlement OP/BP 4.12	No change	No change	No change
Rationale for changes	Not applicable	Not applicable	Not applicable	Not applicable
Other Changes to Safeguards (Explanation)	Not applicable	Not applicable	Not applicable	Not applicable
Legal covenants	(As summarized in the PAD, Legal Covenants, pages 4-6) SCHEDULE 2, Section I., A. 1. Of the Grand Agreements: Project Implementation Units The Recipient shall operate and maintain, throughout Project implementation, a Project Implementation Unit (PIU) under the administrative authority of both MARNDR and MdE, to be established not later than three month after the Effective Date and to be located at the central and local level through two sub-units, i.e. : (a) the Project Implementation Unit at the Central Level (the PIU-C) located in Port-au-Prince,	No change	No change	No change

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
	responsible for the overall implementation, management, monitoring and evaluation of the Project at the national level; and (b) the Project Implementation Unit at the Local Level (the PIU-L) located in the Nippes Department ; responsible for the implementation, management, monitoring and evaluation of Part 2 of the Project at the local level, both with qualified and experienced staff in sufficient numbers, as well as with adequate funds, facilities, services and other resources acceptable to the World Bank, as further detailed in the Project Implementation Manual. <u>SCHEDULE 2, Section I., A. 2. of the Grand Agreements: Steering and Advisory Committees</u> The Recipient shall: (a) establish not later than six months after the Effective Date and thereafter operate and maintain in form and substance satisfactory to the World Bank, as further detailed in the Project Implementation Manual and throughout Project implementation, a Project Steering Committee to be co-chaired by MdE and MARNDR, and with representatives from all line ministries and other key stakeholders in charge of the overall strategic guidance and oversight of the Project; and (b) establish not later than six months after the Effective Date and thereafter operate and maintain in form			

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
	and substance satisfactory to the World Bank, as further detailed in the Project Implementation Manual and throughout Project implementation, an Advisory Committee to be chaired by the PIU-C coordinator, and with representatives from key stakeholders in charge of operational guidance and regular follow-up on the implementation of the Project activities. SCHEDULE 2, Section I., B. of the Grand Agreements: Project Implementation Manual The Recipient shall carry out the Project, and/or cause the Project to be carried out, in accordance with the Project Implementation Manual, which consists of different schedules setting forth, respectively, rules, methods, guidelines, specific development plans, standard documents and procedures for the carrying out of the Project The Project Implementation Manual may only be amended from time to time in consultation with, and prior approval of, the Association. SCHEDULE 2, Section I., I. of the Grand Agreements: Safeguards 1. The Recipient, through the PIU, shall ensure that the Project is carried out in accordance with the Safeguard Documents, including the guidelines, rules and procedures defined in said Safeguard			

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
	Documents. 2. The Recipient shall include in the Project Reports adequate information on the implementation of the ESMF, the RPF, the Pest Management Plan, any EMP or any RAP. SCHEDULE 2, Section II., A. of the Grand Agreements: Project Reports The Recipient shall furnish to the Association each Project Report not later than forty-five days after the end of each calendar quarter, covering said calendar quarter.			
Rationale for changes	Not applicable	Not applicable	Not applicable	Not applicable
Disbursement Categories - rationale for changes. **(Percentage of Expenditures to be Financed, inclusive of Taxes, in parentheses.)**	IDA D2720-HT: (1) Goods, works, non-consulting services, consulting services, Training, Operating Costs for Parts 1.1; 1.2 and 1.3(a) of the Project – SDR 1,000,000 (54%). (2) Resettlement compensation and assistance for Displaced Persons for Part 2 of the Project – SDR 100,000 (100%). (3) Goods, works, non-consulting services, consulting services, Training, Operating Costs, and, Farmers' Subsidy Scheme Payments for Part 2.1 of the Project – SDR 4,600,000 (77%). (4) Goods, works, non-consulting services, consulting services, Training, Operating Costs, Matching Grants, and Community	IDA D2720-HT (amended): (1) Goods, works, non-consulting services, consulting services, Training, Operating Costs for Parts 1.1; 1.2 and 1.3(a) of the Project – **SDR 500,000 (37%).** (2) Resettlement compensation and assistance for Displaced Persons for Part 2 of the Project – SDR 100,000 (100%). (3) Goods, works, non-consulting services, consulting services, Training, Operating Costs, and, Farmers' Subsidy Scheme Payments for Part 2.1 of the Project – **SDR 1,600,000 (53%)**. (4) Goods, works, non-consulting services, consulting services,	No change	IDA D2720-HT (amended): (1) Goods, works, non-consulting services, consulting services, Training, Operating Costs for Parts 1.1; 1.2 and 1.3(a) of the Project **– SDR 422,841.78** (100%). (2) Resettlement compensation and assistance for Displaced Persons for Part 2 of the Project – **SDR 0 (Pro Memoria).** (3) Goods, works, non-consulting services, consulting services, Training, Operating Costs, and, Farmers' Subsidy Scheme Payments for Part 2.1 of the Project – **SDR 648,726.31** (100%). (4) Goods, works, non-consulting services, consulting services,

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
	Participatory Works Payment for Parts 2.2 and 2.3 of the Project – SDR 2,400,000 (100%). (5) Goods, works, non-consulting services, consulting services, Training and Operating Costs for Part 3 of the Project – SDR 2,500,000 (100%). (6) Eligible Emergency Expenditures for Part 4 of the Project – SDR 0 (100%). <u>GEF TF0A6551</u> (1) Goods, works, non-consulting services, consulting services, Training, Operating Costs for Parts 1.1; 1.2 and 1.3(a) of the Project – USD 1,200,000 (46%) (2) Goods, works, non-consulting services, consulting services, Training, Operating Costs, and Farmers' Subsidy Scheme Payments for Part 2.1 of the Project – USD 2,010,046 (23%) (3) Capital endowment for the CBF under Part 1.3(b) of the Project – USD 3,000,000 (100%)	Training, Operating Costs, Matching Grants, and Community Participatory Works Payment for Parts 2.2 and 2.3 of the Project – **SDR 400,000** (100%). (5) Goods, works, non-consulting services, consulting services, Training and Operating Costs for Part 3 of the Project – **SDR 1,000,000** (100%). (6) Eligible Emergency Expenditures for Part 4 of the Project – **SDR 7,000,000** (100%). <u>GEF TF0A6551 (amended)</u> (1) Goods, works, non-consulting services, consulting services, Training, Operating Costs for Parts 1.1; 1.2 and 1.3(a) of the Project – USD 1,200,000 **(63%)** (2) Goods, works, non-consulting services, consulting services, Training, Operating Costs, and Farmers' Subsidy Scheme Payments for Part 2.1 of the Project – USD 2,010,046 **(47%)** (3) Capital endowment for the CBF under Part 1.3(b) of the Project – USD 3,000,000 (100%) **<u>IDA D7420 (new):</u>** **(1) Goods, works, non-consulting services, consulting services, Training, Operating Costs for Parts 1, 2, and 3 of the Project – SDR 5,600,000 (100%).**		Training, Operating Costs, Matching Grants, and Community Participatory Works Payment for Parts 2.2 and 2.3 of the Project – **SDR 398,283.95** (100%). (5) Goods, works, non-consulting services, consulting services, Training and Operating Costs for Part 3 of the Project – **SDR 1,106,619.25 (Pro Memoria).** (6) Eligible Emergency Expenditures for Part 4 of the Project – **SDR 8,023,528.71** (100%). <u>GEF TF0A6551 (amended)</u> (1) Goods, works, non-consulting services, consulting services, Training, Operating Costs for Parts 1.1; 1.2 and 1.3(a) of the Project – **USD 1,982,041.12 [0% percent from signature of the Amendment Letter; and 100% after depletion of Category (1) under the Financing (D2720-HT)]** (2) Goods, works, non-consulting services, consulting services, Training, Operating Costs, and Farmers' Subsidy Scheme Payments for Part 2.1 of the Project – **USD 1,228,004.88 [0% percent from signature of the Amendment Letter; and 100% after depletion of Category (3) under the Financing (D2720-HT)]** (3) Capital endowment for the CBF under Part 1.3(b)

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
		(2) Eligible Emergency Expenditures for Part 4 of the Project – SDR 0 (100%)		of the Project – USD 3,000,000 (100%) IDA D7420: No change
Rationale for changes	Not applicable	*CERC activation in April 2020 resulted in a reallocation of US$9.90 million to Component 4 from Components 1, 2, and 3, whose allocations were reduced under the original IDA although new IDA AF resources were provided for Parts 1, 2 and 3 of the project, and the GEF financing percentages were increased.*	Not applicable	*With 97% of the project's funds disbursed by May, 2024, the revised amounts in the disbursement categories reflected sums that were either ot expected to change again or to be exceeded before project closing.*
Disbursement Estimates	Annual / Cumulative (IDA only) - FY19: US$1.5m / US$1.5m - FY20: US$3.5m / US$5m - FY21: US$4.5m / US$9.5m - FY22: US$3m / US$12.5m - FY23: US$2m / US$14.5m - FY24: US$0.5m / US$15m.	Annual / Cumulative (IDA only) - **FY19: US$1.4m / US$1.4m** **- FY20: US$2.4m / US$3.8m** **- FY21: US$6.7m / US$10.5m** **- FY22: US$6.5m / US$17.0m** **- FY23: US$5m / US$22m** **- FY24: US$0.8m / US$22.8m**	**The Restructuring Paper states that: "The Results Framework and disbursement projections will be revised to reflect the new project closing date", however no updated table is provided**	No change
Rationale for changes	Not applicable	*A slow start to the project, followed by the rapid disbursement of funds under the CERC changed the disbursement profile for RPL project.*	Not applicable	Not applicable
Financial Management Arrangements (and rationale for changes)	The FM was managed using existing MARNDR capacity in Haiti, established under the RESEPAG II. It was attached to the existing RESEPAG II PIU because this PIU was deemed to have sufficient experience in financial management of World Bank-funded projects. The RESEPAG II PIU has a Senior Accountant and is well established and experienced in carrying out all financial	No change	No change	No change

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
	management, in compliance with World Bank policies and procedures. However, the personnel would need to be reinforced by the addition of at least one accountant. In addition, because MdE was not familiar with implementing World Bank-funded projects, and in order to develop its own capacity to manage other projects in the future, one qualified civil servant staff should be assigned to the PIU for intensive hands-on training and knowledge sharing. With this strengthening, MdE would fully benefit from exposure to the World Bank financial management policy, procedures and guidelines and have first-hand experience of implementing World Bank-funded project.			
Procurement	Just as for FM, the Project would use capacities and mechanisms existing in MARNDR, which has a centralized procurement unit (Unité de Passation des Marchés Publics, UPMP) headed by a senior Procurement Officer, which is well established and experienced in carrying out all procurement, in compliance with the World Bank regulations (July 2016), and Haitian regulations (June 2009), and applies them in conjunction with the associated Procurement Manuals. However, UPMP personnel would be reinforced by the addition of at least one senior procurement specialist. As for financial management, one qualified civil servant staff from MdE	No change	No change	No change

Item/ Rationale	Original Project Approved (IDA D2720-HT & GEF TF-A6551)	2020 Additional Financing (IDA D7420-HT)	2023 Restructuring (Level 2)	2024 Restructuring (Level 2)
Date Approved	**March 1, 2018 (IDA) & April 13, 2018 (GEF)**	**November 19, 2020**	**October 06, 2023**	**May 27, 2024**
	would be assigned to UPMP for intensive hands on training and knowledge sharing. Considering the overall weak public procurement system in Haiti, human and physical capacity constraints that have delayed the adoption of improved contracting practices in most Government agencies, mitigation measures have been identified and are reflected in the Project Procurement Strategy for Development.			
Rationale for changes	Not applicable	Not applicable	Not applicable	Not applicable
Implementation Schedule (see Closing Date above) - rationale for changes	Project activities would be completed by December 31, 2023	No change	**Following extension of the closing date, project activities would be completed by May 31, 2024.**	**Following extension of the closing date, project activities would be completed by November 30, 2024.**
Rationale for changes	Not applicable	No change	*The deterioration of the political, economic, social and security context and recommendations of the April 2023 mission led the Government to request a 5-month extension (to May 31, 2024) to ensure the completion of the project activities.*	*Due to the sociopolitical and security crisis, achieving proper project closure by the end of May was deemed not feasible. Plus, under IDA 2720, after the CERC was triggered in December 2020, spending in certain categories was exceeded. The restructuring, therefore, proposed to: (i) allow for the reallocation of IDA and GEF Grant proceeds across categories, together with an increase in the GEF category ratios, and (ii) extend the closing date to facilitate the completion of project activities.*

ANNEX 8. EVOLUTION OF THE RESULTS FRAMEWORK WITH PROJECT RESTRUCTURINGS[49]

PANEL 1 - PDO Indicators					
Indicator in Original Results Framework in the PAD	**Baseline (Mar 2018) > Target (Dec 2023)**	**Indicator in the 2020 Additional Financing**	**Baseline (Mar 2018) > Target (Dec 2023)**	**Indicator after the 2024 Restructuring (as reflected in ISR 13, May 2024)**	**Baseline (Mar 2018) > Target (November 2024)**
PDO Indicator 1: Land area under sustainable landscape management practices (CRI - Hectares)	0 > 2,000 ha	>	0 > **1,500**	>	0 > **2,000**
		Note on the above change: The target was reduced due to a reduction in financing for the component after the CERC was triggered		Note on the above change: The target was restored to its original value as the combination of the AF with HTG depreciation made the original target feasible	
PDO Indicator 2: Farmers adopting improved agricultural technology (CRI - Number)	0 > 3,000	>	0 > **2,200**	>	0 > **3,000**
		Note on the above change: The target was reduced due to a reduction in financing for the component after the CERC was triggered		Note on the above change: The target was restored to its original value as the combination of the AF with HTG depreciation made the original target feasible	
PDO Indicator 2 (sub-indicator): (Farmers adopting improved agricultural technology) - of which female (percentage)	0 > 33%	>	>	>	>
PDO Indicator 3: Share of targeted farmers with improved market access (Percentage)	0 > 40%	>	0 > **35%**	>	0 > **40**%
		Note on the above change: The target was reduced due to a reduction in financing for the component after the CERC was triggered		Note on the above change: The target was restored to its original value as the combination of the AF with HTG depreciation made the original target feasible	

[49] Note: Changes in indicators due to Restructurings are highlighted in **bold**.

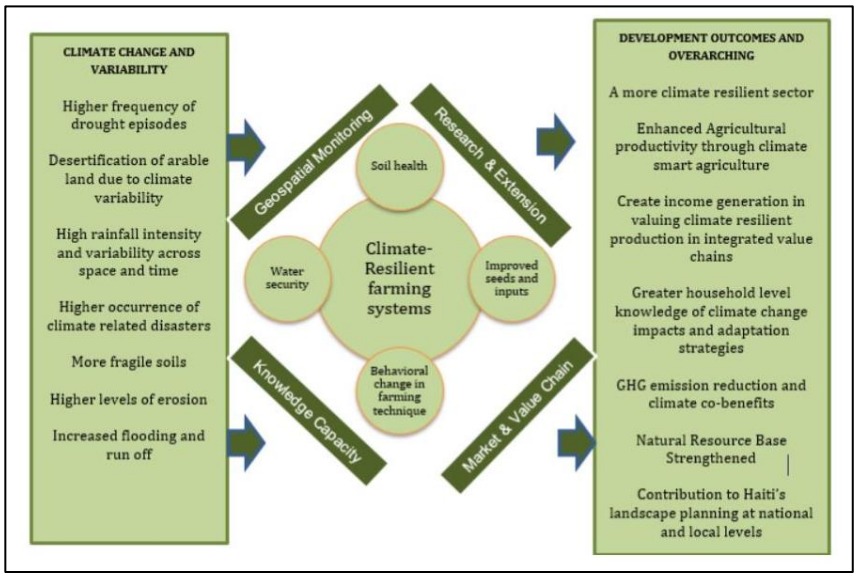
PANEL 2 - Intermediate Indicators					
Original Results Framework in the PAD	**Baseline (Mar 2018) > Target (Dec 2023)**	**2020 Additional Financing**	**Baseline (Mar 2018) > Target (Dec 2023)**	**2024 Restructuring**	**Baseline (Mar 2018) > Target (November 2024)**
COMPONENT 1					
1.1. Comprehensive Master Plan (MARNDR/MdE) in place for the implementation of the Resilient Productive Landscapes approach (Yes/No)	N > Y	>	>	>	>
1.2a. Number of sub-watersheds with participatory plans developed (Number)	0 > 4	>	>	>	>
1.2b. Number of sub-watersheds with investment plans developed (Number)	0 > 4	>	>	>	>
1.3a. Spatial decision support tool for the prevention and/or management of climatic risks operational (Yes/No)	N > Y	>	>	>	>
1.3b. Spatial decision support tool for the prevention and/or management of climatic risks applied to the area covered by the Project (Hectares)	0 > 8,000	>	0 > **6,000**	>	0 > **8,000*** (*as of ISR 11, May 2023)
		Note on the above change: The target was reduced due to a reduction in financing for the component after the CERC was triggered		Note on the above change: The target was restored to its original value as the combination of the AF with HTG depreciation made the original target feasible	
Haiti National Trust legally established (Yes/No)	N > Y	>	>	>	>
Haiti National Trust operational (Yes/No)	N > Y	>	>	>	>
COMPONENT 2					
2.1a. Farmers' field schools promoting a RPL approach established FFS (Number)	0 > 50	>	0 > **35**	>	0 > **50**
		Note on the above change: The target was reduced due to a reduction in financing for the component after the CERC was triggered		Note on the above change: The target was restored to its original value as the combination of the AF with HTG depreciation made the original target feasible	
2.1b. Farmers participating in the FFS (Number)	0 > 1,000	>	0 > **700**	>	0 > **1,000**

		Note on the above change: The target was reduced due to a reduction in financing for the component after the CERC was triggered		Note on the above change: The target was restored to its original value as the combination of the AF with HTG depreciation made the original target feasible	
2.1b. (Farmers participating in the FFS) - of which female (Percentage)	0 > 33%	>	>	>	>
2.2a. Sub-projects supported by the RPL Project improving access to markets for products from targeted areas (Number)	0 > 50	>	0 > **40**	>	0 > **20**
		Note on the above change: The target was reduced due to a reduction in overall financing for the component as part of the Additional Financing (AF) of 2020.		Note on the above change: The target was reduced further as of ISR 13, as the goals of this activity in terms of market access support to farmers were achieved with less sub-projects than originally projected.	
2.2b. Members of the groups benefiting from sub-projects (Number)	0 > 800	>	0 > **500**	>	>
		Note on the above change: The target was reduced due to a reduction in overall financing for the component as part of the Additional Financing (AF) of 2020.			
2.2b. (Members of the groups benefiting from sub-projects) - of which female (Percentage)	0 > 50%	>	>	>	0 > **33**%
				Note on the above change: The target was reduced to be consistent with all the other targets for female participation for the RPL project	
COMPONENT 3					
3. Percentage of beneficiaries satisfied with Project interventions (Percentage)	0 > 75%	>	>	>	>
3a. (Percentage of beneficiaries satisfied with Project interventions) - of which female (Percentage)	0 > 33%	>	>	>	>
COMPONENT 4					
--	--	4. Number of farmers provided with climate-resilient crop varieties/seeds (Number)	0 > 550	--	0 > **9,000**
		Note on the above change: This new indicator was added as part of the		Note on the above change: The target for this indicator was increased	

		2020 AF to track beneficiaries of CERC activities		in light of the major support following not only the COVID-19 pandemic but also the August 2021 earthquake	
--	--	4a. (Number of farmers provided with climate-resilient crop varieties/seeds) - of which female (Percentage)	0 > 33%	Indicator not tracked	Indicator not tracked
		Note on the above change: This new indicator was added as part of the 2020 AF to track beneficiaries of CERC activities		Note on the above change: This indicator was not tracked again in any ISR after being included in the AF Project Paper	
--	--	5. Farmers receiving urgent production inputs and services under CERC (Number)	0 > 21,490	>	>
		Note on the above change: This new indicator was added as part of the 2020 AF to track beneficiaries of CERC activities		>	>
--	--	5a. (Farmers receiving urgent production inputs and services under CERC) - of which female (Percentage)	0 > 33%	>	>
		Note on the above change: This new indicator was added as part of the 2020 AF to track beneficiaries of CERC activities		>	>

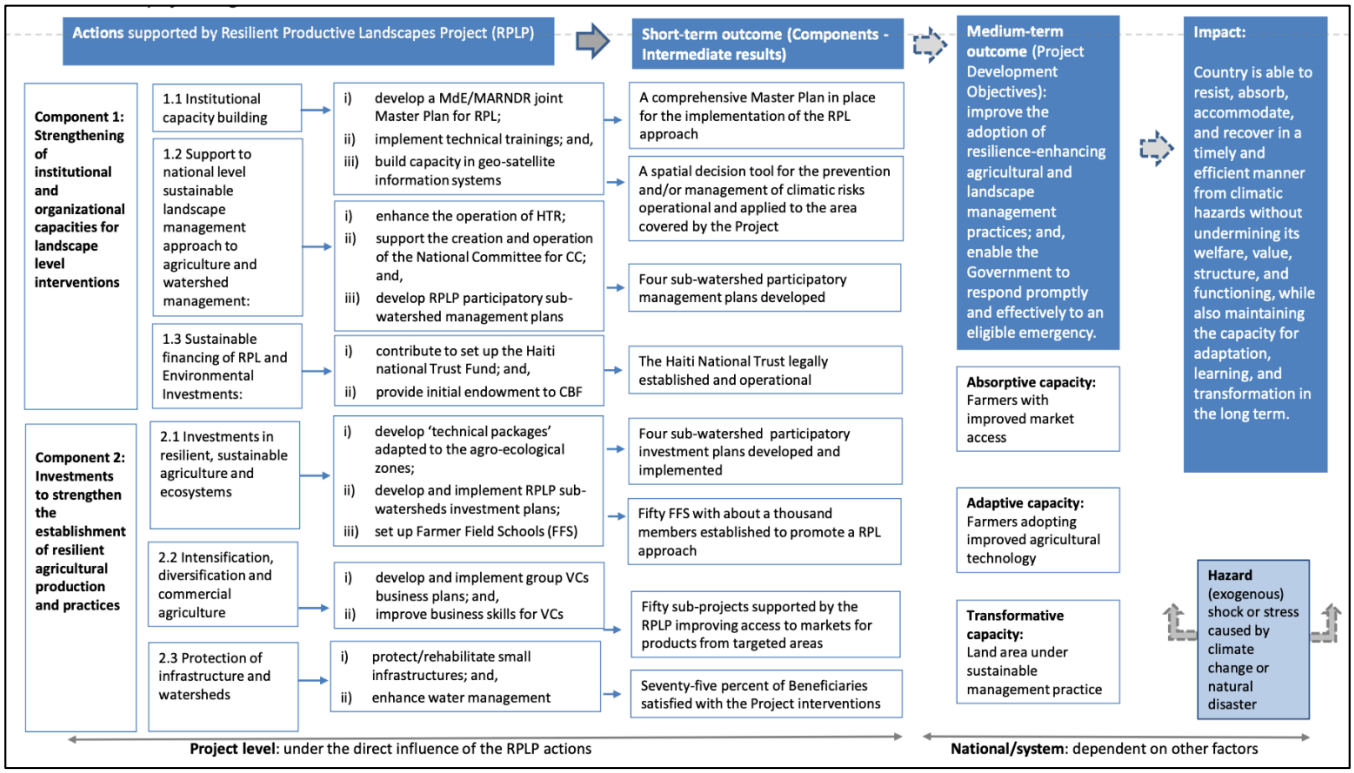
ANNEX 9. SUPPLEMENTARY FIGURES, TABLES AND BOXES

Figure A9.1. - RPL Project Theory of Change



Source: RPL Project PAD, page. 15

Figure A9.2. RPL Project Results Chain



Source: RPL Project PAD, page. 28

Table A9.1. Farmers Receiving Urgent Production Inputs and Services under CERC (Intermediate Indicator)

South Department Communes	Male	Female	Total
Maniche	1,847	831	2,678
Camp-Perrin	7,009	5,466	12,475
Torbeck	6,907	4,785	11,692
Chantal	2,074	1,189	3,263
Cayes	11,436	8,257	19,693
Cavaillon	4,745	2,508	7,253
Les Anglais	3,234	1,550	4,784
Roche-a-Bateau	255	62	317
Port-a-Piment	164	62	226
Chardonnières	116	34	150
Aquin	1,560	765	2,325
Total	**39,347**	**25,509**	**64,856**
Nippes Department Communes	**Male**	**Female**	**Total**
Paillant	18,199	14,133	32,332
Petite-Rivière	8,463	3,434	11,897
Anse-à-Veau	16,380	12,146	28,526
Total	**43,042**	**29,713**	**72,755**
Grand Total	**82,389 (59.9%)**	**55,222 (40.1%)**	**137,611 (100.0%)**

Source: Table provided to the Bank team by the PIU Coordinator in a communication on April 27, 2025

ANNEX 10. SUPPORTING DOCUMENTS

1. Implementation Status and Results Reports (ISRs) 1 through 14 for the Haiti Resilient Productive Landscapes Project (P162908). Available at: https://documents.worldbank.org/en/publication/documents-reports/documentlist?keyword_select=allwords&srt=score&order=desc&qterm=P162908&lang_exact=English
2. Project Appraisal Document for the Haiti Resilient Productive Landscapes Project (P162908), Report No. PAD2329, dated January 31, 2018. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/468931518469626680/haiti-resilient-productive-landscapes-project
3. RPL project Additional Financing Project Paper, Report No. PAD4179, dated November 6, 2020. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/258911605111743961
4. RPL project Restructuring Paper, Report No: RES57714, of date October 6, 2023. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099100623134538152
5. RPL project Restructuring Paper, Report No: RES60114, of date May 27, 2024. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099052724115540917
6. Financing Agreement for IDA Grant D2720-HT, dated April 13, 2018. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/385921524755816756
7. Amendment and Restatement of the Financing Agreement for IDA Grant D2720-HT, dated December 28, 2020. Available at: https://documents1.worldbank.org/curated/en/205001609789130663/txt/Official-Documents-Amendment-and-Restatement-of-Financing-Agreement-for-Grant-D272-HT.txt
8. Financing Agreement for Additional Financing IDA Grant D7420-HT, dated December 28, 2020. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/635121609789452203
9. Amendment and Restatement of the Financing Agreement for IDA Grant D7420-HT, dated May 31, 2024. Available in project files.
10. GEF Grant Agreement TF0A6551, dated April 13, 2018. Available in project files.
11. Amendment and Restatement of the GEF Grant Agreement TF0A6551, dated December 28, 2020. Available at: https://documents1.worldbank.org/curated/en/190121609788802249/pdf/Official-Documents-Amendment-and-Restatement-of-GEF-Grant-Agreement-for-Grant-TF0A6551.pdf
12. Amendment and Restatement of the GEF Grant Agreement TF0A6551, dated May 31, 2024. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099060624090529402
13. Project Appraisal Document for RESEPAG II (P126744), Report No: 64574-HT, October 31, 2011. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/125821468035660908/haiti-relaunching-agriculture-second-strengthening-agriculture-public-services-project
14. Government of Haiti: Plan d Action National d Adaptation (PANA), 2006. Available at: https://leap.unep.org/en/countries/ht/national-legislation/plan-d-action-national-d-adaptation-pana-2006
15. Government of Haiti: Plan National D'Investissement Agricole (PNIA 2016-2021), November 2010. Available at: https://www.gafspfund.org/sites/default/files/inline-files/7.%20Haiti_Investment%20Plan.pdf
16. Government of Haiti: Action Against Desertification. 2015. Available at: https://www.fao.org/in-action/action-against-desertification/countries/caribbean/haiti/en/

17. World Bank Group: 2015-2019 Country Partnership Framework (CPF) for Haiti, Report No. 98132-HT, discussed by the World Bank's Board of Directors on September 29, 2015. Available at: https://documents1.worldbank.org/curated/en/673911467986337757/pdf/98132-CPS-IDA-R2015-0243-IFC-R2015-0256-MIGA-R2015-0076-Box393199B-OUO-9.pdf

18. Performance and Learning Review of the Country Partnership Strategy for the Republic of Haiti for the period FY16-19, Report No. 124812-HT, dated May 31, 2018. Available at: https://documents1.worldbank.org/curated/ru/167021530329615895/pdf/Haiti-PLR-06062018.pdf

19. World Bank Group: Haiti - Country Partnership Framework for the Period FY25-FY29. Available at: http://documents.worldbank.org/curated/en/099020725174011573

20. World Bank Group: Haiti - Responding to recurrent crises and chronic fragility. Systematic Country Diagnostic Update. June 2022. Available at: https://documents1.worldbank.org/curated/en/709131656602892706/pdf/Haiti-Systematic-Country-Diagnostic-Update-Pathways-to-Responding-to-Recurrent-Crises-and-Chronic-Fragility.pdf

21. The World Bank. 2006. Haiti - Social Resilience and State Fragility in Haiti: a Country Social Analysis. Report No. 40927. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/533491468257084108/haiti-social-resilience-and-state-fragility-in-haiti-a-country-social-analysis

22. Integrated Food Security Phase Classification (IPC): "Haiti: Acute Food Insecurity Situation October 2017 - February 2018 and Projection for March - June 2018". Available at: https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1068538/?iso3=HTI

23. Food and Agriculture Organization of the United Nations (FAO): FAOSTAT - Haiti. available at: https://www.fao.org/faostat/en/#country/93

24. Haiti Takes Root. Available at: https://www.haititakesroot.org.