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IMPLEMENTATION COMPLETION AND RESULTS REPORT

IDA-H9500 / TF-17021

ON A

GRANT

IN THE AMOUNT OF SDR 32.4 MILLION (US\$50 MILLION EQUIVALENT)

AND US\$8.0 MILLION

TO THE

Republic of Haiti

FOR THE

HT Center and Artibonite Regional Development Project
February 28, 2021

Transport Global Practice
Latin America And Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {Feb 22, 2021})

Currency Unit = Haitian Gourdes (HTG)

HTG 72.83 = US\$1

US\$1,44 = SDR 1

FISCAL YEAR

October 1–September 30

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ABBREVIATIONS AND ACRONYMS

AfD	French Development Agency (Agence Française de Développement)
CAL	Center-Artibonite Loop
CASEC	Administrative Council of Communal Sections (Conseil Administratif des Sections Communales)
CBO	community-based organization
CERC	Contingent Emergency Response Component
CIAT	Ministerial Committee for Territorial Development (Comité Interministeriel d'Aménagement du Territoire)
CIF	Climate Investment Fund
CTD	Departmental Technical Council (Conseil Techniques Departemental)
EIRR	Economic Internal Rate of Return
EU	European Union
FER	Road Maintenance Fund (Fond d'Entretien Routier)
FM	financial management
FY	fiscal year
GoH	Government of Haiti
GDP	gross domestic product
ICR	Implementation Completion Report
IDB	Inter-American Development Bank
IP	Implementation Progress
IRI	Intermediate Result Indicator
ISR	Implementation Status Report
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)
MDOD	Delegated Project Management (Maîtrise d'Ouvrage Déléguée)
MEF	Ministry of Finance and Economy (Ministère de l'Economie et des Finances)
MTPTC	Ministry of Public Works, Transportation, and Communications (Ministère des Travaux Publics, Transports et Communications)
MTR	Mid-term Review
NPV	Net Present Value
NR3	National Road 3
PAD	Project Appraisal Document
PAP	Project-Affected Person
PBCA	Haiti Center and Artibonite Regional Development Project (Projet de la Boucle Centre Artibonite)
PDO	Project Development Objective
PIU	Project Implementation Unit
PPCR	Pilot Program for Climate Resilience
PSDH	Strategic Plan for the Development of Haiti (Plan Stratégique pour le Développement d'Haïti)
R18	Restructuring dated June 27, 2018
R20	Restructuring dated February 28, 2020

RAI	Rural Access Index
RAP	Resettlement Action Plan
RARP	Rural Accessibility and Resilience Project
RED Model	Roads Economic Decision Model
SMEs	Small and Medium Enterprises
SPCR	Strategic Program for Climate Resilience
STEP	Systematic Tracking of Exchanges in Procurement
TF	Trust Fund
UCE-MTPTC	Central Implementation Unit of the Ministry of Public Works, Transportation, and Communications (Unité Centrale d'Implémentation du Ministère des Travaux Publics, Transports et Communications)
UTE-MEF	Technical Implementation Unit of the Ministry of Economy and Finance (Unité Technique d'Exécution du Ministère de l'Economie et des Finances)

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DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P133352	HT Center and Artibonite Regional Development
Country	Financing Instrument
Haiti	Investment Project Financing
Original EA Category	Revised EA Category
Partial Assessment (B)	Partial Assessment (B)

Organizations

Borrower	Implementing Agency
Ministry of Economy and Finance	Unite Technique d'Execution (UTE), Unite Centale d'Execution (UCE)

Project Development Objective (PDO)

Original PDO

The objectives of the Project are to: (a) support the development of the Centre Artibonite Loop region, primarily by enhancing all-weather connectivity and logistics for producers, and the region's resilience to climate change; and (b) support the Recipient's capacity to respond promptly and effectively to an Eligible Emergency, as needed.



FINANCING

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
World Bank Financing			
IDA-H9500	50,000,000	26,752,330	16,186,274
TF-17021	8,000,000	8,000,000	6,351,914
Total	58,000,000	34,752,330	22,538,188
Non-World Bank Financing			
Borrower/Recipient	0	0	0
Total	0	0	0
Total Project Cost	58,000,000	34,752,330	22,538,188

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
19-May-2014	06-Oct-2014	21-Feb-2018	28-Feb-2020	31-Aug-2020

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US\$M)	Key Revisions
27-Jun-2018	5.60	Change in Implementing Agency Change in Results Framework Change in Components and Cost Reallocation between Disbursement Categories Change in Disbursements Arrangements Change in Institutional Arrangements Change in Financial Management Change in Procurement
25-Feb-2020	21.45	Change in Results Framework Change in Components and Cost Change in Loan Closing Date(s) Cancellation of Financing Reallocation between Disbursement Categories Change in Implementation Schedule



KEY RATINGS

Outcome	Bank Performance	M&E Quality
Moderately Unsatisfactory	Moderately Satisfactory	Modest

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	11-Oct-2014	Satisfactory	Satisfactory	.50
02	12-May-2015	Satisfactory	Moderately Satisfactory	1.50
03	24-Nov-2015	Satisfactory	Moderately Satisfactory	3.10
04	31-May-2016	Satisfactory	Moderately Satisfactory	3.10
05	03-Jan-2017	Moderately Satisfactory	Moderately Satisfactory	4.10
06	30-Jun-2017	Moderately Satisfactory	Moderately Unsatisfactory	5.10
07	02-Jan-2018	Moderately Satisfactory	Moderately Unsatisfactory	5.60
08	01-Aug-2018	Moderately Satisfactory	Moderately Unsatisfactory	7.60
09	10-Jan-2019	Moderately Satisfactory	Moderately Satisfactory	19.11
10	05-Jul-2019	Moderately Satisfactory	Moderately Satisfactory	19.11
11	14-Jan-2020	Moderately Satisfactory	Moderately Satisfactory	21.45
12	31-Aug-2020	Moderately Satisfactory	Moderately Satisfactory	21.75

SECTORS AND THEMES

Sectors

Major Sector/Sector	(%)
Agriculture, Fishing and Forestry	9
Agricultural Extension, Research, and Other Support Activities	9



Public Administration	18
Sub-National Government	7
Other Public Administration	11
Transportation	64
Rural and Inter-Urban Roads	64
Industry, Trade and Services	9
Agricultural markets, commercialization and agri-business	9
Themes	
Major Theme/ Theme (Level 2)/ Theme (Level 3)	(%)
Private Sector Development	100
Jobs	100
Finance	3
Finance for Development	3
Housing Finance	3
Urban and Rural Development	82
Urban Development	11
Urban Infrastructure and Service Delivery	8
Urban Planning	3
Rural Development	71
Rural Markets	9
Rural Infrastructure and service delivery	62
Environment and Natural Resource Management	15
Climate change	15
Mitigation	15



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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

- 1. At the time of appraisal in 2014, Haiti was pursuing an economic rebalancing process across its national territory.** Public awareness that Haiti needed to rebalance development across its territory was already growing during the early 2000s. During this period, the country had suffered considerable damage from heavy rains and hurricanes (Jeanne in 2004; Fay, Gustav, Hanna, and Ike during the span of one month in 2008). Rebalancing gained momentum as a solution to reduce the country's vulnerability to natural disasters. In 2009, to ensure better governance of territorial planning across Haiti, the Ministerial Committee for Territorial Development (Comité Interministeriel d'Aménagement du Territoire, CIAT) was created. The importance of rebalancing was reinforced by the devastating earthquake of January 2010. This caused considerable damage,¹ primarily in Port-au-Prince and the western part of the country, where most of Haiti's economic activity is concentrated. Key strategic frameworks were developed to set territorial rebalancing and decentralization as national priorities going forward, including the 2010 Strategic Plan for the Development of Haiti (Plan Stratégique pour le Développement d'Haïti, PSDH) and the Haiti Tomorrow report published by the CIAT in 2010. From 2011 to 2013, Haiti's gross domestic product (GDP) increased by a cumulative annual growth rate of 4.2 percent. However, the country was still striving to achieve a spatial redistribution of growth across its national territory, with high levels of unemployment and extreme poverty prevailing, especially in the provinces.
- 2. The Haiti Center and Artibonite Regional Development Project (Projet de la Boucle Centre Artibonite, PBCA) was born out of this rebalancing process and takes its roots in the "Haiti Tomorrow—The Center-Artibonite Loop: Territorial Goals and Strategies for Reconstruction" report published by the CIAT in 2010.** The document framed a model for territorial planning and economic development across the country, by structuring a multisectoral development vision for the Center-Artibonite Loop (CAL) region, centered on road connectivity as a means to improve territorial and human development. Often considered as "Haiti's breadbasket," the CAL region spans a territory of 4,632 square kilometers (km²) and has 1.2 million inhabitants. The region was identified as strategic by the Government of Haiti (GoH), given its substantial contribution to agricultural output, a sector accounting for 25 percent of the country's GDP and 50 percent of total employment in Haiti at appraisal.² The region also displayed still untapped agricultural potential along with high poverty rates and strong vulnerability to natural hazards and climate change. The loop itself (see [Figure 1](#)) is a 240-km-long road system connecting 10 urban centers, which are nearly equidistant (on average 24 km away) from one another. While the strategy envisioned for the development of the CAL was multisectoral,³ its central element was the development of an organized urban network (the loop) connecting the port cities of Saint-Marc, Gonaïves, and Cap-Haïtien to the north; Port-au-Prince to the south; and

¹ The earthquake caused over 200,000 deaths and inflicted massive damages and losses estimated at US\$7.9 billion (120 percent of Haiti's GDP).

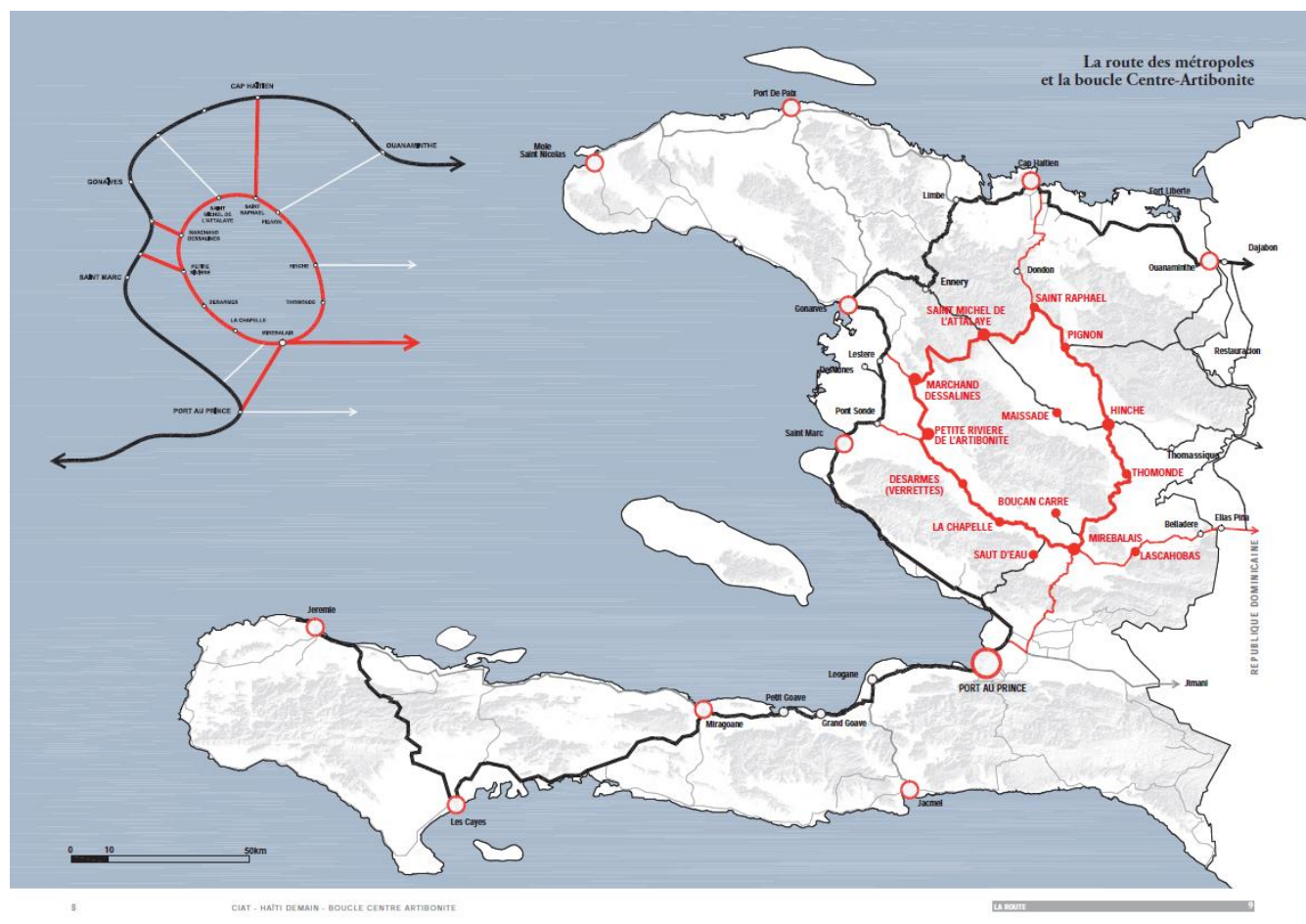
² Project Appraisal Document, PAD767, April 2014

³ It embedded actions in areas such as transport, agriculture, energy, water, health, or education.



the Dominican Republic in the east, with improved road connectivity from these external cities to the loop, between urban centers on the loop, and to communities within the loop.

Figure 1. Center-Artibonite Loop



Source: CIAT (Comité Interministeriel d'Aménagement du Territoire), *Haiti Tomorrow—The Center-Artibonite Loop (CAL): Territorial Goals and Strategies for Reconstruction* (Port-au-Prince: CIAT).

3. To help achieve this vision, the Project was designed to complement and build on structural investments in the region, in coordination with donors and the GoH, such as the rehabilitation of National Road 3 (NR3) between Cap-Haïtien and Port-au-Prince, the construction of the University Hospital of Mirebalais, and overall support to agricultural production regionally. It focused on the improvement of interloop connections not already prioritized by other funders, as well as secondary, tertiary, and rural road sections inside the loop.
4. The Project responded to major bottlenecks observed for the development of key regional sectors, including agricultural development, business development, transport connectivity, and climate resilience. Limited access to markets and services, weak public institutions, and extreme vulnerability to climate change and natural hazards posed significant challenges to agricultural productivity, along with the depletion of natural resources and land tenure insecurity. Lack of infrastructure was also a key impediment to building a conducive business environment in



the region and to developing value chains such as food exports. Transport connectivity had to be improved to facilitate economic and agricultural trade dynamics, including (1) a functioning all-weather structural network of primary and secondary roads to ensure access to internal and external markets; and (2) all-weather rural roads linking production, processing sites, and local markets. A reliable road network would also lower transportation costs and facilitate greater accessibility to social services for rural and peri-urban communities.

Figure 2. Breakdown of Planned CAL Road Investments, by Funder, in 2010



Source: CIAT (Comité Interministeriel d'Aménagement du Territoire), *Haiti Tomorrow—The Center-Artibonite Loop (CAL): Territorial Goals and Strategies for Reconstruction* (Port-au-Prince: CIAT).

5. **The Project was built based on the Bank's long-standing support in the transport sector.** The Bank had been supporting Haiti's countrywide transport sector since 2004, with a particular focus on critical spot interventions to ensure all-weather connectivity, and on strengthening maintenance of the national road system to improve resilience and protection of assets.⁴ Furthermore, the Bank had supported the development of the GoH's US\$25.0

⁴ The following projects have participated in this effort: The Transport and Territorial Development Project (PTDT—P095523), the



million Strategic Program for Climate Resilience (SPCR), as part of the Climate Investment Fund's (CIF's) Pilot Program for Climate Resilience (PPCR), in response to the increasing challenges posed by climate change to Haiti's sustainable development. In this context, the Project was allocated a grant of US\$8 million (TF-17021) to cofinance the climate proofing of CAL's road infrastructure. The Project was aligned with recommendations of the 2009 World Development Report,⁵ which highlighted transport connectivity as a key component of regional integration and development.

6. **The Project was in line with higher-level objectives at appraisal.** With a focus on helping end extreme poverty and promoting shared prosperity, the Project fostered the economic inclusion of the CAL with the national economy via the improved road network. It enabled new economic and labor opportunities while strengthening the resilience of infrastructure and communities, as a direct application of the SPCR program. Moreover, the Project was fully consistent with the World Bank Group's Haiti Interim Strategy Note (Report No. 71885-HT) discussed by the World Bank's Executive Directors on September 27, 2012. The Strategy defined the program of the second tranche of the US\$500 million allocated to Haiti in response to the 2010 earthquake from the International Development Association's IDA16 Crisis Response Window.
7. **Due to its multisectoral and regional approach, this ambitious project required close coordination between several institutions for its implementation.** The Project's original institutional arrangements entrusted responsibility for its implementation to the Ministry of Economy and Finance (Ministère de l'Economie et des Finances, MEF) through its Technical Implementation Unit (Unité Technique d'exécution, UTE). However, as Project activities involved technical expertise from various sectors, it was established that UTE-MEF would rely on the participation of the Ministry of Public Works, Transportation, and Communications (Ministère des Travaux Publics, Transports et Communications, MTPTC); the CIAT executive secretariat; and the Ministry of Agriculture, Natural Resources, and Rural Development (Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural, MARNDR) for the implementation of the components. This coordination would be formalized through a steering committee chaired by the CIAT executive secretariat and bringing together representatives of the four designated institutions as well as local stakeholders. An important caveat is that these institutional arrangements required active coordination among implementing partners to achieve progress in executing the Project.

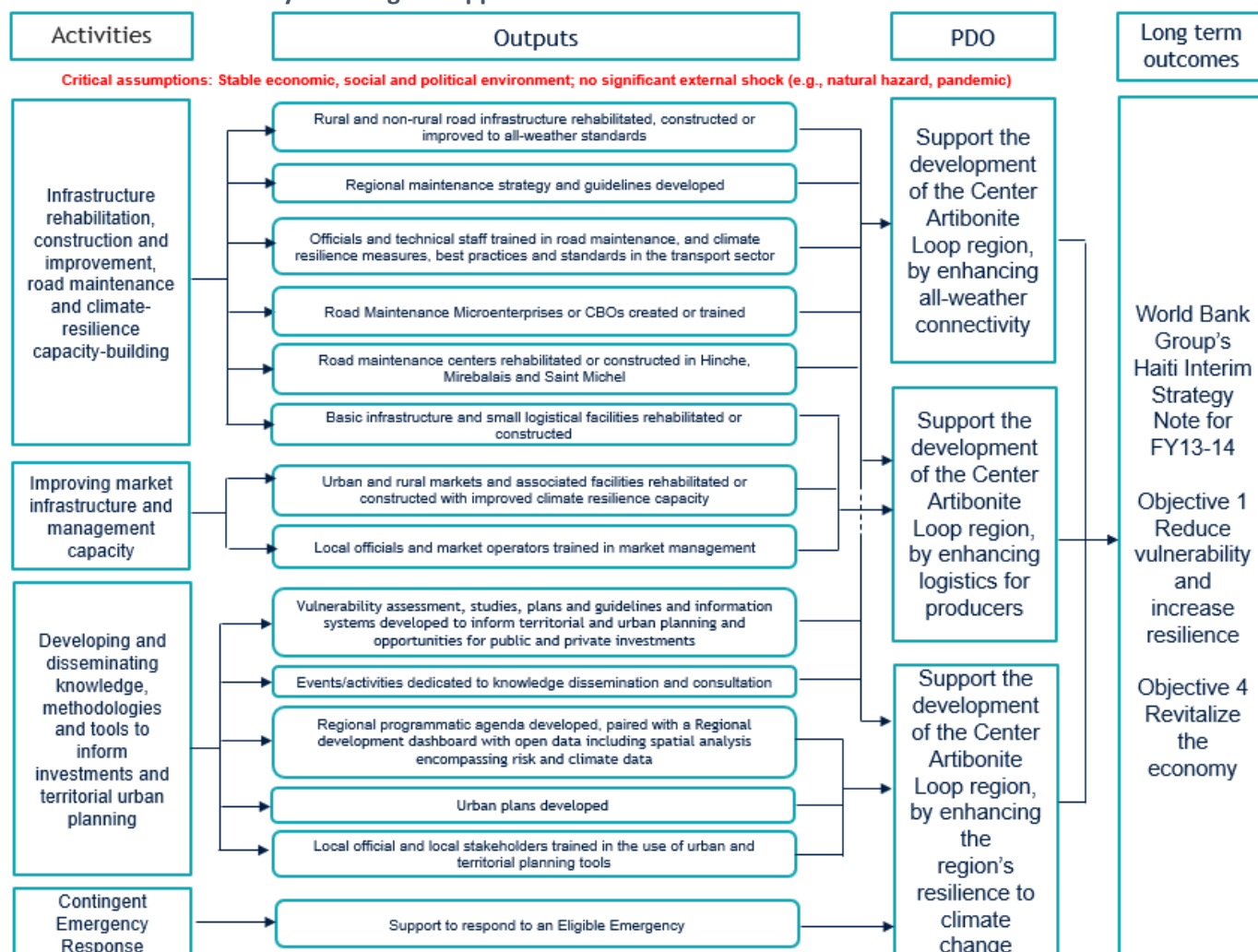
Emergency Bridge Reconstruction and Vulnerability Reduction Project (PRORéV—P114292), the Disaster Risk Management & Reconstruction Project (DRMRP—P126346), and the Infrastructure and Institutions Emergency Recovery Project (IIERP—P120895).

⁵ World Bank, *World Development Report 2009: Reshaping Economic Geography* (Washington, DC: World Bank, 2009), <https://openknowledge.worldbank.org/handle/10986/5991>.



Theory of Change (Results Chain)

Figure 3. Reconstituted Theory of Change at Appraisal



Note: CBOs = community-based organizations; PDO = Project Development Objective.

Project Development Objectives (PDOs)

8. The development objectives of the Project as stated in the financing agreement and the Project Appraisal Document (PAD) are to: (1) support the development of the Center Artibonite Loop Region, primarily by enhancing all-weather connectivity and logistics for producers, and the region's resilience to climate change; and (2) support the Recipient's capacity to respond promptly and effectively to an Eligible Emergency, as needed.



Key Expected Outcomes and Outcome Indicators

9. The key expected outcomes⁶ and outcome indicators are listed in Table 1.

Table 1. Project Development Objectives (PDOs): Key Expected Outcomes and Outcome Indicators at Appraisal

No.	Key Expected Outcome	Outcome Indicator
1	Support the development of the Center-Artibonite Loop Region by enhancing all-weather connectivity	PDO indicator 1: Share of rural population with access to an all-weather road (disaggregated by gender)
2	Support the development of the Center-Artibonite Loop Region by enhancing logistics for producers	PDO indicator 3: Increase in volume of transactions in improved markets
3	Support the development of the Center-Artibonite Loop Region by enhancing the region's resilience to climate change	PDO indicator 2: Share of roads classified as vulnerable to natural events and climate change impacts
1–3	All of the above key expected outcomes	PDO indicator 4: Direct Project beneficiaries (disaggregated by gender) PDO indicator 5: Share of the population in the Project area satisfied with the quality and impact of the infrastructure financed by the Project

Components

10. The Project design consists of five components,⁷ outlined below from A to E, along with the various subcomponents of each.

11. **Component A: Enhancing logistics, transport connectivity, and climate resilience (original costs estimated at US\$37 million).** This component was comprised of four subcomponents:

12. **Subcomponent A.1:** Strengthening the regional connectivity, logistics, and the climate resilience of the road network through the rehabilitation and/or construction of: (1) vulnerable road sections, bridges, river crossings, and critical spots along three major connecting roads: (a) outbound to the capital/south (Saut-d'Eau–Titanyen); (b) outbound to the north (Dessalines–Saint-Michel–Saint-Raphaël); (c) internal corridor west–east across the loop (Maissade–Hinche); (2) critical sections of primary, secondary, and tertiary roads selected on the basis of the vulnerability assessment to be carried out under Component C; (3) tertiary roads selected based on a participatory decision-making mechanism; and (4) basic infrastructure along such roads.

⁶ The PAD does not specify key outcomes. Therefore the ones proposed in the table are based on the formulation of the PDO.

⁷ Actual component costs are shown in table 3.



- 13. Subcomponent A.2:** Improving the rural road network and the climate resilience thereof through: (1) the rehabilitation or upgrading of feeder roads and rural pathways selected based on a participatory decision-making mechanism; and (2) the rehabilitation and construction of small logistical facilities.
- 14. Subcomponent A.3:** Strengthening the road maintenance capacity and mechanisms through: (1) the preparation and adoption of a regional road maintenance strategy and guidelines, as well as the provision of training to MTPTC; (2) the rehabilitation of road maintenance centers in Hinche and Mirebalais; (3) the construction of a road maintenance center in Saint-Michel; and (4) the development of new road maintenance microenterprises and community-based organizations (CBOs) and enhancing the capacity of existing micro-enterprises and community-based organizations.
- 15. Subcomponent A.4:** Developing technical guidelines and training programs for the incorporation of climate resilience in the design of road infrastructure.
- 16. Component B: Improving infrastructure and management capacity of markets (original costs estimated at US\$10 million).** This component was comprised of two subcomponents:
- 17. Subcomponent B.1:** The rehabilitation and/or construction of selected urban markets and the associated facilities, and the improvement of their climate resilience and management capacity.
- 18. Subcomponent B.2:** The rehabilitation and/or construction of rural markets and the associated facilities, selected based on a participatory decision-making mechanism, and the improvement of their management capacity.
- 19. Component C: Supporting the development of regional knowledge, planning capacity, and local participation (original costs estimated at US\$6 million).** This component was broken down into two subcomponents:
- 20. Subcomponent C.1:** Supporting the development of regional knowledge, including climate resilience aspects through: (1) the carrying out of a vulnerability assessment of the road network; (2) the preparation of studies, plans, and guidelines; (3) the development of information systems; (4) the provision of technical assistance to strengthen the capacity of the CIAT executive secretariat; and (5) the development of a dashboard tool capturing key development indicators and investments at the regional level.
- 21. Subcomponent C.2:** Supporting the development of regional planning capacity, including climate resilience mainstreaming and local participation, through: (1) the preparation of a regional programmatic development agenda; (2) supporting the implementation of the participatory decision-making mechanism at the local level to identify local priorities and investments; and (3) enhancing the capacity of existing local Departmental Technical Councils (Conseils Techniques Départementaux, CTDs), the technical services of selected municipalities, the Administrative Council of Communal Sections (Conseil Administratif des Sections Communales, CASECs), and CBOs.
- 22. Component D: Contingent Emergency Response Component (original costs estimated at US\$1 million).** Provision of support to respond to an Eligible Emergency, as needed.



23. Component E: Project implementation, monitoring and evaluation (M&E) (original costs estimated at US\$ 4 million). Provision of support to MEF, CIAT executive secretariat, MTPTC, and MARNDR for Project management, monitoring, and evaluation.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

24. The Project was restructured twice:

1. A restructuring dated June 27, 2018 (thereafter referred to as “R18”), resulting from the Mid-Term Review (MTR); and
2. A restructuring dated February 28, 2020 (thereafter referred to as “R20”), whose primary objective was to cancel part of the financing (SDR 17 million) to allow the transfer to the Rural Accessibility and Resilience Project (RARP–P163490) of Project activities that would not be completed before the Project closing date of August 31, 2020. Details on the transferred activities are in annex 6.

Revised PDOs and Outcome Targets

25. The PDOs were not revised, but the targets for outcome indicators 1 and 4 were revised (see paragraph 26).

Revised PDO Indicators

- 26.** The key changes made to PDO indicators, the associated date of revision, and the reason for change are described below:⁸
- a. **PDO indicator 1, “Share of rural population with access to an all-weather road (disaggregated by gender)”**—the end target was reduced from 60 percent to 45 percent as a result of the R20 to reflect the transfer of activities to the RARP.
 - b. **PDO indicator 2, “Share of roads classified as vulnerable to natural events and climate change impacts”** was dropped in the R18. The data were captured by a revised intermediate results indicator, “Change in share of roads classified as vulnerable to natural events and climate change impacts,” which was dropped in the R20 due to the complexity of data collection compared to client capacity, the survey methodology, and the scattered scope of the intervention areas as stated in the restructuring paper.
 - c. **PDO indicator 3, “Increase in volume of transaction in improved markets”**⁹ (end target of 25 percent) was dropped in the R18 to simplify the results framework. The associated outcome was captured under the revised PDO indicator 4.
 - d. **PDO indicator 4, “Direct Project beneficiaries (disaggregated by gender)”** (end target of 190,000) was revised in the R18 to “Number of people serviced by new or improved climate-resilient markets”¹⁰ (end target of 190,000) and in the R20 to “Number of producers and users serviced by an all-weather road accessing urban and rural markets” (end target of 100,000). These changes aimed to (1) take into account

⁸ There was no change to the “Share of the population in the Project area satisfied with the quality and impact of the infrastructure financed by the Project.”

⁹ Growth in volume of total transactions taking place in improved markets, based on surveys conducted by “operators” in the rural and urban markets benefiting from Project investments.

¹⁰ That is, people living less than 60 minutes from these markets.



the transfer of the rehabilitation of urban and rural markets to the RARP, and (2) better capture the improved logistics and access to rural and urban markets achieved under the Project.

Revised Components

27. The revised components are described below and summarized in Table 2.

Table 2. Revisions to the Scope of Project Components

Revised Component	Revised Component in the R18	Revised Component in the R20
Revised Component A. Enhancing logistics, transport connectivity, and climate resilience	The activities and the estimated costs remained unchanged in the R18, but the implementation strategy and responsibility for the component was changed (see Section I. B., “Rationale for Changes and Their Implications for the Theory of Change”).	In the R20, the scope of Component A was reduced by US\$15 million to transfer the funds to the Rural Accessibility and Resilience Project (RARP) for activities related to (1) the construction of four bridges on road sections Hinche–Maissade and Saint-Michel–Saint-Raphaël; (2) spot improvements on road sections Titanyen–Saut-d’Eau, Saint-Michel–Saint-Raphaël, Dessalines–Saint-Michel, and Hinche–Thomassique and the construction of a culvert on River Bretelle; (3) the spot improvement, maintenance, and repair of 40 km of rural roads; (4) the construction and rehabilitation of two road maintenance centers (Hinche and Saint-Michel); and (5) the training of 200 people within selected communities on basic rural road maintenance.
Revised Component B. Improving selected markets and supporting the development of regional knowledge and planning tools	In the R18, the original Components B and C were merged into a new Component B to foster implementation synergies. The new Component B’s financing was reduced from a total US\$16 million to a total US\$14.5 million. The scope of the new Component B was simplified to better align Project implementation capacity with the number of markets expected to be rehabilitated, constructed, and/or improved, and the number of urban plans expected to be elaborated. The name and numbering of components were revised to account for the component merger. All the original activities under the original Subcomponents B.1 and B.2 were integrated into the new Subcomponent B.1, “Urban and rural markets and associated facilities.” The new Subcomponent B.2, “Improving regional knowledge and planning tools,” consisted of all the activities under the original Component C, plus the operating costs	In the R20, the scope of Component B was reduced by US\$9 million to transfer the funds to the RARP for activities related to (1) the construction, rehabilitation, and/or improvement of five markets; (2) the development of a regional dashboard tool capturing key development indicators and investments at the regional level; (3) the elaboration of climate-informed urban plans for Saint-Michel and Saint-Raphaël; and (4) CIF coordination.



	of supporting the monitoring and evaluation of the Pilot Program for Climate Resilience activities funded by the Climate Investment Fund, which was added to the financing agreement.	
Revised Component C. Contingent Emergency Response Component (CERC)	No change.	The CERC was not triggered during the Project. The component was kept in the Project in the R20, but its financing of US\$1 million was cancelled and transferred to the RARP.
Revised Component D. Project Implementation, Monitoring, and Evaluation	The component was split into two subcomponents in the R18, Subcomponents D.1 “Support to UTE” (Technical Implementation Unit of the Ministry of Economy and Finance—UTE-MEF) and D.2 “Support to UCE” (Central Implementation Unit of the Ministry of Public Works, Transportation, and Communications—UCE-MTPTC). As a result of the R18, US\$1.5 million was reallocated from Component B to Component D to accommodate for the increased costs ensuing from changes in implementation arrangements, and the financing gap arising from significant depreciation of the special drawing right (SDR) allocation.	In the R20, the financing of the component allocation was reduced by US\$1 million, which was transferred to the RARP.



28. The revised components are described below and summarized in Table 3. Revisions to the Scope of Project Components: Estimated and Actual Costs.

Table 3. Revisions to the Scope of Project Components: Estimated and Actual Costs

From Appraisal to June 2018 Restructuring		From June 2018 Restructuring to Closing				
Components	Cost at Appraisal	Components	Cost at June 2018 Restructuring	Cost at February 2020 Restructuring	Actual Cost at Closing	Actual Cost at Closing (% of estimated cost at R20)
A. Enhancing logistics, transport connectivity, and climate resilience	37	A. Enhancing logistics, transport connectivity, and climate resilience	37	22	15.9	72
B. Improving infrastructure and management capacity of markets	10	B. Improving selected markets and supporting the development of regional knowledge and planning tools	14.5	5.5	4.3	78
C. Supporting the development of regional knowledge, planning capacity, and local participation	6					
D. Contingent Emergency Response Component	1	C. Contingent Emergency Response Component	1	0	0	N/A
E. Project Implementation, monitoring, and evaluation	4	D. Project implementation, monitoring, and evaluation	5.5	4.5	4.0	88
Total Project Cost	58		58	32	24.2	76



Other Changes

- 29. Revised Project financing and costs.** As a result of the partial cancellation of the World Bank's International Development Association (IDA) financing in the R20, the total Project financing was reduced by SDR 17 million (or from an equivalent of US\$58 million at appraisal to an equivalent of US\$32 million in the R20). This amount was canceled from the IDA financing to account for the cancellation and transfer to the RARP of Project activities, as well as unused funds under the Contingent Emergency Response Component (CERC) component, by the way of R20 and an additional financing (P173281) to the RARP. The Strategic Climate Fund Grant of US\$8 million was not reduced. The revised Project costs are detailed in **Table 3. Revisions to the Scope of Project Components: Estimated and Actual Costs**[Error! Reference source not found.](#).
- 30. Revised results framework.** Annex 5 displays the changes to the results framework over the course of the Project.
- 31. Change in the implementation arrangements.** The implementation arrangements were changed in the R18. UTE-MEF continued as the overall coordination entity and was responsible for the implementation of the revised Component B and the new Subcomponent D.1. The Central Implementation Unit of the Ministry of Public Works, Transportation, and Communications (UCE-MTPTC) was appointed to implement, coordinate, evaluate, and supervise Component A and the new Subcomponent D.2.
- 32. Extension of closing date.** The extension of the Project original closing date from February 28, 2020, to August 31, 2020, was approved in the R20 to facilitate the transfer of activities to the RARP and the completion of activities that could be expected to be completed by the new closing date.

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

- 33. The Mid-term Review concluded that complex Project implementation arrangements delayed implementation.** A key feature of Project design was the promotion of cross-support between different implementing entities in order to benefit from intersectoral complementarities. The original Project Implementation Unit (PIU), UTE-MEF, was dependent on the UCE-MTPTC, the CIAT executive secretariat, and the MARNDR for key technical support, including the identification of investments, the preparation of procurement packages, or the supervision of works. However, despite continuous support provided by the Bank, limited coordination between implementing partners was witnessed during the first three years of Project implementation. Delays were exacerbated by a lengthy political transition from March 2016 to February 2017, by the impact of Hurricane Matthew on implementation capacity, as well as by a restrictive withdrawal condition of the Financing Agreement (see Section III.B., "Key Factors During Implementation"). Therefore, Project disbursements lagged behind forecasts, with 10.4 percent of the total Project budget disbursed by June 2018. The delays impacted all components of the Project.
- 34. The R18 responded to the need to expedite implementation progress by** (1) transferring the implementation responsibility for Component A from UTE-MEF to an experienced PIU (UCE-MTPTC); (2) modifying the implementation strategy for Component A (while maintaining the original activities) to: (a) combine larger contracts for the construction of main bridges, (b) use regional small and medium enterprises (SMEs) for small critical spot works, and (c) regroup activities involving rehabilitation of small rural roads, maintenance, and community engagement into one



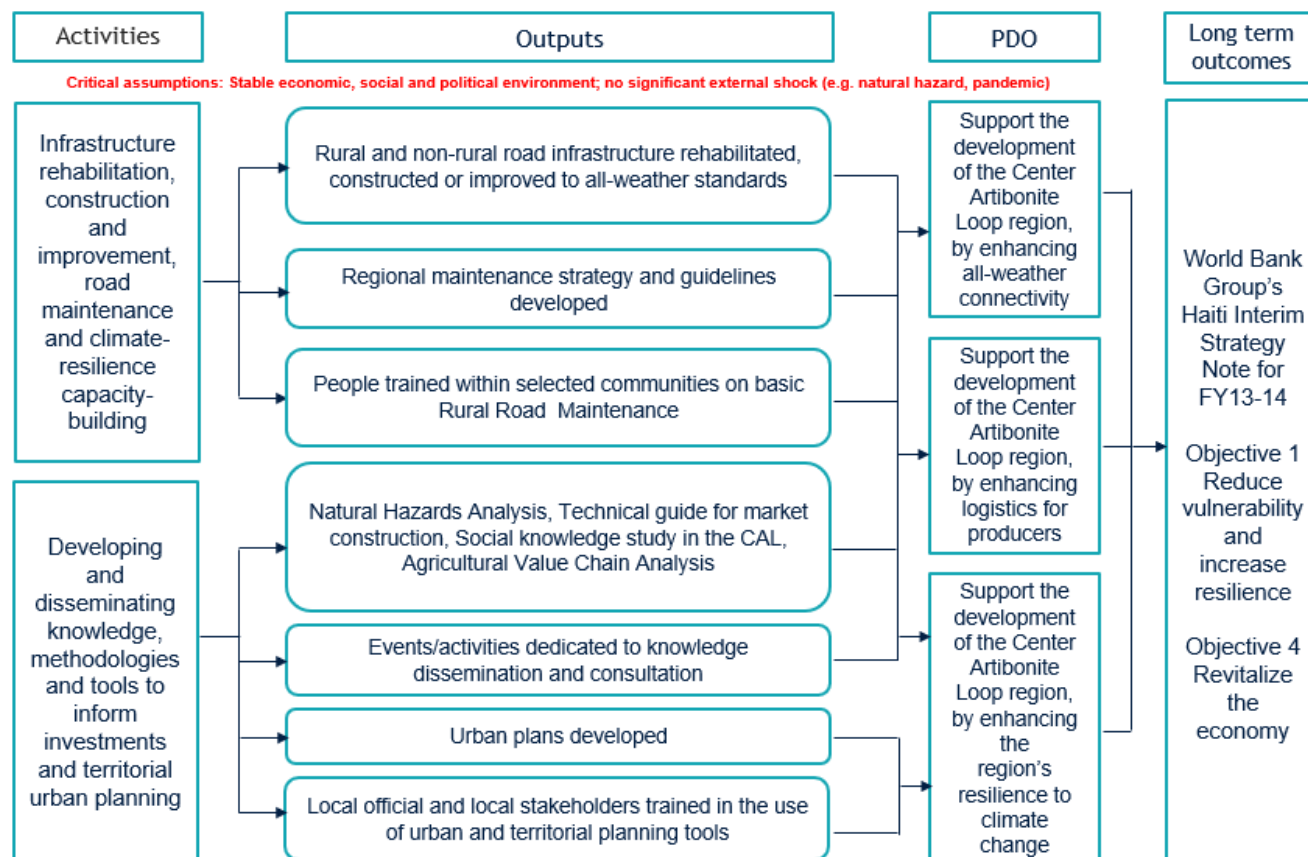
large contract to be implemented by the United Nations Office for Project Services (UNOPS), thereby allowing UCE-MTPTC to focus on its core competencies; and (3) merging Components B and C to allow for effective synergies between the CIAT executive secretariat and UTE-MEF through a clarification of roles and responsibilities as well as a simplification and reduction of the scope of the activities.

- 35. The R18 also simplified the results framework for more realism, consistency, and relevance to the PDO.** The PDO indicator 2 for PDO (iii) was dropped and thereafter captured under a revised intermediate results indicator, as the indicator—“(change in) share of roads classified as vulnerable to natural events and climate change impacts”—was perceived as an output indicator rather than an outcome indicator. PDO indicator 3 for PDO (ii) was dropped to simplify the results framework, and logistics enhancement resulting from market-related activities was thereafter captured by the increase in the number of people serviced by new or improved climate-resilient markets (revised PDO indicator 4) rather than by an increase in the volume of transactions in improved markets. In addition to these outcome level changes; several intermediate results indicators and/or indicator targets were changed as described in annex 5.
- 36. From R18 to February 2020, the disbursement rate quadrupled to 41 percent of the total Project financing, reflecting significant Project implementation progress, but the latter remained hampered by rising insecurity, as well as political and operational challenges.** Over the course of 2019, the Project areas located in the CAL region saw an uptick in crime and violence perpetrated by armed groups, which caused major implementation delays by preventing the efficient execution and supervision of works. Implementation delays were further exacerbated by new challenges in the political, administrative, and processing environment (e.g., violent riots from July 2018 to September 2019), critical staff departures (UTE Executive Director, CIF focal point at the CIAT executive secretariat, M&E specialist at UTE), and persistent delays related to frequent turnover at the government level. Endogenous and exogenous challenges accumulated by the Project prevented the completion by Project closing of several activities and outputs planned at appraisal.
- 37. In light of implementation constraints affecting the Project, a second restructuring was processed in February 2020 to reduce the Project scope and transfer to the RARP key activities that could not be completed by the Project closing date of August 31, 2020.** The decision to go ahead with a transfer instead of an extension of the Project was motivated by (1) the contribution of a merger to broader portfolio consolidation in Haiti, (2) the additional time frame allowed under the RARP for the completion of activities, and (3) continuity in Project implementation, as UCE-MTPTC was the implementing agency of the RARP and maintained effective working relationships with its PBCA counterparts.
- 38. The R20 revised the results framework to reflect the reduced scope of the Project.** The outcome target of PDO Indicator 1 for PDO (i) was reduced from 60 to 45 percent. PDO Indicator 4 for PDO (ii) was revised as logistics enhancement was thereafter captured by the increase in the number of producers and users serviced by an all-weather road accessing urban and rural markets rather than by an increase in the number of people serviced by new or improved climate-resilient markets. In addition to these outcome level changes; several intermediate results indicators and/or indicator targets were changed as described in annex 5.



39. As a consequence of these changes, the theory of change includes fewer original outputs at closing, while the outcomes remain unchanged. **The revised theory of change reflects the scope reduction of the Project as illustrated in figure 4.**

Figure 4. Theory of Change at Closing



Note: CAL = Center-Artibonite Loop; PDO = Project Development Objective.



II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating

- 40. The PDO remained highly relevant throughout the Project life cycle and contributed to the Project's relevance in the World Bank Group's Haiti Country Partnership Framework for FY16–FY21 (Report No. 98132-HT).** At appraisal, the PDO was fully consistent with the World Bank Group's Haiti Interim Strategy Note for FY13–FY14 (Report No. 71885-HT), notably with Objective 1 (reduce vulnerability and increase resilience) and the expansion of Objective 4 (revitalizing the economy), which includes regional development. The PDO remained highly consistent with Haiti's Country Partnership Framework (CPF) FY16–FY21 (Report No. 98132-HT), especially with the Area of Focus 1 (Inclusive Growth) Objective 1—Contribute to Enhancing Income Opportunities, and Area of Focus 3 (Resilience) Objective 9—Improve Disaster Prevention and Strengthen Climate Resilience.
- 41. PDO (i), "Support the development of the Center-Artibonite Loop Region by enhancing all-weather connectivity," and PDO (ii), "Support the development of the Center-Artibonite Loop Region by enhancing logistics for producers," are highly consistent with Area of Focus 1 (Inclusive Growth) Objective 1—Contribute to Enhancing Income Opportunities.** The CPF describes Haiti as characterized by the intensive concentration of capital and a high degree of inequality. Furthermore, the quality of transport and logistics services is pointed out as low and hampering overall competitiveness and endogenous economic development while raising costs of imports and exports.¹¹ PDO (i) and PDO (ii) contribute to inclusive growth and enhancing income opportunities by (1) rebalancing economic activity more evenly across the country's territory; (2) creating better economic opportunities for the poor, especially in the rural areas and in the agricultural sector; (3) encouraging a more favorable business environment; (4) improving the quality of transport and logistics services; (5) reducing the isolation of local populations and their disconnection from the State; and (6) supporting the development of value chains (e.g., through increased agricultural production and facilitated distribution).
- 42. PDO (i) and PDO (iii), "Support the development of the Center-Artibonite Loop Region by enhancing the region's resilience to climate change," are highly consistent with Area of Focus 3 (Resilience) Objective 9—Improve Disaster Prevention and Strengthen Climate Resilience.** The CPF describes the urgent need to strengthen Haiti's resilience and adaptation to climate change, as it is among the countries most exposed to natural disasters, including hurricanes, floods, and earthquakes. Climate change is expected to further exacerbate the risk of hydro-meteorological hazards by increasing the frequency and intensity of extreme events. PDO (i) and PDO (iii) contribute to the country's resilience and to improving disaster prevention and strengthening climate resilience by (1) strengthening the resilience of transport infrastructure and surrounding communities, and (2) reducing the vulnerability of the region to climate change.

¹¹ At the time of the CPF writing, Haiti scored 144th out of 160 countries on the Logistical Performance Index, 142nd for international shipments, and 151st for infrastructure.



43. While the Bank has supported the development of the Haitian transport sector since 2004, the Project is the first of its kind to focus exclusively on lifting bottlenecks to growth and connectivity in the Center and Artibonite, as envisioned in the CPF. The PDOs focused on concrete and pragmatic objectives: improving road infrastructure and logistics. This outcome-oriented and targeted approach in terms of sectors (transport and logistics) is adapted to the limitations of institutional capacities caused by a context of chronic fragility, as pointed out by the CPF. The relevance of the PDOs was confirmed throughout the Project. When it was necessary to adapt to the changing circumstances, the Bank carried out restructuring, but without having to modify the PDOs. For all of the above, the relevance of the PDOs is assessed as **High**.

B. ACHIEVEMENT OF PDOs (EFFICACY)

Assessment of Achievement of Each Objective/Outcome

44. Project efficacy is assessed based on the outcome indicator framework outlined in Table 4. Outcome Indicator Framework for the Efficacy Assessment. For the reasons exposed in section IV. A., “Quality of Monitoring and Evaluation (M&E),” PDO indicators present in the results framework were complemented with proxy indicators to better capture the extent to which PDOs were achieved. **Table 4. Outcome Indicator Framework for the Efficacy Assessment** summarizes the outcome indicator framework used for the efficacy assessment. The rationale for the selection of outcome indicators retained to assess Project efficacy is detailed in annex 4, as well as the methodology followed to measure proxy indicators. Annex 5 describes the changes in the results framework.

45. A split rating was applied to assess Project efficacy. The split evaluation method was used to assess Project performance without the revision and with the revision of outcome targets as a result of the R20,¹² by assessing the Project outcomes against both the original and revised outcome targets **for all the PDOs**.

Table 4. Outcome Indicator Framework for the Efficacy Assessment

#	Outcome Indicator	Baseline	Original Outcome Indicator Target	Revised Outcome Indicator Target (R20)	Actual Outcome	% Achieved of Original Outcome Indicator Target	% Achieved of Revised Outcome Indicator Target	Comments
Project Development Objectives (PDO) (i)								
1	Share of rural population with access to an all-weather road (disaggregated by gender)	39%	60%	45%	44%	23.8% ¹³	83.3%	This target was reduced in the R20.

¹² A split rating at R18 was not conducted because the outcome targets were not changed by R18, except for the number of people serviced by new or improved climate-resilient markets since the number of markets targeted to be rehabilitated or constructed decreased from 10 (appraisal) to 8 (R18). Since no market was eventually improved or built throughout the Project, a split rating at R18 would not have affected the overall outcome rating.

¹³ This ratio is calculated using the following formula: (actual result – baseline) / (original outcome target – baseline).



PDO (ii)								
2	Original outcome indicator: People serviced by new or improved climate-resilient markets	0	190,000 ¹⁴	NA	0	0%	NA	This indicator was introduced in R18 and revised in the R20 to PDO indicator 2, "Number of people serviced by an all-weather road accessing urban and rural markets."
	Revised outcome indicator: Number of producers and users serviced by an all-weather road accessing urban and rural markets	0	N/A	100,000	123,500	N/A	123.5%	This indicator was introduced in the R20 as a revision of PDO indicator "People serviced by new or improved climate-resilient markets."
3	Share of surveyed persons in selected markets who find their logistics improved by the Project (proxy indicator)	N/A	N/A	N/A	96%	N/A	N/A	This proxy indicator was defined and measured for the purpose of the ICR.
PDO (iii)								
4	Change in share of roads classified as vulnerable to natural events and climate change impacts (proxy indicator)	0%	20% decrease ¹⁵	16% decrease ¹⁶	16% decrease	80%	100%	A similar indicator was defined at appraisal ("share of roads classified as vulnerable to natural events and climate change impacts"). It was replaced by the present indicator in R18. However, the indicator was dropped in R20. The indicator is reintroduced for the

¹⁴ Since this outcome indicator was introduced as a PDO indicator in the R18, the associated end target of 190,000 people is based on the number of markets targeted to be constructed or rehabilitated at the R18 (i.e., 8 markets). Yet, the Project was expecting 10 markets at appraisal. To take this into account, the end target was recomputed for the purpose of the ICR to simulate the end target that could have been set at appraisal for the same outcome indicator. The computation yields an end target of 237,500. The computation was made based on the following formula: (number of markets targeted at appraisal * people served based on 8 markets) / number of markets targeted at the R18. Note that replacing the actual end target by the simulated end target would not affect the conclusions of the Efficacy assessment.

¹⁵ This end target was set during the R18.

¹⁶ This end target was determined retroactively for the purpose of the ICR based on information collected by the authors about Project expectations at the R20.



								purpose of the ICR. See annex 4 for evaluation methodology.
5	Cumulated amount (in US\$ million) in projects elaborated using analytical knowledge and tools developed by the proposed Project (proxy indicator)	0	18	N/A	6.5	36.1%	N/A	This indicator was defined at appraisal as an Intermediate Results indicator and was dropped in R18. The indicator is reintroduced as a proxy outcome indicator for the purpose of the ICR.
All PDOs								
6	Share of the population in the Project area satisfied with the quality and impact of the infrastructure financed by the Project	0%	75%	N/A	97.5%	130%	N/A	

PDO (i) Support the development of the Center-Artibonite Loop Region by enhancing all-weather connectivity:

- Outcome rating based on original outcome target: Modest
- Outcome rating based on revised outcome target: Substantial

46. The Project increased the share of rural population with access to an all-weather road from 39 percent to 44 percent (Outcome indicator 1: original end target of 60 percent; revised end target of 45 percent). Therefore, the Project achieved 23.8 percent of the outcome indicator original end target and 83.3 percent of the revised end target.¹⁷ The outcome results recorded are directly attributable to the rehabilitation to all-weather standards of 30 km of rural roads and 55.8 km of nonrural roads. This rehabilitation was obtained through 64 spot interventions. The road improvements have alleviated key constraints to accessibility in the region, particularly by ensuring continuous and safe passage of river crossings along the targeted road sections, thanks to the construction of culverts and the pavement of critical stretches along the targeted road sections. The work was carried out on road sections Hinche–Maissade, Saint-Michel–Saint-Raphaël, Titanyen–Saut-d’Eau, Dessalines–Saint-Michel, and across the rural road network of Petite Rivière Bayonnais and Bas de Sault to enhance all-weather connectivity and logistics to the loop, between key urban centers on the loop, as well as within the loop.

47. The outcome rating for PDO (i) is assessed as Modest against the original outcome target, and Substantial against the revised outcome target. The results achieved before Project closing show that the Project partly achieved the original end target¹⁸ and almost fully achieved the revised end target for enhancing all-weather connectivity.

¹⁷ Note that the original outcome target of 60 percent was based on an estimation made at appraisal. Because the 80 km of rural roads to be rehabilitated by the Project were selected only following the R18, the original outcome target of 60 percent did not reflect the road network of 180 km eventually selected to be rehabilitated. The outcome target based on the 180 km of roads eventually selected has been computed for the purpose of the ICR, and amounts to 51 percent. Of this, 41.7 percent has been achieved.

¹⁸ Note that the completion of the total 180 km targeted by the Project would have only brought the value of the associated outcome



48. While not taken into account in the efficacy assessment, the Project has also financed the design, contracting, and partial execution of road works that were transferred to the RARP. All of the road works contracted under the PBCA that were not completed by Project closing have been transferred to the RARP. These activities are expected to be fully completed by mid-2021. They include (1) spot improvements on road sections Saint-Michel–Saint-Raphaël, Titanyen–Saut-d’Eau, Dessalines–Saint-Michel, and Hinche–Maissade; (2) the construction of four bridges on Hinche–Maissade and Saint-Michel–Saint-Raphaël; and (3) the spot improvement, maintenance, and repair of 50 km of rural roads. These works together account for 79 additional kilometers of roads expected to be rehabilitated by mid-2021, which would bring the total of roads rehabilitated to 164.8 km out of 180 km¹⁹ originally targeted to be rehabilitated under the PBCA (84.8 km out of 100 km of nonrural roads; 80 km out of 80 km rural roads).

PDO (ii) Support the development of the Center-Artibonite Loop Region by enhancing logistics for producers:

- Outcome rating based on original outcome targets: Modest
- Outcome rating based on revised outcome targets: High

49. The Project enhanced logistics for producers, and suppliers in general, through the rehabilitation to all-weather standards of roads leading to existing markets. For the ICR, a survey was conducted in four markets affected by roads completed under the Project.²⁰ The markets were located on road sections Titanyen–Saut-d’Eau, Hinche–Maissade, Saint-Michel–Saint-Raphaël, and Petite Rivière Bayonnais. The survey, conducted to assess the Project’s contribution to improvement along the logistics chain, focused on producers, as well as transporters, merchants, and consumers. Of 131 people surveyed, 96 percent noted that road improvements had a positive impact on their activities and significantly enhanced their logistics (**Outcome indicator 3: no end target—proxy**). Road improvements boosted the reliability and speed of supply, with 84 percent of respondents declaring that supply regularity has been enhanced (52 percent substantially improved), and 93 percent noting that travel time had been reduced (45 percent by half or more). These improvements resulted in a tangible reduction of supply time, with 90 percent of respondents declaring that delivery time was reduced (48 percent substantially reduced). This translates into better-quality products (66 percent noticed a quality improvement), a decrease in operating costs (75 percent of respondents declared better preservation of their vehicle’s condition), and an overall increase of sales volume (61 percent of respondents reported an increase in sales). Logistics improvements will bring substantial benefits to the estimated 123,500 producers and users serviced by an all-weather road accessing urban and rural markets (**Outcome indicator 2: revised indicator end target of 100,000**). These encouraging results show the relevance of targeted road improvements to enhance market logistics in the CAL region. They indicate that, despite no market rehabilitation or construction, road works completed under the Project have significantly improved logistics in markets served by the rehabilitated roads.

50. The outcome rating for PDO (ii) is assessed as Modest against the original outcome targets and High against the revised outcome target. On the one hand, the results achieved before Project closing show that the Project partly

indicator tracking the share of rural population with access to an all-weather road to 51 percent, that is, 57.1 percent of the original outcome end target. Therefore, even if the evaluation takes into account the Project’s contribution to the activities transferred to the RARP and delivered under the same project, the associated outcome rating for PDO (i), assessed against the original end target, would remain Modest.

¹⁹ The original output target for the kilometers of roads rehabilitated (180 km) is expected to be fully achieved under the RARP with the full completion of spot improvements on road section Dessalines–Saint-Michel.

²⁰ The survey was conducted on a sample of four selected markets in the Center-Artibonite Loop. The markets were selected based on their location, with one market per main road section rehabilitated by the Project, ensuring that all the interviewees are users of these sections. The survey used a stratified random sampling. A total of 131 market users were interviewed. Considering the estimated number of 123,500 producers and users serviced, the confidence interval for the survey would be of ± 4.28 percent, for a confidence level of 95 percent. This warrants a good representativeness of the results and confidence in their interpretation.



achieved the original outcome targets, which focused on enhancing logistics for producers through better access to markets. While the Project did not increase the number of people serviced by new or improved climate-resilient markets (**Outcome indicator 2: original indicator end target of 190,000**), the survey found that the rehabilitation of 48 percent of initially targeted roads (85.8 out of 180 km) improved logistics for an estimated 123,500 people, and that this encompassed improvements in supply regularity, travel time, and quality and cost of goods sold. On the other hand, the Project exceeded the revised outcome target (123.5 percent achievement of revised outcome indicator 2 end target) for enhancing producer's logistics through better access to existing markets.

51. While not accounted for in the Efficacy assessment, the Project has also contributed to the achievement of key milestones necessary for the completion of market activities that were transferred to the RARP. The Project financed the production of key knowledge studies that informed the decision-making process for the selection and design of investments, particularly the CAL Region Agricultural Value Chain Analysis and the Technical Guide for Market Construction. Furthermore, key milestones necessary for the implementation of the works were financed and completed under the Project, including (1) contracting Delegated Project Management (Maîtrise d'Ouvrage Délégée, MDOD) for the construction or rehabilitation of four markets (Fonds Bruns, Domond, Nan Poste, and Saint-Raphaël) and improvement of their management capacity, (2) the design studies for the construction or rehabilitation of previously mentioned markets, and (3) the implementation of compensations to enable the construction of the Saint-Michel regional market, as well as the fencing of the construction site, which were partially completed by the Project. All these activities will help expedite the rehabilitation and construction of markets transferred from the Project to the RARP, particularly the four markets already designed, which are scheduled to be completed by mid-2021.²¹

PDO (iii) Support the development of the Center-Artibonite Loop Region by enhancing the region's resilience to climate change:

- Outcome rating based on original outcome targets: Modest
- Outcome rating based on revised outcome targets: Substantial

52. The Project decreased the share of roads classified as vulnerable to natural events and climate change impacts by 16 percent (Outcome indicator 4: original indicator end target of 20 percent, revised indicator end target of 16 percent). The Project therefore achieved 80 percent of the outcome indicator original end target and 100 percent of the revised end target. For the purpose of the ICR, a basic vulnerability assessment was carried out to inform the contribution of the Project in enhancing the region's resilience to climate change through road improvements. This assessment classified a road section as vulnerable to natural events and climate change impacts if and only if they (1) were structuring roads (i.e. primary, secondary or tertiary roads),²² (2) were assessed as noncrossable in the Rural Access Index (RAI),²³ (3) were assessed as having medium-to-very-high exposure to natural events and climate change impacts according to a hazard exposure assessment, and (4) had not been rehabilitated by the Project. The methodology followed for the basic vulnerability assessment is detailed in annex 4. Out of 165 km of roads in the CAL region classified as vulnerable to natural events and climate change impacts before the Project, 25 km were rendered nonvulnerable at Project closing. In other words, the share of roads classified as vulnerable to natural events and climate change impacts was reduced by 16 percent as a result of the Project.

²¹ According to computations made for the purpose of the ICR (see the methodology in annex 7), the completion of the four markets planned for mid-2021 would bring the value of original outcome indicator 2 to 500,700 against an original outcome indicator end target of 237,500 (achievement rate of 210.9 percent).

²² This is in line with the Project Appraisal Document, whose scope included a vulnerability assessment of the structuring road network.

²³ The most recent RAI data, collected in 2015 were used.



53. **The Project partly achieved to enhance the use of climate resilience knowledge and tools by informing the elaboration of projects in the cumulated amount of US\$6.5 million,²⁴ using analytical knowledge and tools developed by the Project (Outcome indicator 5: target of US\$18 million).** The Project therefore achieved 36.1 percent of the outcome indicator original end target. In particular, the Natural Hazards Analysis study produced under the Project informed the elaboration of urban plans for the cities of Titanyen and Hinche through the assessment and mapping of flood, landslide, drought, and seismic risks for both urban centers. Furthermore, the Technical Guide for Market Construction allowed the promotion of technical norms that fed into the climate-resilient design of markets.
54. **The Project partly achieved the original and revised output targets to enhance the sustainability of road investments.** The Project financed institutional strengthening and capacity-building activities, all including climate resilience aspects, to promote road maintenance from the institutional level to the execution level, through: (1) the production of the Regional Road Maintenance Strategy of the CAL, which was adopted in 2017 by the GoH; and (2) the training of 284 people from local communities in basic rural road maintenance (original target of 500; revised target of 300). Nonetheless, the Project did not achieve the original activities relevant to the sustainability of road investments, including (1) the rehabilitation or construction of three road maintenance centers (Hinche, Mirebalais, Saint-Michel), (2) the production of a vulnerability assessment of the road network, and (3) the production of technical guidelines and training programs for the incorporation of climate resilience in the design of road infrastructure.²⁵ Furthermore, the structuring roads rehabilitated by the Project remain to be included in the Road Maintenance Fund (Fond d'entretien routier, FER) list, which will be completed once all road works planned on the originally targeted structuring roads are completed. The achievement of enhancing the sustainability road investments is therefore assessed as partly achieved against the original output targets. The achievement of this outcome is also assessed as partly achieved against the revised output targets (following the R20), given that the revised activities consisted in the original activities, except the rehabilitation or construction of two road maintenance centers (Hinche, Saint-Michel).
55. **The Project partly achieved the original output targets and almost fully achieved the revised output targets to improve the climate resilience capacity of markets.** The Project financed (1) the production of a Natural Hazards Analysis study and Technical Guide for Market Construction that ensured market designs were climate informed, and (2) the completion of design studies for the markets of Fond Brun, Nan Poste, Domond, and Saint-Raphaël. Nonetheless, since the market works were transferred to the RARP, the climate-resilient capacity improvement of markets is expected to be achieved only following their completion on the RARP. Therefore, the achievement of improved climate-resilience capacity of markets is assessed as partly achieved against the original output targets. The achievement of this outcome is assessed as almost fully achieved against the revised output targets, which consisted in the results achieved under the Project, as well as the design of Saint-Michel market, which was delayed by the COVID-19 pandemic and will eventually be completed under the RARP.
56. **The outcome rating for PDO (iii) is assessed as Modest against the original outcome targets, and as Substantial against the revised outcome targets.** On the one hand, the results achieved before Project closing show that the Project partly achieved the original outcome targets of enhancing the region's resilience to climate change: while the Project substantially achieved the original target for reducing the vulnerability of the road network, it only partly achieved its goal of enhancing the use of climate resilience knowledge and tools, the sustainability of road

²⁴ This amount accounts for the projects identified at closing, which are all activities included in the PBCA.

²⁵ While the Project also did not achieve the creation/training of road maintenance microenterprises or community-based organizations (CBOs), the changes made to the associated intermediate results indicator in the R18 reflects the shift of focus from microenterprises/CBOs to the training of people within local communities in basic rural road maintenance following the R18.



investments, and the climate resilience of market infrastructure. On the other hand, the results also show that the Project substantially achieved the revised outcome targets, as the Project fully achieved the revised targets for reducing the vulnerability of the road network, and almost fully achieved to enhance the climate resilience of markets, while the targets for the other outcomes (and their achievement level) remained the same (i.e., partial achievement).

- 57. While not taken into account in the efficacy assessment, the Project is also a significant contributor to the expected completion of road and market activities transferred to the RARP (as detailed in paragraphs 48 and 51), which would further enhance the region's resilience to climate change.** The road works expected to be completed by mid-2021 would allow to fully achieve the original end target of 20 percent for the reduction in share of roads classified as vulnerable to natural events and climate change impacts (Outcome indicator 4). The market works expected to be completed during the same period would allow to almost fully achieve the Project's original commitment to improving the climate resilience capacity of markets. This highlights the significant progress towards the achievement of enhancing the region's resilience to climate change expected to be achieved within a year following Project closing, and thanks in large measure to the Project.

Justification of Overall Efficacy Rating

- 58. Based on the evidence provided, the overall efficacy of the Project is assessed as Modest against the original outcome targets, and as Substantial against the revised outcome targets.** Assessed against the original outcome targets, the Project partly achieved PDO (i), PDO (ii), and PDO (iii), which warrants an overall efficacy rating of Modest. Assessed against the revised outcome targets, the Project almost fully achieved PDO (i), exceeded its objectives for PDO (ii), and almost fully achieved PDO (iii), which warrants an overall efficacy rating of Substantial.

C. EFFICIENCY

Assessment of Efficiency and Rating

- 59. The ex post economic analysis shows that the road works executed have a good economic justification, and therefore underlying activities are highly efficient.** The ex post economic analysis for the ICR was done on three Project roads:²⁶ Titanyen–Saut-d'Eau, Hinche–Maissade, and Saint-Michel–Saint-Raphaël. The ex post economic analysis was done with the Roads Economic Decision (RED) model, as it was for the ex-ante economic analysis during appraisal. The ex post economic analysis used the same vehicle fleet characteristics and other assumptions adopted at appraisal (e.g., a 20-year evaluation period, a 10 percent discount rate, vehicle fleet unit economic costs). **Table 5** lists results. It shows that the ex post economic internal rate of return (EIRR) of these road investments is 15 percent, indicating a good economic justification. The ex post EIRR increased from the 10 percent estimated at appraisal, mainly due to an increase in traffic observed on the Project roads. The estimated costs at appraisal on which the ex-ante EIRR was calculated represented 33 percent of total Project cost, while the actual costs on which ex post EIRR has been calculated represents 38 percent of total actual Project costs at closing. The ex post economic analysis is detailed in annex 7. Given the above, the efficiency of road works carried out on Titanyen–Saut-d'Eau, Hinche–Maissade, and St-Michel–St-Raphaël exceed expectations and contribute to a Project efficiency rating of High.

²⁶ The ICR did not evaluate works carried out on road section Dessalines–Saint-Michel because, for security reasons, it was not possible to conduct a survey on the road. As a result, no information was available on its actual traffic and actual travel time savings. In addition, the actual road works done on this road were limited (US\$0.5 million in actual investments along 40 km).



Table 5. Ex Ante vs Ex Post Economic Analysis Results

	Appraisal: Ex Ante		Implementation Completion and Results Report (ICR): Ex Post	
	Net Present Value (NPV)	Economic Internal Rate of Return (EIRR)	NPV	EIRR
Road	(US\$M)	(%)	(US\$M)	(%)
Titanyen–Saut-d’Eau	0.024	10	1.110	17
Hinche–Maissade	-0.271	10	1.326	14
Saint-Michel–Saint-Raphaël	0.219	11	0.757	14
Total	-0.028	10	3.194	15

60. The efficiency of spot improvements, repairs, and maintenance of rural roads completed under the Project is high.

Their costs account for 17 percent of total Project costs and a total of 30 km rehabilitated on the rural road network, including:

- a. **Road section Petite Rivière Bayonnais.** Of the total length of the road of 29.3 km, 23.0 km were rehabilitated with an actual cost of US\$3.1 million, corresponding to a unit cost of US\$134,783 per km. The actual rehabilitation cost was slightly lower than the contract cost (US\$3.2 million) and higher than the estimated cost at appraisal (US\$1.4 million). The population served by the road (population of communal sections where the road is located) is 49,372 persons, of which 22,843 persons are estimated to live within 2 km of the road. Thus, the cost-effectiveness (investment per person served) of the rehabilitation works is US\$62.8 per person, which is satisfactory.
- b. **Road section Bas de Sault.** Of a total road length of 7.5 km, 7.0 km were rehabilitated with an actual cost of US\$1.1 million, corresponding to a unit cost of US\$157,143 per km. The actual rehabilitation cost was higher than the contract cost (US\$0.8 million) and the estimated cost at appraisal (US\$0.4 million). The population served by the road is 18,347 persons, of which 13,557 persons are estimated to live within 2 km from the road. Thus, the cost-effectiveness (investment per person served) of the rehabilitation works is US\$60.0 per person, which is satisfactory.

61. The efficiency of activities completed under Component B is Substantial as the cost benchmark shows that associated costs are in line with expectations for the sector. The cost of activities related to the development of knowledge studies, plans, and guidelines financed by the Project ranged from US\$69,000 to US\$372,000 with an average cost of US\$154,113 per activity, which is in line with standard costs for associated consulting services. The cost of CIF coordination was US\$195,819, including operating costs for the coordination and monitoring of the PPCR portfolio at the local and regional level. This included meetings to build the climate-resilient capacity of local stakeholders and participation in international events for the dissemination of knowledge on climate resilience developed by CIF-financed projects in Haiti. The costs of activities completed under Component B accounted for 7 percent of total Project costs. Given the above, the cost of activities financed under Component B is assessed as what would be expected for the sector, which contribute to a Project efficiency rating of Substantial.

62. The actual component costs for Components A and B are lower than the estimated costs at appraisal and the R20 because of implementation delays, which contributes to an efficiency rating of Modest for these components. Component A's actual costs are in the amount of US\$15.9 million, that is, 43 percent of estimated costs at appraisal



(US\$37 million) and 72 percent of estimated costs at the R20 (US\$22 million). Component B's actual costs are in the amount of US\$4.3 million, that is, 27 percent of estimated costs at appraisal (US\$16 million) and 78 percent of estimated costs at the R20 (US\$5.5 million). For both components, the divergence between actual costs at closing and estimated costs at appraisal and at the R20 are explained by (1) the slow pace of implementation until the R18 mainly due to Project design complexity, lack of institutional coordination at different levels, and the limited involvement of partners (see section III.B, "Key Factors During Implementation"); (2) from the R18 onward, implementation delays arising from exogenous challenges, including an uptick in crime and violence from armed groups in the CAL Region combined with a challenging political, administrative, and processing environment (e.g., violent riots, frequent turnover at the government level); and (3) from the R20 onward, implementation delays due to the restrictions enacted as a response to the COVID-19 pandemic (social distancing measures as well as activity and movement restrictions within the country and from abroad). Furthermore, Component B's implementation progress was further delayed by the departure of critical staff at the UTE-MEF (executive director) and CIAT executive secretariat (CIF focal point) following the R18. Component C's actual costs are in the amount of US\$0 as this component was not activated and the equivalent of US\$1 million allocated to the component was cancelled and transferred to the RARP in the R20. The divergence observed for Components A and B between estimated costs at appraisal and the R20 and actual costs at closing contributes to a Project efficiency rating of Modest.

- 63. The high actual administrative costs compared to estimated administrative costs contribute to an efficiency rating of Modest for Component D.** At appraisal, Project implementation, monitoring, and evaluation costs (Component E) were estimated at US\$4.0 million, that is, 6.9 percent of the total Project estimated costs at appraisal (US\$58 million). This cost allocation was expected to finance the activities of UTE-MEF as the implementing agency of the Project, as well as support partner institutions, namely the CIAT executive secretariat, MTPTC, and MARNDR. As a result of the R18 and R20, Project implementation, monitoring, and evaluation was relabeled as Component D, and broken down into two subcomponents: D.1 (Support to UTE-MEF) and D.2 (Support to UCE-MTPTC). Furthermore, the estimated costs of Component D were revised in the R20 to US\$4.5 million, of which US\$3.5 million was for Subcomponent D.1 and US\$1 million was for Subcomponent D.2. Given the reduction of total estimated Project costs from US\$58 million to US\$32 million following R20, the estimated administrative costs increased from 7 percent at appraisal to 14 percent of the total estimated Project costs at the R20. At Project closing, actual administrative costs incurred were US\$4.0 million and accounted for 16 percent of the total actual Project costs. Therefore, the actual administrative costs account for 99 percent of estimated administrative costs at appraisal. Nonetheless, the actual administrative cost to total Project cost ratio is significantly more important than the estimated ratio at appraisal. This divergence is explained by (1) implementation delays accumulated by the Project, especially before the R18, combined with the fixed nature of administrative costs; and (2) additional fixed costs arising from the reliance on two PIUs from the R18 to Project closing. This high ratio of administrative costs to total Project costs contributes to a Project efficiency rating of Modest. More details on administrative cost efficiency are provided in annex 7.
- 64. Loan cancellation.** An amount of SDR 17 million (US\$26 million equivalent) was cancelled as part of the R20 to account for the transfer of activities not completed under the Project to the RARP. The loan cancellation has been factored in the assessment of Project Efficiency.
- 65. Based on the evidence provided, the Project efficiency is rated Modest.** Despite efficient road investments and costs of knowledge activities in line with expectations, a Modest rating was assigned to Project efficiency given (1) the lower actual component costs compared to expected component costs for Components A and B due to Project implementation delays, and (2) the high actual administrative costs of the Project.



D. JUSTIFICATION OF OVERALL OUTCOME RATING

66. The overall outcome rating of the Project is Moderately Unsatisfactory. To assess the Project's overall outcome rating, the ICR first calculates the overall outcome rating of the Project for two scenarios: (1) based on the original outcome targets, and (2) based on the revised outcome targets following the R20. The ICR then uses the share of actual grant disbursements made in the periods before and after approval of the restructuring of February 28, 2020, to weigh the separate overall outcome ratings. The results are detailed in **Table 6**.

Table 6. Split Rating of the Overall Outcome

	Original	Revised
Relevance of Project Development Objective (PDO)	High	
Efficacy (PDO)	Modest	Substantial
<i>PDO (i)</i>	<i>Modest</i>	<i>Substantial</i>
<i>PDO (ii)</i>	<i>Modest</i>	<i>High</i>
<i>PDO (iii)</i>	<i>Modest</i>	<i>Substantial</i>
Efficiency	Modest	
Overall outcome rating	Moderately Unsatisfactory	Moderately Satisfactory
Numerical value of outcome rating	3	4
Disbursement (US\$M)	21.4	2.8
Share of disbursement (%)	88.5	11.5
Project overall outcome rating	3.12 = Moderately Unsatisfactory	

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

Gender

67. The Project has given specific attention to women, especially with regard to their inclusion in the workforce and their training in specialized skills. The beneficial social development impacts of the Project are all the more significant since in the region women are well represented in the workforce (61 percent of women economically active) and in agricultural jobs and trade. Most of the country's produced goods are transported to and sold in markets by women.²⁷ Improved connectivity and access have benefited everyone, but women in particular, through time savings and improved transport conditions. Moreover, a training program for local people in road maintenance included targeted workshops preparing women to fill specialized positions within the construction sector (e.g., masonry, etc.).

Institutional Strengthening

68. The Project supported the rapid scale-up of UCE-MTPTC's implementation capacity following the R18. Before the R18, the UCE-MTPTC was responsible for providing technical expertise to support the selection, design, procurement

²⁷ Sixty-three percent of respondents in the logistics survey were women.



and implementation of Component A's activities, but this institutional arrangement yielded little results due to a lack of coordination and involvement (see III B KEY FACTORS DURING IMPLEMENTATION). As a result of the R18, the implementation responsibility for Component A was transferred from UTE-MEF to UCE-MTPTC, in order to better align incentives and rely on a PIU experienced in the implementation of transport projects financed by multilateral development banks. This transfer meant an additional workload for UCE-MTPTC, which increased the number of projects under its preparation and supervision from three to seven following the R18. UCE-MTPTC thus needed to be strengthened in order to ensure that Project activities would be implemented according to the expected timeline, quality, and budget. While the impact of Component A's transfer on UCE-MTPTC's absorption capacity was mitigated by a change in implementation strategy for Component A (see section III.B, "Key Factors During Implementation"), the Project also contributed to ensuring a smooth transition by financing a capacity diagnostic of UCE-MTPTC in project management, organization, procurement, and technical management. This diagnostic, carried out following the R18, helped the PIU to define an organizational structure, and to determine the resources it needed in order to scale up its implementation capacity. Among others, the capacity development plan resulted in the recruitment of key personnel that strengthened the capacity of the PIU. Technical assistance to support UCE-MTPTC in this scale-up process is still ongoing under the RARP.

69. The Project strengthened national, regional, and local planning and climate resilience capacity. At the national level, the Project has contributed to (1) build the climate-resilient capacity of local stakeholders by financing coordination activities for the dissemination of knowledge on climate resilience developed from CIF-financed projects, and (2) strengthen the urban planning capacity of the CIAT executive secretariat, the main governmental body in charge of the definition of territorial and urban planning policy in Haiti, through technical assistance provided for the elaboration of urban plans. At the regional level, the Project generated a pool of knowledge on the CAL region, including key insights on (1) social conditions in the region; (2) the mapping and characterization of more than 100 rural and nonrural markets in the region, including an in-depth analysis of 20 markets with regard to their location, condition, users, and product flows (from origin to destination); (3) the assessment of flood, landslide, drought, and seismic risks, including a mapping of associated risks across the 14 communes of the CAL,²⁸ and a detailed mapping of natural hazard risks at the level of urban centers for the cities of Titanyen, Hinche, Mirebalais, Saut-d'Eau, Saint-Michel, and Saint-Raphaël; (4) technical norms serving as a guide for the standardization and conformity of market infrastructure; and (5) a regional road maintenance strategy, which was adopted in 2017, and helped to quantify the needs, formulate recommendations, and identify the location and type of equipment and infrastructure needed to improve road maintenance in the region (e.g., road maintenance centers). Lastly at the local level, the Project contributed to strengthen the capacity of more than 100 local stakeholders (including municipal agents, CASECs, citizens) in urban planning through the elaboration of urban plans in Titanyen and Hinche, including dedicated workshops on participatory territorial planning, mapping, and conflict in the usage of public space, as well as on-site capacity building.

²⁸ The communes of the Artibonite Department are Marchand Dessalines, La Chapelle, Petite Riviere de l'Artibonite, Saint-Michel, and Verettes. The communes of the Center Department are Boucan Carre, Hinche, Lascahobas, Maissade, Mirebalais, Saut-d'Eau, Thomonde, Pignon, and Saint-Raphaël.



Mobilizing Private Sector Financing

- 70. Although the Project was not specifically designed for mobilizing private sector financing, it helped foster a better business environment for potential private investments.** Given the country's fragile context, the Project was not specifically designed for mobilizing private sector financing. Nonetheless, it has contributed to improving conditions for potential private investments by (1) tapping into the agricultural potential of the CAL region through the connection of key production areas to markets, (2) generating information about the agricultural value chains in the region (including market structures and actors, and agricultural volumes and flows), (3) informing and mapping natural hazards and the associated risks in the region, (4) generating the conditions for climate-informed urban planning, and (5) providing economic opportunities for construction firms, small and medium enterprises (SMEs), and local communities.

Poverty Reduction and Shared Prosperity

- 71. During the implementation of works, the Project provided local communities with employment, revenue-generating activities, and economic opportunities.** During the implementation of works, the Project contributed to generating revenues from the employment of unskilled and skilled workers (e.g., masons, iron workers), the sale of materials used for works, and from the ensuing indirect economic activity generated in the localities from these new revenue streams.
- 72. Following the completion of works, the Project improved all-weather access to services, logistics, and economic activity in the connected areas.** The satisfaction survey shows that 97.5 percent of the population in the Project area are satisfied with the quality and impact of the infrastructure financed by the Project. The positive impact of road works most cited by respondents is the all-weather access allowed by safe river crossings during the rainy season. All-weather accessibility ensures better access to health, education, and economic centers serviced by improved roads, and therefore, directly contributes to poverty reduction. As evidenced by the logistics survey (see paragraph 49), all-weather accessibility also contributes to improved logistics for producers, transporters, merchants, and consumers in general, as well as to an increase in revenue streams and a decrease in the cost of goods sold by local stakeholders. This result shows that the Project contributes directly to both the development of local and CAL-wide economic activity, along with the creation of new economic opportunities. This progress contributes to efforts aimed at rebalancing the national territory and furthering the economic integration of the CAL region's population.

Other Unintended Outcomes and Impacts

- 73. The Project reportedly contributed to social cohesion within the CAL region.** Employment generated by the Project was generally viewed as a benefit for local communities. The local reportedly helped to maintain secure conditions on most Project sites through their influence on local armed groups.
- 74. The Project helped to reinforce food security and quality in the CAL region.** The survey on market users (see paragraph 49) revealed that the Project significantly improved the speed and reliability of deliveries: 90 percent of respondents declared that delivery time was reduced and 84 percent reported that the regularity of deliveries improved or substantially improved. The Project enhanced the reliability of food supply within the CAL region. By allowing shorter journey times and better transport conditions, it also helped to improve the quality of food products for consumers (76 percent of respondents noted an improvement in product quality thanks to the Project).



III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

- 75. The Project was prepared in the context of optimistic expectations and an ambitious vision for the development of Haiti.** During Project preparation, in 2014, the vision shared by the GoH and development actors in Haiti tended toward the hope of a renewed territorial dynamism, a rebalancing that would promote national economic development and unleash the potential of the less developed regions. This optimism was partly based on the progress made in terms of planning and on the willingness of the GoH to put in place integrated intersectoral development strategies. In addition, the country was going through a period of relative political stability, conducive to the emergence of an encouraging vision for the future of the country. The Project was designed out of this enthusiastic environment, feeding into optimistic ambitions. It was then difficult to foresee the sharp deterioration in security conditions and the new periods of instability that negatively affected Project implementation.
- 76. Project design was therefore ambitious in nature and relied on key cross-sector and multi-stakeholder coordination to ensure its implementation.** The Project was designed in line with the multisectoral development vision of the GoH outlined in the report “Haiti Tomorrow—The Center-Artibonite Loop: Territorial Goals and Strategies for Reconstruction” published in 2010. While the Project was ambitious in nature, particular attention was paid during preparation to simplifying its scope by focusing on key priority factors of regional growth such as improved connectivity, logistics, and resilience. Moreover, the PIU, UTE-MEF, was selected based on its good track record at appraisal in the preparation and implementation of complex multisector infrastructure projects.²⁹ Nonetheless, Project implementation remained constrained by Haiti’s fragile state capacity, as implementation progress relied on key cross-sector coordination with and involvement from various implementing partners (CIAT, MTPTC, MARNDR) in the selection, design, and supervision of Project investments and activities, as well as local stakeholders (CASECs, CTDs) for the identification and selection of Project investments. This coordination mechanism needed to be formalized through the formation of a Steering Committee chaired by the CIAT executive secretariat, involving both the government and local stakeholders. However, the Steering Committee convened only once during Project implementation, and therefore never got to fill its role properly. These difficulties delayed the selection of the markets to be benefited and rural road activities, which could be carried out prior to Project closure.
- 77. The selection process for investments related to beneficiary markets and rural roads relied on a combined top-down and bottom-up approach to foster the Project’s viability and local ownership.** The top-down approach allowed for the prioritization of key investments based on economic and technical viability. This process relied on a set of criteria developed by the CIAT executive secretariat, with support from implementing partners and in consultation with local stakeholders. The bottom-up approach allowed for the selection of investments to be financed by promoting local participation in the decision-making process. It relied on local stakeholders’ proposals to identify a set of investment candidates. As both approaches required a functional Steering Committee for approval at various steps of the selection process, they were only partly followed during implementation.

²⁹ At appraisal, UTE-MEF had been assessed as effective with regard to the implementation of an IDB-financed industrial park project in the north, as well as the implementation of the Project Preparation Facility of the Cultural Heritage Preservation and Tourism Sector Support Project (P144614).



- 78. Project investments were selected to foster synergies across the Bank's portfolio, and with regional infrastructure initiatives in coordination with key donors involved in the development of the CAL region.** The Project was prepared in collaboration among the agriculture, disaster risk management, and transport practices of the Bank, and more specifically in coordination with the Relaunching Agriculture: Strengthening Agriculture Public Services Project (RESEPAG–P126744). Furthermore, the Project sought to complement key agricultural projects in the CAL region such as the Inter-American Development Bank's (IDB's) long-term involvement in the development of the Artibonite Valley's rice production value chains, as well as regional infrastructure investments such as the rehabilitation of NR3 from Mirebalais to Hinche (financed by the European Union with contribution from France) and the construction of the University Hospital of Mirebalais financed by the Bank. The main roads to be rehabilitated by the Project were selected by mapping regional road projects from the GoH and organizing them according to different funding sources (primarily the GoH, European Union, and French Development Agency [Agence Française de Développement, AfD]). Moreover, key donors including the IDB and the European Union were invited to contribute to Project preparation through the peer review of Project documents during essential steps of the Project preparation process. Cross-practice and cross-donor coordination helped to maximize synergies and complementarities between projects. This allowed for an integrated response to regional development, while incorporating lessons learned regionally and across donors operating in Haiti into the Project design, especially with respect to implementation arrangements for a multisector operation. In 2016, the European Union and AfD furthered this joint effort by financing the continuation of the construction of NR3 on the road section Pignon–Saint-Raphaël. Coordination and synergy among initiatives amplified the Project's positive impacts and thus enhanced its outcomes.
- 79. The approach to road investments was informed by best practices developed from similar projects in the country and in other fragile contexts.** Best practices were embedded in both the selection and nature of road investments. On one hand, the Project used the Rural Access Index as a key selection criterion to prioritize investments regionally. On the other hand, the Project relied on a spot improvement approach to upgrade the targeted road network to all-weather standards in order to ensure cost efficiency. This approach is widely used among projects financed by the Bank in challenging operational settings to restore accessibility and maximize value for money, particularly in flood-prone areas where crossings are often the main constraints to all-weather connectivity and accessibility. The Project was informed by lessons learned from the use of similar approaches in previous projects financed by the Bank in Haiti (PTDT, IIERP), which confirmed the utility of spot improvements in the context of Haiti.

B. KEY FACTORS DURING IMPLEMENTATION

- 80. During the first four years following Project approval, implementation was significantly delayed by lack of coordination between implementing entities and political, environmental, and legal factors, which also complicated the decision to restructure that was finally taken in 2018.** By design, the PIU (UTE-MEF) relied on key technical inputs to be provided by the UCE-MTPTC, CIAT executive secretariat, and MARNDR for the selection, design, and supervision of Project investments and activities. This process delayed implementation significantly as the involvement from partners, as well as the quality of coordination and outputs, turned out below expectations. For example, the MARNDR was little involved in project implementation contrary to what was envisioned during project preparation. This resulted in long delays for (1) the preparation of procurement packages, and (2) the selection of market and road investments by the steering committee (Comité de Pilotage, COPIL), which was held only once during the period. The limited number of COPIL meetings held is partly explained by a difficulty in obtaining the participation of local elected representatives in the approval of projects that would not be carried out in their territory, raising a shortcoming in the design of this body. Moreover, legal factors contributed to exacerbate Project implementation delays and low disbursements: more than 50 percent of the original Project budget was



only allowed to be withdrawn once the regional maintenance strategy was adopted in 2017, because of a withdrawal condition in the Financing Agreement. By June 2018, only 10.4 percent of the Project funds had been disbursed. In addition, a series of contextual factors delayed the Project implementation, including (1) a lengthy political transition from March 2016 to February 2017; and (2) the impact of Hurricane Matthew which struck Haiti in October 2016 as a Category 4 hurricane, leaving 1.4 million Haitians in need of immediate humanitarian assistance, and adding pressure on the implementation capacity of the government and implementing partners. The need for an urgent response to these events then became a priority over the need for restructuring of the Project, delaying the decision-making to remedy the delays. Finally, it should be noted that delays were also noted in the Bank's reviews and feedback during the procurement process.

- 81. Streamlining implementation strategy and arrangements in the restructuring of June 2018 played a crucial role in the acceleration of Project implementation.** The disbursement rate quadrupled from June 2018 to February 2020, reaching 41 percent of the total Project budget, while Overall Implementation Progress (IP) was upgraded to Moderately Satisfactory during the same period. This result was a direct consequence of the measures taken as part of the R18, notably (1) the transfer of implementation responsibility for Component A to UCE-MTPTC which allowed the realignment of road work activities under its key line ministry, and (2) a modification of the Project implementation strategy to favor larger contracts for the construction of main bridges, as well as the recruitment of a MDOD for the rehabilitation of rural roads and the construction and rehabilitation of markets, thereby allowing UCE-MTPTC to focus on its core competencies. The decision-making process was also simplified following the R18 to allow line ministries to select investments. In addition, refocusing UTE-MEF's efforts on Component B allowed for further efficiency gains, notably thanks to the contracting of the MDOD.
- 82. Throughout the Project, exogenous factors disrupted and delayed implementation.** Implementation was hampered by political instability, natural hazards, and insecurity. These resulted in (1) high turnover among local officials, (2) heavy rains damaging work sites, and (3) from 2019 onward, the proliferation of violence from armed groups in the CAL region. Consequently, delays were encountered in the participatory process for the selection of investments, during the implementation of some works, as well as for the procurement of key spot improvements on the road section Dessalines–Saint-Michel, which was particularly affected by insecurity. Yet, the associated delays were mitigated by (1) proactive local stakeholder transition management from the CIAT executive secretariat and implementing partners, (2) the planning of road works outside the rainy season when possible, and (3) proactive community engagement and supervision from the PIUs and the execution and supervision firms and a prioritization of investments into areas not affected by security issues when no other viable solutions could be taken.
- 83. The technical quality of road works was generally satisfying, except for spot improvements carried out by two suppliers.** The spot improvements carried out by the firms BURACO and GEMODESA on road sections Hinche–Maissade and Saint-Michel–Saint-Raphaël were below expected standards, despite proactive supervision from the PIUs to ensure remedial actions were taken. Complementary works have been procured to ensure the viability of the infrastructure built on the Saint-Michel–Saint-Raphaël road section, and they will be procured as part of the RARP for the Hinche–Maissade section. This highlights the need for an alignment between project activities and line ministries' expertise for (road) infrastructure projects.
- 84. The procurement approach based on small work packages for spot improvements yielded mixed results.** While it accelerated the contracting of works, allowed the strengthening of local construction SMEs, and decreased the overall cost of associated works, it also multiplied the number of procurement processes needed to carry out the works and thus put an additional burden on the procurement capacity of the PIU.



- 85. The COVID-19 pandemic crisis significantly affected Project implementation progress from the R20 to closing.** The GoH started enacting restriction measures to halt the spread of COVID-19 as soon as mid-March 2020. These consisted in social distancing measures as well as activity and movement restrictions (within the country and from abroad), which delayed or interrupted critical activities of the Project, including the execution of road works, the procurement of the construction and rehabilitation of four markets, as well as the elaboration of urban plans for the cities of Mirebalais and Saut-d'Eau. Mitigation measures were put in place in response to the pandemic to ensure the safety of worksites and facilitate the supervision and execution of activities. These included (1) providing PIUs with equipment to facilitate home-based working arrangements, (2) the recruitment and deployment of individual consultants to supplement the PIUs' supervision capacity on the field, (3) the reorganization of worksites to promote social distancing and mechanized works, as well as (4) the reliance on more flexible working schedules during the night and day to decrease the concentration of workers on site at one point in time. Nevertheless, significant restrictions lasted through the entire period from the R20 to Project closing, with international flights resuming only partially in July 2020. As a result, the progress of activities, and the associated disbursements, were significantly delayed compared to the forecast at the R20.
- 86. The decision to transfer the remaining Project funds and activities to the RARP in the R20, rather than proceeding to an extension of the Project, may have significantly affected the Project's overall outcome rating.** As detailed in section II.B, "Achievement of PDOS (efficacy)," a significant amount of outputs are expected to be completed from Project closing to mid-2021, including (1) 79 km of roads rehabilitated, and (2) four markets rehabilitated or constructed. For the purpose of the ICR, the contribution of those expected outputs to the achievement of associated outcomes and PDOs was computed, assuming they will materialize by mid-2021 (see annex 8). According to this computation, the additional expected outputs could have brought the Project efficacy rating to Substantial if the Project closing date had been extended by a year. More specifically, while the achievement of PDO (i) "enhancing all-weather connectivity" would remain Modest, the achievement of PDO (ii) "enhancing logistics for producers" could have been upgraded to High, and the achievement of PDO (iii) "enhancing the region's resilience to climate change" could have been upgraded to Substantial. Assuming the same rating would apply to Project Relevance and Efficiency as assessed in the present ICR, the Project's overall outcome rating could have been upgraded to Moderately Satisfactory thanks to such an extension.
- 87. While the transfer of remaining Project funds and activities to the RARP as a result of the R20 constituted a cumbersome administrative process, the task team's proactivity streamlined the transfer process for the client.** Transferring ongoing contracts required complex and time-consuming operational procedures such as partial cancellation of funds of the Project expected to close (PBCA) and the preparation of an Additional Financing (AF) for the recipient project, the Rural Accessibility and Resilience Project (RARP). The task team facilitated the transfer process to reduce the workload on the PIUs and to avoid affecting ongoing activities. Fourteen contracts were successfully transferred as a result of this process.



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

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

M&E Design

- 88. A significant shortcoming is that the M&E framework design allowed only the partial capture of Project outcomes.** The results framework only allowed a partial accounting of the Project's contribution to PDO (ii) "enhancing logistics for producers" and PDO (iii) "enhancing the region's resilience to climate change." Regarding PDO (ii), until the R20, the PDO indicators allowed capturing the rehabilitated or constructed markets' contribution to enhancing logistics for producers but did not capture the Project's contribution to enhancing logistics for producers in existing markets through road infrastructure improvements. The PDO indicators used to measure the Project's contribution to PDO (ii) were (a) "Increase in volume of transaction in improved markets" (dropped in the R18) and (b) "People serviced by new or improved climate-resilient markets."³⁰ Considering PDO (iii), the PDO indicators allowed the capture of only the rehabilitated roads' contribution to improving the region's resilience to climate change until the R18, and did not account for the improvement in market resilience and climate resilience knowledge and institutional strengthening targeted by the Project. In fact, the PDO indicators used to measure the Project's contribution to PDO (iii) was "Share of roads classified as vulnerable to natural events and climate change impacts" (dropped in the R18).
- 89. While the M&E framework was ambitious at appraisal, it was reviewed and streamlined in the R18 and R20 primarily to fit local monitoring and evaluation capacity and reflect the reduced scope of activities.** From appraisal to closing, the number of PDO indicators was reduced from 5 to 3, while intermediate results indicators went from 15 to 7. The M&E framework at appraisal was ambitious in the number and nature of outputs and outcomes embedded in the results framework, but also in the procedures designed for the monitoring of indicators involving different partners at different levels. While this framework was intended to increase collaboration, it has instead proven difficult to monitor in a context of limited capacity. Therefore, the M&E framework was simplified in the R18 and R20 for more realism and to ensure consistency with actual results achieved and the reduced scope of activities.
- 90. The M&E framework could have better captured the intermediate results contributing to PDO (iii) "enhancing the region's resilience to climate change."** Intermediate results indicators "Local officials and local stakeholders trained in the use of urban and territorial planning tools" and "Cumulated amount in projects elaborated using analytical knowledge and tools developed by the proposed Project" were dropped in the R18. However, these indicators measured relevant outputs and outcomes related to the enhancement of the region's resilience to climate change by the Project.

M&E Implementation

- 91. The M&E arrangements were simplified following the R18 to better align underlying activities monitored with local expertise and incentives.** While the initial arrangements relied heavily on cross-partner coordination and collaboration in the M&E of Project results, the transfer of implementation responsibility for Component A to UCE-MTPTC allowed reliance on one implementing agency for the monitoring of most Project results (intermediate results

³⁰ The results framework could also have captured other outcomes expected to improve the logistics for producers, like enhanced reliability, reduced delivery time, better quality of products, higher profitability, among others, but this would have likely complexified the results framework design and monitoring in a context marked by limited capacity.



indicators 1 to 5). The transfer of responsibility also created better incentives to report on the results achieved for this component and thus strengthened the M&E of the Project.

- 92. The M&E capacity of implementing agencies was strengthened to ensure regular reporting of the Project results and outcomes.** While the R18 allowed streamlining M&E arrangements, this restructuring was also carried out in a context where UCE-MTPTC was becoming responsible for more and more projects under preparation or implementation. As a result, the PIU was strengthened through (1) the proactive assistance from the task team to ensure regularity and consistency in the Project results reporting, and (2) the recruitment of an M&E specialist.
- 93. Exogenous events challenged the monitoring and evaluation of the Project throughout its life cycle.** Project implementation was marked by various exogenous challenges, notably the regular occurrence of natural hazards and rising insecurity in the region that both constrained access to Project sites. M&E was mechanically affected by such events, but their impact was mitigated by (1) using on-site supervision services, and (2) proactive supervision by the PIUs.
- 94. Some shortcomings were identified in target updates during implementation.** For example, the original number of spot interventions targeted in the indicator “Spot interventions to enhance all-weather accessibility of roads” was 15 at appraisal. In the end, 64 spot interventions were eventually executed. Yet, the associated intermediate results indicator’s end target was not updated.
- 95. An error was made in the recording of PDO indicator 1’s end value but was subsequently corrected following Project closing.** At Project closing, a final value of 56 percent (out of an end target of 60 percent) was recorded for PDO indicator 1 “Share of rural population with access to an all-weather road (disaggregated by gender),” also known as the Rural Access Index. However, the PIU corrected the actual value following Project closing. The actual value was eventually estimated at 44 percent.
- 96. Several of the indicators requiring a gender breakdown of results recorded were not prepared at the disaggregated level, which prevents gender analyses of these indicators.**

M&E Utilization

- 97. The M&E framework was useful in providing some evidence of the achievement of targeted outcomes.** The information recorded throughout the Project life cycle allowed the tracking of progress toward achievement of the PDOs, including enhancing all-weather connectivity, logistics for producers, and the region’s resilience to climate change. However, as explained in paragraph 88, the M&E framework design only partly covered the channels through which the targeted PDOs of the Project were achieved, which reduced its relevance.
- 98. The M&E framework was used more extensively following the R18.** This was due to (1) the significant amount of results obtained following the R18, and (2) the recruitment of an M&E specialist at UCE-MTPTC who reinforced the unit’s M&E capacity and the tracking of Component A’s outputs and outcomes.
- 99. No clear evidence was found to estimate the effective impact of the M&E framework in decision-making.**



Justification of Overall Rating of Quality of M&E

Rating of M&E: Modest

- 100. The overall quality of M&E is rated as Modest.** The M&E framework presents significant shortcomings in its design, as it only accounts for some of the Project outcomes. During implementation, some weaknesses were also observed regarding the update of targets and recording of results. The use and impact of the M&E system were relatively limited to inform decision-making. Yet, efforts were made to streamline and adjust the framework to the progress achieved and the local implementation capacity, mostly following the R18. The efforts made by UCE-MTPTC to improve the quality of its M&E are notable.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

Environmental and Social

- 101.** The Project was classified as an Environmental Category B. The Project at appraisal triggered OP/BP 4.01 Environmental Assessment, OP/BP 4.04 Natural Habitats, and OP/BP 4.12 Involuntary Resettlement.
- 102. The Project Implementation Status Reports (ISRs) rated the Project's environmental safeguard performance as Satisfactory (S) throughout implementation.** No shortcoming was noted during the Project.
- 103. The Project ISRs rated compliance with social safeguards as Satisfactory (S) through July 2018, at which time the rating was dropped to Moderately Unsatisfactory (MU), and finally it was upgraded to Moderately Satisfactory (MS) from January 2019 onward.** In July 2018, temporary issues regarding five project-affected persons (PAPs) related to the spot improvements on the Hinche–Maissade road section were brought to the social safeguards team's attention six months after they occurred. At the time, only two out of five PAPs had received compensation while the road works had already started. The situation was resolved in the six months after the noncompliance of UTE-MEF was reported, following Project restructuring in the R18 and the transfer of the implementation responsibility for Component A from UTE-MEF to UCE-MTPTC. Apart from this situation, no other shortcoming was observed.
- 104. The overall safeguards rating for the Project is Moderately Satisfactory (MS).** Overall safeguards management was satisfactory until the noncompliance issue regarding social safeguards was reported in July 2018. Nonetheless, safeguards management performance improved following the restructuring of June 27, 2018, which transferred the responsibility for implementing Component A from UTE-MEF to UCE-MTPTC. The realignment of line ministries with the nature of activities financed and overall better safeguards management capacity from UCE-MTPTC supported this improvement. Safeguards management was challenged by several factors, including (1) multiple worksites spatially distributed over a wide area due to the nature of Project activities; (2) exogenous operational challenges arising from political instability, insecurity, climate vulnerability, and a pandemic; and (3) weak safeguard capacity or awareness from some Project stakeholders, particularly civil works contractors. The Project thus relied on measures and instruments tailored to the situation to ensure compliance, including (1) proactive Bank supervision, (2) a Grievance Redress Mechanism relying on respected local focal points and aggregated complaint reporting, as well as (3) training of Project stakeholders, in particular, execution and supervision firms, to raise awareness about Project safeguards compliance. The Project also benefitted from a dedicated full-time social safeguards specialist based in Hinche throughout Project implementation, who built good relationships with local communities and



fostered collaboration between implementing partners. This was especially instrumental in the preparation of Resettlement Action Plans (RAPs) for works planned on markets.

Fiduciary

105. The financial management (FM) rating was downgraded from Moderately Satisfactory to Moderately Unsatisfactory in March 2020 before being upgraded back to Moderately Satisfactory in August 2020. The downgrade followed moderate shortcomings in FM that jeopardized capacity to provide timely and reliable financial information (late and incomplete submission of the April 2019–September 2019 Interim Financial Report [IFR], outdated accounting records, delays in the processing information between implementing partners, delays in the submission of withdrawal applications, and a nonoperative internal control unit). The downgrade was a direct consequence of a modest FM of the UCE-MTPTC after the R18 as its capacity was saturated by the increase in the number of Projects managed by the unit during the post-2018 restructuring period (from three to seven projects). It was also a result of lack of coordination and involvement from implementing partners and the difficulty of finding qualified staff for internal auditing functions. Nonetheless, FM performance was upgraded to Moderately Satisfactory at Project closing, reflecting the correction of FM shortcomings thanks to the progress achieved by the implementation units. The R18 also facilitated reporting compliance by aligning the reporting period of IFRs with the Haitian fiscal year. Before the R18, the FM rating was Satisfactory or Moderately Satisfactory, reflecting UTE-MEF's good FM capacity.

106. Procurement performance was rated Satisfactory or Moderately Satisfactory throughout the Project life cycle. Both UTE-MEF and UCE-MTPTC's procurement capacity were assessed Moderately Satisfactory overall. While both agencies are staffed with capable procurement teams, the speed of procurement processes was hindered by (1) delays in contract signatures and payments at UTE-MEF, (2) saturated capacity at UCE-MTPTC, (3) difficulty finding international firms willing to work in Haiti, (4) contradictory decisions taken at the leadership level, and (5) quality of terms of reference (TORs) for knowledge and planning studies. The performance was maintained at MS thanks to the reinforcement of UCE-MTPTC with key procurement personnel and technical assistance from UNOPS. While the transition to the Systematic Tracking of Exchanges in Procurement (STEP) triggered some delays, it facilitated archiving of procurement documents. The PIUs progressively picked up the tool thanks to implementation support provided by the task team and STEP champion. Procurement speed was also facilitated by the adoption of 2016 bank procurement regulations, which streamlined the procurement process.

C. BANK PERFORMANCE

Quality at Entry

107. The Project was prepared and appraised consistently with the Bank's fiduciary role and the country's strategic vision. The Project responded to the GoH's regional vision for the development of the CAL region, one of Haiti's poorest, and often considered its breadbasket. It focused on improving critical bottlenecks to regional growth with a primary focus on transportation. The Project was prepared based on conservative financial planning and economic assessment of its impact.

108. The Project was prepared according to an ambitious design that relied on effective coordination and collaboration between implementing partners for its successful implementation. As described in section III.B, "Key Factors During Preparation," the Project design relied on optimistic expectations regarding the level of coordination



and collaboration between implementing organizations to ensure its implementation progress. The implementation risk was rated High at appraisal, as the complexity of multisectoral project design and coordination between agencies were pointed out as potential risks to implementation. Thus, the Bank team relied on an experienced PIU as the implementing agency for the Project (UTE-MEF), with a good track record in the preparation and management of past infrastructure projects. Yet, mitigation measures could have better factored in incentives for the implementing partners to cooperate and assume Project ownership.

- 109. Social safeguards and gender aspects were built in; they were considered at appraisal, with plans to include a citizen engagement approach.** The Project's social impacts were identified following a participatory and gender-sensitive social assessment, taking into account population needs and perceptions. The need to reinforce women's participation in the decision process was identified, and the PAD stated that it would be strongly encouraged during implementation. The safeguard assessment included a gendered approach to guarantee that women's needs, and priorities would be adequately taken into account.
- 110. The design of M&E arrangements,** as described in section IV.A, "M&E Design," had shortcomings and required a revision of the Project's results framework during implementation.

Quality of Supervision

- 111. The initial implementation period was characterized by substantial delays, low disbursements, and a progressive downgrade in ratings.** This period lasted from effectiveness in October 2014 to the R18. The ISRs over the period candidly mention the slow progress. They reveal the complexity of a large number of activities carried out in parallel among many different components and the difficulty in making progress in disbursements. The constant expectation of progress in the preparatory activities to implement subsequent activities generated a ripple effect in the continuous postponement of the Project milestones. This resulted in a progressive degradation of the Project's Overall Implementation Progress (IP) rating, which reached Moderately Unsatisfactory in 2018.
- 112. Despite this long period of slow implementation progress, the Bank team seized the opportunity of the Mid-term Review to reverse this trend.** The major changes made during the R18 allowed a complete turnaround of Project implementation performance. As detailed previously, the change in implementation arrangements was crucial to unlock many activities. Consequently, disbursements took off (quadrupling in two years), and significant implementation progress was observed. The quick recovery of the IP rating in one year to a Moderately Satisfactory level illustrates the identified measures' efficacy. The Bank demonstrated lucidity in identifying the bottlenecks in Project implementation and in recommending relevant changes to improve the Project dramatically. Close follow-up and constant support from the Bank's teams then made it possible to support the implementing agencies in this dynamic of improvement. Over this period, training in safeguard and fiduciary compliance, tools, and instruments were provided to strengthen the quality of compliance throughout the Project. After the R18, only minor shortcomings were noted in Project supervision, including extended delays in the nonobjection of some procurement packages. In addition, the Team took proactive measures in response to the COVID-19 crisis that allowed continuity of supervision, and provided guidance to the client as described in paragraphs 85 and 126.
- 113. The supervision also showed great care in the implementation of safeguards.** As expressed in paragraph 103, when noncompliance with the RAP occurred in July 2018, the team proactively reacted, coordinating with the PIU to solve the problem in a relatively short time of six months. The efforts in supporting safeguards helped to preserve a Moderately Satisfactory rating for safeguards despite the numerous challenges summarized in paragraph 104.



- 114. Close follow-up and support by the supervision team on fiduciary aspects after the R18 improved Project performance.** As previously expressed (see paragraph 105), the FM team's support to the PIUs was crucial to improve FM performance. Regarding procurement, the support provided through the implementation of STEP has improved the follow-up and performance of the PIUs' procurement team.

Justification of Overall Rating of Bank Performance

Rating of Bank Performance: Moderately Satisfactory

- 115. Given the above considerations, the Bank's overall performance is rated Moderately Satisfactory.** While there were moderate shortcomings in terms of quality at entry and quality of supervision, the Bank significantly contributed to the Project turnaround following the R18. The World Bank has measured its involvement and the nature of its support as required by Haiti's challenging operational context.

D. RISK TO DEVELOPMENT OUTCOME

- 116. Insufficient road maintenance to ensure the sustainability of Project achievements is a risk to development outcomes.** The outcomes achieved under the Project are mainly attributable to completed road investments. Therefore, such outcomes can only be sustained if proper road maintenance is ongoing in the targeted Project areas. Haiti's track record in road maintenance has historically been relatively low, as is the case in many fragile states. To mitigate the risk of low maintenance, the Project has financed the training of more than 280 local people in road maintenance, the development of a Road Maintenance Strategy, and the design of key road maintenance centers across the region. The RARP is expected to continue the efforts undertaken by the Project by furthering the training of local people, building the transferred road maintenance centers, and by supporting the inclusion of the main roads improved by the Project (i.e., Saint-Michel–Saint-Raphaël, Titanyen–Saut-d'Eau, Dessalines–Saint-Michel, and Hinche–Maissade) in the Road Maintenance Fund list, which is expected once all the works initially planned under the Project will be completed as part of the RARP. These activities and actions will contribute to mitigate the main risk to the development outcomes.
- 117. Exogenous risks such as security and climate are inherent risks for development outcomes in the PBCA.** The security risk in Haiti is constant and can seriously affect the logistics in the region. Disaster risks are also a reality likely to affect Haitian infrastructure in the CAL region. If the Project works have contributed to improving the CAL region's resilience, an exceptional major event (hurricane, earthquake, landslides) can still be the cause of damage affecting the results of the Project.



V. LESSONS AND RECOMMENDATIONS

- 118. In fragile and conflict-affected states, the design of multisector operations should be kept simple with institutional arrangements tailored to align incentives and expertise with Project' objectives and underlying nature of activities.** The Project was multisectoral as it responded to a territorial planning vision for the development of the CAL region. As such, Project design involved multiple implementing entities depending on one another's expertise to progress toward the PDO's achievement. This proved to be the main constraint to Project implementation, as coordination capacity and willingness to collaborate were weak in Haiti's challenging operational context. This highlights the need to carefully balance the trade-offs between addressing complex development challenges through multisector operations and keeping the Project scope simple enough to be implemented within a reasonable time frame. More specifically, the challenges faced by the Project show that when such projects are designed in capacity-constrained and fragile contexts, they might benefit from (1) the reliance on simple institutional arrangements that limit Project implementation's dependence on the collaborative involvement of multiple stakeholders for the achievement of its objectives; (2) the alignment of the implementing line ministries' expertise with the underlying nature of activities financed by the Project to ensure that technical capacity is on par with expectations, with limited need for external support or assistance; and (3) simple investment prioritization processes.
- 119. Portfolio consolidation can be detrimental to the overall outcome rating of a closed project.** As detailed in paragraph 86, an extension of the Project closing date by one year could have allowed for upgrading the Project overall outcome rating from Moderately Unsatisfactory to Moderately Satisfactory. This highlights the impact that portfolio consolidation can have on the overall outcome rating of underlying projects if consolidation is carried out when the progress toward the achievement of PDOs is insufficient to warrant a Moderately Satisfactory rating for the closed Project. Therefore, the impact of portfolio consolidation on the rating of closed projects should be assessed thoroughly during the portfolio consolidation decision-making process.
- 120. Transferring contracts between Bank-financed projects should be used as a last-resort solution.** Because transferring contracts between projects requires a significant amount of time and resources (see paragraph 87), such decisions should only be adopted as a last-resort solution, especially when multiple contracts need to be transferred or when a short extension of the Project might decrease the burden on the task team. When considering whether to take such a decision, thorough planning of the transfer process might help to better understand its implications on the internal and external implementation capacity and the ongoing activities.
- 121. Disbursement conditions should be tailored with due consideration of their potential impact on project implementation progress.** As detailed in paragraph 80, the withdrawal conditions of the financing agreement restricted the withdrawal of more than 50 percent of the project budget at appraisal until the regional road maintenance strategy was adopted in 2017. This underlines that careful considerations should be made regarding the adoption of withdrawal conditions during preparation, by weighing the intended development benefits versus the risk that these conditions pose on project implementation (e.g., in this case, the long-term benefits derived from an improved road maintenance strategy versus the fulfilling of immediate accessibility, logistics, and resilience needs).



- 122. While the breakdown of Project activities into small work procurement packages fostered the development of local SMEs, it also increased the workload for the PIUs' procurement team.** The procurement approach for road works was based on the breakdown of Project activities into multiple work packages to foster the development of local construction SMEs in Haiti. This approach proved to be effective while ensuring a generally satisfying level of service in the speed and quality of execution. Nonetheless, this approach put an additional burden on the procurement team of UCE-MTPTC, which had to contend with the elaboration of a significantly greater amount of procurement packages than would have been the case if the latter had been grouped together into national bidding processes. This highlights a trade-off between the development objectives of the Project and the procurement capacity—and hence efficiency—of the implementing agency.
- 123. The scale-up of projects under the responsibility of performing PIUs should be controlled to fit the agency's absorption capacity, which should be strengthened progressively along the way.** While the transfer of implementation responsibility of Component A from UTE-MEF to UCE-MTPTC through the R18 allowed the Project's turnaround, it also took place in a context marked by the scaling up of the number of projects under the responsibility of UCE-MTPTC. This contributed to filling out the absorption capacity of the PIU and to the generation of shortcomings in Project management, such as the downgrade of the financial management rating of the Project to Moderately Unsatisfactory in March 2020. Although the PIU was strengthened in this process both internally, through the recruitment of additional personnel, and externally through training and assistance provided by the task team in technical, safeguards, and fiduciary management, as well as through the recruitment of a technical assistance, the scale-up of activities was too rapid for capacity to catch up in such a short time frame. Consequently, reliance on performing PIUs in fragile contexts should be performed in a controlled manner, together with the progressive strengthening of the latter in order to prevent the saturation of its work capacity.
- 124. In capacity-constrained environments, recourse to MDODs may facilitate implementation and allow implementing agencies to focus on their core competencies.** The recruitment of two MDODs to implement rural road works, and market-related works, was key to the acceleration of Project implementation following the R18. By delegating part of the Project implementation to technically qualified organizations, the PIUs benefitted from additional operational capacity, fit-for-purpose technical expertise, as well as more time to focus on their project management and oversight role. Recourse to MDODs may therefore constitute an effective mechanism to facilitate implementation progress in a capacity-constrained environment.
- 125. Strong engagement of local communities can significantly enhance progress achieved in the implementation of environmental and social safeguards by enhancing local stakeholders' ownership and understanding of associated requirements.** Haiti's operational context is challenging given the prevailing political instability, insecurity, and regular occurrence of natural hazards, particularly in the CAL region. Furthermore, the nature of activities financed by the Project—small work packages spread over a large territory—increases the difficulty of monitoring the Project's safeguard requirements, given the need for regular supervision by the PIU. In that context, the application of associated measures depends not only on the signing of safeguard contractual obligations but also on the local stakeholder's (firms, workers, local authorities, and communities) understanding, acceptance, and ownership of such measures and their utility. The Project was successful in this regard through (1) strong engagement of local communities by the safeguards team, which included one member based in Hinche throughout the entire Project lifetime, and (2) regular training provided by the PIU to local stakeholders.



- 126. Reliance on a clear theory of change and fostering the implementing agencies' ownership of the M&E framework can contribute to improving the quality of a project's design, implementation, and utilization.** The shortcomings of the M&E framework pointed out in the ICR show that identifying the causal links between outputs and outcomes expected from the Project, through the elaboration of a clear theory of change at appraisal, can facilitate the design of a comprehensive M&E framework for the Project. Furthermore, in the case of fragile states like Haiti, particular attention should be paid to the implementing agencies' ownership of the M&E framework, which can improve the quality of its implementation and utilization. In the case of the Project, M&E implementation and utilization were challenged by the transfer of implementation responsibility for Component A from UTE-MEF to UCE-MTPTC following the R18. The associated transition risks were mitigated by the recruitment of a dedicated M&E specialist in UCE-MTPTC. The simplification of the M&E framework throughout the Project also shows that ownership could have been strengthened through clearer and simpler indicator definitions and M&E methodologies at appraisal.
- 127. The actions implemented to mitigate the impact of the COVID-19 health crisis on Project implementation progress offer good examples that can be replicated in similarly challenging contexts.** As detailed in paragraph 85, UCE-MTPTC, with the support of the Bank, quickly implemented measures to mitigate the impact of restrictions related to the health crisis, including measures aimed at facilitating home-based working and remote supervision arrangements for the PIUs, and at minimizing the concentration of workers on site. These measures may prove useful beyond the COVID-19 crisis, for example, in contexts marked by a restriction of accessibility to worksites (e.g., in the case of adverse security conditions or in the aftermath of natural hazards), or by other health-related risks. This experience will be beneficial for other projects carried out in Haiti, notably the RARP, but could also be useful for other settings affected by fragility, conflict, and violence, or other challenging contexts.



ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

PDO: The objectives of the Project are to: (a) support the development of the Center Artibonite Loop region, primarily by enhancing all-weather connectivity and logistics for producers, and the region's resilience to climate change; and (b) support the Recipient's capacity to respond promptly and effectively to an Eligible Emergency, as needed.

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: support the development of the CAL region by enhancing all-weather connectivity

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Share of rural population with access to an all-season road	Percentage	39.00 10-Feb-2014	60.00 19-May-2014	45.00 28-Feb-2020	44.00 28-Aug-2020
Number of rural people with access to an all-season road	Number	374,400.00	576,000.00	432,000.00	520,300.00

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
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Share of the population in the Project area satisfied with the quality and impact of infrastructure financed by the Project	Percentage	0.00 10-Feb-2014	75.00 19-May-2014		97.50 30-Jun-2020
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Comments (achievements against targets):

Objective/Outcome: support the development of the CAL region, by enhancing logistics for producers

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of producers and users serviced by an all-weather-road accessing urban and rural markets.	Number	0.00 10-Feb-2014	100,000.00 28-Feb-2020		123,500.00 31-Aug-2020
Female beneficiaries	Percentage	0.00	57.00		50.00

Comments (achievements against targets):

A.2 Intermediate Results Indicators

Component: Enhancing Logistics, Transport Connectivity and Climate Resilience



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Roads rehabilitated, Rural	Kilometers	0.00	80.00	40.00	30.00
		10-Feb-2014	19-May-2014	28-Feb-2020	31-Aug-2020
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Roads rehabilitated, Non-rural	Kilometers	0.00	100.00	60.00	55.87
		10-Feb-2014	19-May-2014	28-Feb-2020	31-Aug-2020
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Spot interventions to enhance all-weather and resilient connectivity	Number	0.00	15.00	44.00	64.00
		10-Feb-2014	19-May-2014	28-Feb-2020	31-Aug-2020
Comments (achievements against targets):					



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of people trained within selected communities on basic Rural Road Maintenance (disaggregated by gender)	Number	0.00 10-Feb-2014	500.00 27-Jun-2018	300.00 28-Feb-2020	284.00 31-Dec-2019
disaggregated by gender, in % of women	Percentage	0.00	35.00		0.00
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of Road Maintenance Centers build or rehabilitated	Number	0.00 18-Jun-2018	2.00 27-Jun-2018	1.00 28-Feb-2020	0.00 21-Dec-2018
Comments (achievements against targets):					

Component: Improving selected markets and supporting the development of regional knowledge and planning tools

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
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Number of events/activities dedicated for knowledge dissemination and consultation	Number	0.00 10-Feb-2014	12.00 19-May-2014		12.00 31-Aug-2020
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Urban plans developed and consulted with Local officials and local stakeholders	Number	0.00 10-Feb-2014	4.00 19-May-2014	3.00 28-Feb-2020	2.00 31-Aug-2020
Comments (achievements against targets):					



B. KEY OUTPUTS BY COMPONENT

Objective/Outcome 1. Support the development of the Center Artibonite Loop region by enhancing all-weather connectivity	
Outcome Indicators	1. Share of rural population with access to an all-weather road (percentage, custom) 2. Share of the population in the Project area satisfied with the quality and impact of infrastructure financed by the Project (percentage, custom)
Intermediate Results Indicators	1. Roads rehabilitated, rural (kilometers, custom) 2. Roads rehabilitated, nonrural (kilometers, custom) 3. Spot interventions to enhance all-weather and resilient connectivity (number, custom)
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	1. 30 km of rural roads rehabilitated 2. 55.87 km of nonrural roads rehabilitated 3. 64 spot interventions to enhance all-weather and resilient connectivity
Objective/Outcome 2. Support the development of the Center Artibonite Loop region by enhancing logistics for producers	
Outcome Indicators	1.a. People serviced by new or improved climate-resilient markets (number, custom) 1.b. Number of producers and users serviced by an all-weather road accessing urban and rural markets (number, custom) 2. Share of surveyed persons in selected markets who find their logistics improved by the Project (percentage, proxy indicator) 3. Share of the population in the Project area satisfied with the quality and impact of infrastructure financed by the Project (percentage, custom)



Intermediate Results Indicators	1. Roads rehabilitated, rural (kilometers, custom) 2. Roads rehabilitated, nonrural (kilometers, custom) 3. Spot interventions to enhance all-weather and resilient connectivity (number, custom)
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	1. 30 km of rural roads rehabilitated 2. 55.87 km of nonrural roads rehabilitated 3. 64 spot interventions to enhance all-weather and resilient connectivity
Objective/Outcome 3. Support the development of the Center Artibonite Loop region by enhancing the region's resilience to climate change	
Outcome Indicators	1. Change in share of roads classified as vulnerable to natural events and climate change impacts (percentage, proxy indicator) 2. Cumulated amount (in US\$ millions) in projects elaborated using analytical knowledge and tools developed by the proposed Project (number, proxy indicator) 3. Share of the population in the Project area satisfied with the quality and impact of infrastructure financed by the Project (percentage, custom)
Intermediate Results Indicators	1. Roads rehabilitated, rural (kilometers, custom) 2. Roads rehabilitated, nonrural (kilometers, custom) 3. Spot interventions to enhance all-weather and resilient connectivity (number, custom) 4. Number of people trained within selected communities on basic rural road maintenance (disaggregated by gender) (number, custom) 5. Number of road maintenance centers built or rehabilitated (number, custom) 6. Number of events/activities dedicated for knowledge dissemination and consultation (number, custom) 7. Urban plans developed and consulted with local officials and local stakeholders (number, custom)



Key Outputs by Component

(linked to the achievement of the Objective/Outcome 3)

1. 30 km of rural roads rehabilitated
2. 55.87 km of nonrural roads rehabilitated
3. 64 spot interventions to enhance all-weather and resilient connectivity
4. 284 people trained within selected communities on basic rural road maintenance
5. 12 events/activities dedicated for knowledge dissemination and consultation
6. 2 urban plans developed and consulted with local officials and local stakeholders
7. 1 natural hazards analysis study developed
8. 1 regional maintenance strategy developed
9. 1 study on social knowledge in the CAL developed
10. 1 agricultural value chain analysis developed
11. 1 technical guide for the construction of markets developed

**ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION****A. TASK TEAM MEMBERS**

Name	Role
Preparation	
Pierre Xavier Bonneau	Task Team Leader
Van Anh Vu Hong	Co Task Team Leader
Prosper Nindorera	Senior Procurement Specialist
Victor Manuel Ordonez Conde	Senior Finance Officer
Nyaneba E. Nkrumah	Senior Natural Resources Management Specialist
Peter F. B. A. Lafere	Social Specialist
Jean-Claude Balcet	Consultant
Pierre Olivier Colleye	Senior Microfinance Specialist
Aboubacar Magassouba	Consultant
Theresa Kay Osborne	Senior Infrastructure Economist
Ghada Youness	Senior Counsel
Ana F. Daza	Language Program Assistant
Fabienne Mroczka	Financial Management Specialist
Aude-Sophie Rodella	Economist
Christophe Frederic Robert Grosjean	Agriculture Specialist
Michel Matera	Senior Disaster Risk Management Specialist
Pablo Facundo Cuevas	Economist
Eli Weiss	Rural Development Economist
Licette M. Moncayo	Program Assistant
Margaret Patricia Henley Barrett	Operations Officer



Josue Akre	Financial Management Specialist
Isabel Kreisler Moreno	Consultant
Djeanane Monfort	Team Assistant
Malaika Becoulet	Consultant
Supervision/ICR	
Malaika Becoulet, Marc Marie Francois Navelet Noualhier	Task Team Leader(s)
Mamata Tiendrebeogo, Aboubacar Magassouba	Procurement Specialist(s)
Lucas Carrer	Financial Management Specialist
Alfred Jean-Marie Borgonovo	Financial Management Specialist
Maria Laetitia Antoine	Procurement Team
Nathalie Mihajloski Zivkovic	Team Member
Fabian Hinojosa Couleau	Team Member
Jordy Hinaarii Timyan Chan	Team Member
Laurent Corroyer	Team Member
Kevin McCall	Environmental Specialist
Bruce MacPhail	Social Specialist
Licette M. Moncayo	Procurement Team
Ingrid Sandra Milord	Procurement Team
Pierre Xavier Bonneau	Team Member
Van Anh Vu Hong	Team Member
Felipe Jacome	Social Specialist
Asli Gurkan	Social Specialist
Isabella Micali Drossos	Counsel
Paula Genis	Quality Assurance
Danilo Pereira de Carvalho	Procurement Team
Luis Barajas Gonzalez	Financial Management Specialist



Rose Caline Desruisseaux-Cadet	Procurement Specialist
Ramiro Ignacio Jauregui-Zabalaga	Counsel
Paul Eliz Viannica Jean-Jacques	Team Assistant
Nicolas Kotschoubey	Environmental Specialist
Ndeye Rokhaya Dieng	Team Member
Maria Deborah Kim	Team Member
Iris Teluska	Team Assistant
Lydie Madjou	Financial Specialist
Josue Akre	Financial Specialist
Joan Dessaint Fomi	Team Member
Georges Tony Abou Rjaily	Disbursement Officer
Gaetano Vivo	Team Member
Franck Bessette	Team Member
Francis V. Fragano	Safeguards Advisor/ESSA
Faly Diallo	Team Member
Xavier Espinet Alegre	Team Member
Emeline Bredy	Team Member
Susanna Kantuni	Team Member
Kelly Amanda Jules	Team Member
John Oliver Moss	Team Member

**B. STAFF TIME AND COST**

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
Preparation		
FY13	31.690	154,792.43
FY14	45.045	261,508.40
FY15	.100	3,088.37
FY16	0	1,815.11
FY17	0	0.00
Total	76.84	421,204.31
Supervision/ICR		
FY14	2.825	11,516.82
FY15	45.992	202,076.24
FY16	38.147	188,909.00
FY17	19.176	212,705.95
FY18	30.059	220,903.18
FY19	24.046	187,132.21
FY20	17.531	105,312.75
Total	177.78	1,128,556.15



ANNEX 3. PROJECT COST BY COMPONENT

Components	Amount at Approval (US\$M)	Amount at June 2018 Restructuring (US\$M)	Amount at February 2020 Restructuring (US\$M) ³¹	Actual at Project Closing (US\$M) ³²	Percentage of February 2020 Restructuring (Percentage)
Enhancing Logistics, Transport Connectivity, and Climate Resilience	37	37	22	15.9	72
Improving Selected Markets and Supporting the Development of Regional Knowledge and Planning Tools	16	14.5	5.5	4.3	78
Contingent Emergency Response Component	1	1	0	0	N/A
Project Implementation, Monitoring, and Evaluation	4	5.5	4.5	4.0	88
Total	58	58	32	24.2	76

³¹ The amounts displayed in this column are based on the amount in XDR, converted to US\$ at the exchange rate of R20. Note that the core data displays the amount in US\$ using the XDR/US\$ exchange rate at appraisal.

³² The amounts displayed are estimates based on the information available at the time of writing this ICR and may vary at the end of the grace period.



ANNEX 4. RATIONALE FOR THE SELECTION OF OUTCOME INDICATORS RETAINED TO ASSESS PROJECT EFFICACY

Project Development Objective (PDO) Indicator	Comments
Enhancing All-Weather Connectivity	
Share of rural population with access to an all-weather road (disaggregated by gender)	This indicator was retained for the efficacy assessment. This indicator was originally introduced at appraisal. It measures the percentage of rural people in the Project area who live within 2 kilometers (km) (typically equivalent to a 20-minute walk) of an all-season road. This indicator is also known as the Rural Access Index (RAI). The indicator's end target was reduced from 60 percent to 45 percent in the R20.
Enhancing Logistics for Producers	
Increase in volume of transaction in improved markets	This indicator was not retained for the efficacy assessment as an increase in the volume of transactions in improved markets may be attributed to reasons other than enhanced logistics (e.g., improvement in local economic conditions). This indicator was originally introduced at appraisal and was dropped in the R18.
Direct Project beneficiaries (disaggregated by gender) R18: People serviced by new or improved climate-resilient markets R20: Number of producers and users serviced by an all-weather road accessing urban and rural markets	"Direct Project Beneficiaries" was not retained for the efficacy assessment as it does not specifically capture the project's contribution to enhancing logistics. "Direct Project Beneficiaries" was originally introduced at appraisal, before being revised to "People serviced by new or improved climate-resilient markets" in the R18. "People serviced by new or improved climate-resilient markets" was retained for the first part of the efficacy assessment (split rating without the revision of outcome targets as a result of the R20), as it contributes to measure the Project's achievement of enhancing logistics through new or improved markets, and as the indicator was revised to "Number of producers and users serviced by an all-weather road accessing urban and rural markets" in the R20, reflecting a change in outcome targets. "Number of producers and users serviced by an all-weather road accessing urban and rural markets" was retained for the second part of the efficacy assessment (split rating with the revision of outcome targets as a result of the R20), as it contributes to measure the Project's achievement of enhancing logistics through road improvements serving existing markets. Methodology of measurement:



	To compute the results obtained in ANNEX 8. PROJECT OVERALL OUTCOME RATING ASSESSMENT BASED ON RESULTS EXPECTED BY MID-2021, the value of “People serviced by new or improved climate-resilient markets” was computed based on the expected results achieved by mid-2021 regarding the market construction and rehabilitation activities that were transferred from the Haiti Center and Artibonite Regional Development Project (Projet de la Boucle Centre Artibonite, PBCA) to the Rural Accessibility and Resilience Project (RARP). Therefore, the computation assumes that the markets of Fond Brun, Domond, Nan Poste, and Saint-Raphaël are completed by mid-2021. The number of people serviced by the four markets was computed based on the following methodology. The Restructuring Paper of June 2018 states that the indicator tracks the “population (regional and rural) living at less than 60 minutes from the market.” This methodology was followed for the purpose of the Implementation Completion and Results Report (ICR) and the population served was determined according to the following considerations: (1) “60 minutes” was defined as “60 minutes by car” as reported by Project stakeholders during the ICR preparation process, (2) a service area analysis was carried out on a geographic information system (GIS), and (3) the population of the area served was determined by using WorldPop data. The reference speed of the car used to compute the final result was determined by averaging the private vehicle speed measurements available for road section Hinche–Maissade, as measured following Project closing in September 2020. Therefore, the reference speed used for the analysis was 28.6 km per hour.
Share of surveyed persons in selected markets who find their logistics improved by the Project (proxy indicator)	This proxy indicator was defined and measured for the purpose of the ICR. This indicator was retained for the efficacy assessment to better capture the Project’s contribution to enhancing logistics for producers, suppliers, and consumers through the road infrastructure improvements carried out under the Project. Methodology of measurement: In order to assess the actual impact of road improvements on logistics, a survey was carried out in four markets located on Hinche–Maissade, Titanyen–Saut-d’Eau, Saint-Michel–Saint-Raphaël, and Petite rivière Bayonnais (respectively, the markets of Fond Brun, Titanyen, Garde Sixième, and Chapelle). The survey targeted suppliers and consumers who are users of the improved roads. The objective of the survey was to measure the impact of road infrastructure improvements on the logistics chain, by collecting user perception of road improvements’ impact on supply reliability, speed, quality of service, and profitability, as well as user perception of the overall impact of road improvements on its activity. The universe of surveyed users are 131 users of the four markets including producers, merchants, consumers, and



	transporters. A surveyed user is considered to find its logistics improved by the Project if the overall impact of the works was considered positive by the user.
Enhancing the Region's Resilience to Climate Change	
Share of roads classified as vulnerable to natural events and climate change impacts (proxy indicator)	A similar indicator was defined at appraisal ("share of roads classified as vulnerable to natural events and climate change impacts"). It was replaced by the present indicator in the R18. However, the indicator was dropped at the R20. The indicator is reintroduced for the purpose of the ICR as it allows to capture the Project's contribution to enhancing the Center Artibonite Loop (CAL) region's resilience to climate change through an improvement of the region's road network resilience. The methodology described in the Project Appraisal Document (PAD) for the indicator states: "Such vulnerability of roads is measured by a vulnerability index combining level of exposure to natural hazards, quality of design, regularity of maintenance, and level of resilience. Baseline and targets will be determined by the climate change and hazard assessment to be performed under Component C." Since no vulnerability assessment was eventually carried out under the Project, a basic vulnerability assessment was carried out for the purpose of the ICR based on available information about road conditions and hazards exposure. The methodology used for the vulnerability assessment is specified below. Methodology of measurement: The universe of roads considered by this indicator is comprised of all structuring roads (primary, secondary, tertiary roads) of the CAL region. Roads are classified as vulnerable to natural events and climate change impacts if and only if they (1) are assessed as nonmotorable in the 2015 RAI database, (2) have been assessed as having medium-to-high exposure to natural events and climate change impacts, and (3) have not been rehabilitated by the Project. This indicator focuses on structuring the road network (i.e., the primary, secondary, and tertiary road networks) to mimic the intent of the Project at appraisal, which was to focus on structuring the road network for the vulnerability assessment. The RAI data are the most up to date and were collected in 2015. The level of exposure of roads to natural events and climate change impacts was assessed using available data from a multirisk vulnerability index developed as part of a study conducted by the Bank in 2018. This composite index included all possible climate-related risks plus the seismic risk. Thanks to this index, it has been possible to estimate the level of exposure of each road of the structural network in the CAL, and to rank each road of the said network by exposure level. The exposure levels were defined as follows: roads in the first (bottom) quintile were considered as having



	very low exposure, roads in the second quintile were considered as having low exposure, roads in the third quintile were considered as having medium exposure, roads in the fourth quintile were considered as having high exposure, and roads in the fifth (top) quintile were considered as having very high exposure. In the case of a road section that is partially rehabilitated by the Project, only the number of kilometers rehabilitated on the road section before Project closing is considered as rendered nonvulnerable.
Cumulated amount in projects elaborated using analytical knowledge and tools developed by the proposed Project (proxy indicator)	This indicator was retained for the efficacy assessment as it measures a key contribution of the Project to enhancing the region's resilience to climate change, through the use of analytical knowledge and tools developed by the Project to inform the elaboration of projects. This indicator was originally introduced at appraisal as an Intermediate Results Indicator, but was dropped in the R18. Methodology of measurement: The results achieved by the Project were computed based on the methodology described in the PAD, that is, cumulated amount in projects for which the preparation or implementation phase is informed by the analytical knowledge or tools developed by the proposed Project.
All Key Expected Outcomes	
Share of the population in the Project area satisfied with the quality and impact of the infrastructure financed by the Project	This indicator was retained for the efficacy rating. This indicator was defined at appraisal.



ANNEX 5. REVISIONS TO THE RESULTS FRAMEWORK

Original (Project Appraisal Document, PAD) Project Development Objective (PDO) Indicator	R18 Revisions	Comments/Rationale for Change	R20 Revisions	Comments/Rationale for Change
Enhancing All-Weather Connectivity				
Share of rural population with access to an all-weather road (disaggregated by gender)	No change	Not applicable	The end target was reduced from 60 percent to 45 percent.	The end target was revised to reflect the partial cancellation of funds for spot improvements under Component A. The change accounted for some contracts that could not be completed by the closing date of August 31, 2020 (e.g., rehabilitation/ construction of bridges, culverts, and rural roads). These contracts were transferred to the Rural Accessibility and Resilience Project (RARP).
Enhancing Logistics for Producers				
Increase in volume of transaction in improved markets	Dropped	This indicator was dropped to simplify the results framework, and this outcome was thereafter captured under “Number of people serviced by new or improved climate-resilient markets.”	Not applicable	Not applicable
Direct Project beneficiaries (disaggregated by gender)	Revised to “Number of people serviced by new or improved climate-resilient markets.”	For population (regional and rural) living at less than 60 minutes from the market.	Revised to “Number of producers and users serviced by an all-weather road accessing	The indicator was revised to (1) take into account the transfer to the RARP of the rehabilitation of urban and rural markets, and (2) better capture logistics and improved access to rural and urban markets



			urban and rural markets.” The end target was set to 100,000 people (of which 57,000 were female beneficiaries).	achieved under the Project, as the main criteria to prioritize investments under the road component was the improved connectivity and logistics to urban and rural markets.
Enhancing the Region’s Resilience to Climate Change				
Share of roads classified as vulnerable to natural events and climate change impacts	Dropped	This indicator was dropped as it was assessed as an output rather than an outcome. Results were thereafter captured under the revised Intermediate Results Indicator “Change in share of roads classified as vulnerable to natural events and climate change impacts.”	Not applicable	Not applicable
All Key Expected Outcomes				
Share of the population in the Project area satisfied with the quality and impact of the infrastructure financed by the Project	No change	Not applicable	No change	Not applicable
Original (PAD) Intermediate Results Indicator	R18 revisions	Comments/Rationale for change	R20 revisions	Comments/Rationale for change
Rural roads rehabilitated	No change	Not applicable	The end target was reduced from 80 km to 40 km.	The end target was revised to reflect the reduced scope of Component A.
Nonrural roads rehabilitated	No change	Not applicable	The end target was reduced from 100 km to 60 km.	The end target was revised to reflect the reduced scope of Component A.
Roads in good and fair condition as a share of total classified roads	Revised to “Change in share of roads classified as vulnerable to natural events and	This indicator was revised to better capture the nature of activities and ensure measurement of results obtained prior to the closing date.	Dropped	The indicator was dropped due to the complexity of data collection compared to client capacity, the survey methodology, and the scattered scope of the intervention



	climate change impacts." The end target was set to "20% decrease."			areas.
Number of officials and technical staff trained in climate resilience measures, best practices, and standards (in the transport sector)	Dropped	This indicator was dropped to simplify the results framework.	Not applicable	Not applicable
Spot interventions to enhance all-weather accessibility of roads	Revised to "Spot interventions to enhance all-weather and resilience connectivity."	This indicator was revised to better reflect the nature of the activities.	The end target was increased from 15 to 44.	The end target was revised to reflect the increasing demand for spot interventions and the capacity of the client to carry them out.
Road maintenance microenterprises or community-based organizations (CBOs) created/trained (with number of people trained disaggregated by gender)	Revised to "Number of people trained within selected communities on basic rural road maintenance (disaggregated by gender)." The end target was adjusted to 500, of which 35% were women.	This indicator was revised to better capture the nature of activities and ensure measurement of results obtained prior to the closing date.	The end target was reduced from 500 to 300.	The end target was revised to reflect the reduced scope of activities under Component A.
	New indicator: "Number of road maintenance centers built or rehabilitated." The end target was set at 2 road maintenance	This new indicator was introduced to better capture activities.	The end target was reduced from 2 to 1.	The end target was revised to reflect the reduced scope of activities under Component A.



	centers.			
Urban and rural markets rehabilitated/constructed	The end target was revised from 10 to 8 markets (2 regional markets, 6 rural markets).	The end target was reduced to reflect the reduction in the number of markets targeted to be built or rehabilitated.	Dropped	The indicator was dropped as the underlying activities were cancelled from the Project and transferred to the RARP, since the activities could not be completed before the Project closing date of August 31, 2020, due to implementation constraints.
Increase in the number of producers, retailers, and traders with access to improved markets	Revised to “% change in number of producers, retailers, and traders with access to improved markets.”	This indicator was refined.	Dropped	The indicator was dropped as the underlying activities were cancelled from the Project and transferred to the RARP, since the activities could not be completed before the Project closing date of August 31, 2020, due to implementation constraints.
Percentage of renovated/constructed markets which are adequately maintained and managed	Dropped	This indicator has been dropped to simplify the results framework.	Not applicable	Not applicable
Local officials and market operators trained in market management	Dropped	This indicator was dropped to simplify the results framework.	Not applicable	Not applicable
Number of events/activities dedicated to knowledge dissemination and consultation	Dropped	This indicator was dropped to simplify the results framework.	Reintroduced	This indicator was reintroduced as originally stated in the PAD.
Urban plans developed	Revised to “Urban plans developed and consulted with local officials and local stakeholders.” The end target was adjusted to 4 urban development plans.	This indicator was revised to better capture the nature of activities and ensure better measurement of results obtained prior to the closing date.	The end target was reduced from 4 to 3.	The end target was revised to reflect the reduced scope of activities under Component B.
Local officials and local stakeholders trained in the use of	Dropped	This indicator was dropped to simplify the results framework, and	Not applicable	Not applicable



urban and territorial planning tools		the associated output was thereafter captured under three indicators: "Increase in the number of producers, retailers, and traders with access to improved markets," "local officials and market operators trained in market management," and "number of events/activities dedicated to knowledge dissemination and consultation."		
Regional development dashboard with open data including spatial analysis encompassing risk and climate data	No change	Not applicable	Dropped	The indicator was dropped as the underlying activity was cancelled from the Project and transferred to the RARP, since the activity could not be completed before the Project closing date of August 31, 2020, due to implementation constraints.
Cumulated amount in projects elaborated using analytical knowledge and tools developed by the proposed Project	Dropped	This indicator was dropped to simplify the results framework and ensure better measurement of results obtained prior to the closing date.	Not applicable	Not applicable



ANNEX 6. TRANSFER OF PROJECT ACTIVITIES TO THE RARP

1. **COMPONENT A: Enhancing logistics, transport connectivity, and climate resilience.** Table A6.1 summarizes the activities/outputs that were cancelled from the scope of Component A and transferred to be completed under the Rural Accessibility and Resilience Project (RARP) (in the amount of US\$15 million).

Table A6.1 Transfer of Project Activities to the Rural Accessibility and Resilience Project (RARP)—Component A

Project Intermediate Outcome/Output	Activities to Be Transferred to the RARP (ongoing unless otherwise mentioned)	Activities Completed Under the Project
Spot interventions to enhance all-weather and resilient connectivity	Activities transferred: - Construction of four bridges on the road sections Hinche-Maissade and Saint-Michel–Saint-Raphaël - Spot improvements on the road section Titanyen–Saut-d’Eau - Spot improvements on the road section Saint-Michel–Saint-Raphaël - Spot improvements on the road section Dessalines–Saint-Michel - Spot improvements on the road section Hinche–Thomassique - Construction of a culvert on River Bretelle	Revised R20 end target: 44 Actual output at Project closing: 64
Roads rehabilitated, rural	Spot improvement, maintenance, and repair of rural roads to render them all-weather (United Nations Office for Project Services, UNOPS) Transferred: 40 km	Revised R20 end target: 40 km Actual output at Project closing: 30 km
Roads rehabilitated, nonrural	Transferred: 40 km	Revised R20 end target: 60 km Actual output at Project closing: 55.87 km
People trained within selected communities on basic rural road maintenance	Transferred: 200	Revised R20 end target: 300 Actual output at Project closing: 284
Road maintenance centers built or rehabilitated	Activities transferred: Rehabilitation of two road maintenance centers in Hinche and Saint-Michel Transferred: 2	Revised R20 end target: 1 road maintenance center (Mirebalais) Actual output at Project closing: 0



2. **COMPONENT B: Improving selected markets and supporting the development of regional knowledge and planning tools.** Table A6.2 summarizes the activities/outputs that were cancelled from the scope of Component B (in the amount of US\$9 million).

Table A6.2 Transfer of Project activities to the RARP—Component B

Project Intermediate Outcome/Output	Activities to Be Transferred to the RARP (ongoing unless otherwise mentioned)	Activities Completed Under the Project
Urban and rural markets rehabilitated/constructed	Activities transferred: - Construction or rehabilitation of four markets (Fonds Bruns, Domond, Nan Poste, and Saint-Raphaël) and improvement of their management capacity - Construction of the Saint-Michel regional market Transferred: 5	Revised R20 end target: 0 Actual output at Project closing: 0
Events/activities dedicated for knowledge dissemination and consultation	Activities transferred: Climate Investment Fund (CIF) coordination Transferred: 0	Revised R20 end target: 12 Actual output at Project closing: 12
Urban plans developed and consulted with local officials and local stakeholders	Activities transferred: Elaboration of climate informed urban plans in the cities of Saint-Raphaël and Saint-Michel Transferred: 1	Revised R20 end target: 3 Actual output at Project closing: 2 (Titanyen and Hinche)
Regional development dashboard with open data including spatial analysis encompassing risk and climate data developed with local officials and local stakeholders	Activities transferred: Development of a dashboard tool capturing key development indicators and investments at the regional level Transferred: 1	Revised R20 end target: 0 Actual output at Project closing: 0

3. **COMPONENT C: Contingent Emergency Response Component.** The financing of this component (in the amount of US\$1 million) not activated; it was cancelled and transferred to the RARP.
4. **COMPONENT D: Project Implementation, Monitoring, and Evaluation.** A financing in the amount of US\$1 million was cancelled from this component and transferred to the RARP.



ANNEX 7. EFFICIENCY ANALYSIS

Ex Post Economic Analysis of Road investments

1. The ex-ante economic analysis done at appraisal used the Roads Economic Decision Model (RED) to quantify the benefits from the four main roads to be rehabilitated under the Project, totaling 105 kilometers (km) (Subcomponent A.1), representing 33 percent of total estimated Project costs at appraisal. The other physical investments (the ones not under Subcomponent A.1, i.e., feeder roads and rural pathways) were not identified at appraisal, and thus they were not amenable to an ex ante economic analysis. The RED model was then calibrated to the local circumstance prevailing in the Project area, in terms of investments and maintenance costs and road and traffic conditions. The RED model was used to quantify Project benefits in terms of reduction in vehicle operating costs and travel time costs. The exogenous benefits arising from increased agricultural production or health and social services as a result of the road investments were not taken into consideration to avoid potential double counting with vehicle operating costs savings. Table A7.1 presents the four roads evaluated at appraisal with the RED model, their characteristics, and the resulting ex ante economic indicators: net present value (NPV), at 10 percent discount rate, and the economic internal rate of return (EIRR).

Table A7.1 Economic Evaluation Data Estimated at Appraisal

Road	Length (km)	Cost (US\$M)	Cost per km (US\$/km)	Time Savings (minutes)	Time Savings per km (minutes/km)	NPV (US\$M)	EIRR (%)
Titanyen–Saut-d’Eau	24	2.64	110,000	20	0.83	0.024	10
Hinche–Maissade	18	4.05	225,000	25	1.39	-0.271	10
Saint-Michel–Saint-Raphaël	23	4.60	200,000	20	0.87	0.219	11
Dessalines–Saint-Michel	40	8.00	200,000	31	0.78	0.374	11
Total/Average	105	19.29	183,714	24	0.97	0.346	10

Source: 2014 Project Appraisal Document.

Note: EIRR = economic internal rate of return; NPV = net present value.

2. At appraisal, the Project roads were unpaved and in poor condition. Project investments being considered included the construction of all bridges and drainage systems to ensure resiliency and all-weather practicability, with the roads remaining unpaved, with an average appraisal estimated cost of US\$183,714 per km. The Project investment targeted reducing travel times and vehicle operating costs, with an expected average time savings for private vehicles of 24 minutes. The overall EIRR of the Project roads was estimated to be 10 percent and the NPV US\$0.346 million, at a 10 percent discount rate.
3. The ex post economic analysis for the Implementation Completion and Results Report (ICR) was done for three Project roads³³ with available data on the actual length of sections improved, actual investment costs, actual travel time savings, and actual current traffic. Table A7.2 shows the contract costs and actual costs of the Project roads, in US\$ millions, together with the revised road works length.

³³ The ICR did not evaluate the Dessalines–Saint-Michel road because no information was available on its actual traffic and travel time savings and no survey was possible because of security reasons. Actual road works completed on this road were limited (US\$0.5/km over 40 km).



Table A7.2 Investment Costs Collected for ICR

Road	Length* (km)	Contract (US\$M)	Actual (US\$M)	Contract per km (US\$/km)	Actual per km (US\$/km)
Titanyen–Saut-d’Eau	18	2.94	1.90	163,450	105,584
Hinche–Maissade	18	8.84	4.27	491,346	237,451
Saint-Michel–Saint-Raphaël	20	7.81	3.03	390,573	151,423
Total	56	19.60	9.20	349,960	164,341

Note: * Length represents total length of sections that received spot improvements under the Project.

4. For the three roads, the average contract cost per kilometer is US\$349,960 and the average actual cost per kilometer is US\$164,341. Table A7.3 compares the cost estimated at appraisal, the contract cost, and the actual costs, in US\$ per kilometer. On average, the actual costs were 49 percent lower than the contract costs and the actual costs were 8 percent lower than the estimated costs at appraisal.³⁴

Table A7.3 Comparison of Investment Costs per Kilometer

Road	Appraisal (US\$/km)	Contract (US\$/km)	Actual (US\$/km)	Actual per Contract Ratio	Actual per Appraisal Ratio
Titanyen–Saut-d’Eau	110,000	163,450	105,584	0.65	0.96
Hinche–Maissade	225,000	491,346	237,451	0.48	1.06
Saint-Michel–Saint-Raphaël	200,000	390,573	151,423	0.39	0.76
Average	178,333	348,456	164,820	0.51	0.92

5. Table A7.4 shows the time savings for a private vehicle, in minutes and in minutes per kilometer, estimated at appraisal, and the actual time savings. On average, the actual time savings, in minutes per kilometer, were 11 percent lower than the estimated time savings at appraisal.

Table A7.4 Comparison of Travel Time Savings per Kilometer for Private Vehicle

Road	Appraisal (minutes)	Appraisal (minutes/km)	Actual (minutes)	Actual (minutes/km)	Actual per Appraisal Ratio
Titanyen–Saut-d’Eau	20	0.83	15	0.83	1.00
Hinche–Maissade	25	1.39	19	1.06	0.76
Saint-Michel–Saint-Raphaël	20	0.87	17	0.85	0.98
Average	22	1.03	17	0.91	0.89

6. Table A7.5 presents the current 2020 daily traffic,³⁵ in vehicles per day, for four-wheel plus motorized vehicles, on the Project roads. The current average traffic is 277 vehicles per day with 22 percent comprised of buses and

³⁴ Actual costs are lower than contract costs as some contracts were not completed under the Haiti Center and Artibonite Regional Development Project (PBCA) (these were transferred to the RARP). Contract costs are higher than costs estimated at appraisal because of (1) the underestimation of bridge construction costs at appraisal, (2) the replacement of pipe culverts by box culverts in the road improvement designs, and (3) exchange rate fluctuation and inflation.

³⁵ Three-day traffic counts were done on the three Project roads in 2020 for the ICR. A traffic count could not be done for the Dessalines–Saint-Michel road due to security concerns.



trucks. In addition, the roads carry on average around 2,770 motorbikes per day, which were not included in the economic analysis.

Table A7.5 Current 2020 Daily Traffic of Four-Wheel Plus Vehicles (vehicles per day)

Road	Tap Tap	Four Wheel Drive	Mini Bus	Bus 40 pass	Truck 6 Wheels	Truck 10 Wheels	Truck Artic.	Total
Titanyen–Saut-d’Eau	82	114	5	2	26	22	1	252
Hinche–Maissade	98	191	6	2	25	41	0	363
Saint-Michel–Saint-Raphaël	100	66	3	1	21	25	0	216
Average	93	124	5	2	24	29	0	277

7. Table A7.6 compares the current 2020 traffic with the traffic estimated at appraisal for 2020 based on the traffic estimated in 2014. On average the actual traffic is 42 percent higher than the one estimated at appraisal.

Table A7.6 Comparison of Daily Traffic in 2020 (vehicles per day)

Road	Appraisal Estimate	Actual Traffic	Actual/ Appraisal Ratio
Titanyen–Saut-d’Eau	149	252	1.69
Hinche–Maissade	202	363	1.80
Saint-Michel–Saint-Raphaël	233	216	0.93
Average	195	277	1.42

8. The ex post economic analysis was also done with the RED model, adopting the same vehicle fleet characteristics and other assumptions adopted at appraisal (e.g., 20-year evaluation period, 10 percent discount rate, vehicle fleet unit economic costs).
9. Table A7.7 shows the ICR ex post economic analysis results. The ex post economic analysis shows that the ex post EIRR of the Project roads is 15 percent, indicating that this Project component has a good economic justification. The ex post EIRR increased from the 10 percent estimated at appraisal mainly due to a higher increase in traffic observed on the Project roads.

Table A7.7 Ex Ante vs Ex Post Economic Analysis Results

Road	Appraisal: Ex Ante		ICR: Ex Post	
	NPV (US\$M)	EIRR (%)	NPV (US\$M)	EIRR (%)
Titanyen–Saut-d’Eau	0.024	10	1.110	17
Hinche–Maissade	-0.271	10	1.326	14
Saint-Michel–Saint-Raphaël	0.219	11	0.757	14
Total	-0.028	10	3.194	15

Note: EIRR = economic internal rate of return; ICR = Implementation Completion and Results Report; NPV = net present value.

Spot Improvement, Repair, and Maintenance of Rural Roads

10. **Road section Petite Rivière Bayonnais.** Of the total length of the road of 29.3 km, 23.0 km were rehabilitated with an actual cost of US\$3.1 million, corresponding to a unit cost of US\$134,783 per kilometer. The actual



rehabilitation cost was slightly lower than the contract cost (US\$3.2 million) and higher than the estimated cost at appraisal (US\$1.4 million). The population served by the road, population of communal sections where the road is located, is 49,372 persons, of which 22,843 persons are estimated to live within 2 km of the road. Thus, the cost-effectiveness (investment per population served) of the rehabilitation works is US\$62.8 per person, which is satisfactory.

11. **Road section Bas de Sault.** Of the total length of the road of 7.5 km, 7.0 km were rehabilitated with an actual cost of US\$1.1 million, corresponding to a unit cost of US\$157,143 per kilometer. The actual rehabilitation cost was higher than the contract cost (US\$0.8 million) and the estimated cost at appraisal (US\$0.4 million). The population served by the road, population of communal sections where the road is located, is 18,347 persons, of which 13,557 persons are estimated to live within 2 km of the road. Thus, the cost-effectiveness (investment per population served) of the rehabilitation works is US\$60 per person, which is satisfactory.

Knowledge Studies, Plans, and Guidelines

12. The cost of each activity financed for the development of studies, plans, and guidelines completed under the Haiti Center and Artibonite Regional Development Project (Projet de la Boucle Centre Artibonite, PBCA) are detailed in Table A7.8.

Table A7.8 Costs for the Development Knowledge Studies, Plans, and Guidelines Completed Under the Project

No.	Activity	Cost (US\$)
1	Elaboration of an urban plan for the city of Titanyen	69,498.74
2	Elaboration of an urban plan for the city of Hinche	115,000.00
3	Technical guide for market construction	110,339.03
4	Natural hazards and risk analysis in the BCA	260,321.72
5	Study on social knowledge in the BCA	110,575.72
6	Agricultural Value Chain Analysis	162,809.87
7	Elaboration of a road maintenance strategy	371,816.46
8	Technical assistance for the coordination of studies and the identification of main areas for intervention	137,342.28
9	Measurement of indicators and baselines	203,422.28
Total		1,736,944.79

13. The average costs of activities financed for the development of studies, plans, and guidelines are in line with standard costs for consulting services.

Climate Investment Funds (CIF) Coordination

14. The cost of CIF coordination was US\$195,818.69. It financed operating costs for the coordination and monitoring of the Pilot Program for Climate Resilience (PPCR) portfolio at the local and regional level including meetings to build the climate-resilient capacity of local stakeholders and participation in international events for the dissemination of knowledge on climate resilience developed by CIF-financed projects in Haiti.

Actual Component Costs vs Estimated Component Costs



15. The actual component costs for Components A and B are lower than estimated costs at appraisal and the R20.

Component A's actual costs are in the amount of US\$15.9 million, that is, 43 percent of estimated costs at appraisal (US\$37 million) and 72 percent of estimated costs at the R20 (US\$22 million). Component B's actual costs are in the amount of US\$4.3 million; that is, 27 percent of estimated costs at appraisal (US\$16 million) and 78 percent of estimated costs at the R20 (US\$5.5 million). For both components, the divergence between actual costs at closing and estimated costs at appraisal and at the R20 are explained by (1) the slow pace of implementation until the R18, mainly due to Project design complexity, lack of institutional coordination at different levels, and limited involvement of partners (see section III, "Key Factors That Affected Implementation"); (2) from R18 onward, implementation delays arising from exogenous challenges, including an uptick in crime and armed group violence in the Center-Artibonite Loop region, combined with a challenging political, administrative, and processing environment (e.g., violent riots, frequent turnover at the government level); and (3) from the R20 onward, implementation delays due to the restrictions enacted as a response to the COVID-19 pandemic (social distancing measures as well as activity and movement restrictions within the country and from abroad). Furthermore, Component B's implementation progress was further delayed by critical staff departures at the Technical Implementation Unit of the Ministry of Economy and Finance (UTE-MEF) (Executive Director) and the Ministerial Committee for Territorial Development (CIAT) executive secretariat (CIF focal point) following the R18. Component C's actual costs are in the amount of US\$0 as this component was not activated and the equivalent of US\$1 million budgeted on the component was cancelled and transferred to the Rural Accessibility and Resilience Project (RARP) in the R20.

Administrative Costs

16. The high actual administrative costs compared to estimated administrative costs contribute to an efficiency rating of Modest for Component D.

At appraisal, Project implementation, monitoring, and evaluation costs (Component E) were estimated at US\$4.0 million, that is, 6.9 percent of the total estimated costs (US\$58 million). This cost allocation was expected to finance the activities of UTE-MEF as the implementing agency of the Project, as well as support partner institutions, namely the CIAT executive secretariat, MTPTC, and MARNDR. As a result of the R18 and R20, Project implementation, monitoring, and evaluation was relabeled as Component D, and broken down into two subcomponents: D.1 (Support to UTE-MEF) and D.2 (Support to UCE-MTPTC). Furthermore, the estimated costs of Component D were revised in the R20 to US\$4.5 million, of which US\$3.5 million was for Subcomponent D.1 and US\$1 million was for Subcomponent D.2. Given the reduction of total estimated Project costs from US\$58 million to US\$32 million following R20, the estimated administrative costs increased from 7 percent at appraisal to 14 percent of the total estimated Project costs at the R20. At Project closing, actual administrative costs incurred were US\$4.0 million and accounted for 16 percent of the total actual Project costs. Therefore, the actual administrative costs account for 99 percent of estimated administrative costs at appraisal. Nonetheless, the actual administrative cost to total Project cost ratio is significantly more important than the estimated ratio at appraisal. This divergence is explained by (1) implementation delays accumulated by the Project, especially before the R18, combined with the fixed nature of administrative costs; and (2) additional fixed costs arising from the reliance on two PIUs from the R18 to Project closing. This high ratio of administrative costs to total Project costs contributes to a Project efficiency rating of Modest.

17. The high actual administrative costs of the Project are driven by the subcomponent D.1. The actual administrative costs incurred by UTE-MEF are in line with the estimated costs at the R20 (expense rate of 101 percent) and represents 37 percent of the total amount disbursed for activities administered using this subcomponent, that is (1) the total amount disbursed on Component A until the R18, (2) the total amount



disbursed on Component B, and (3) the total amount disbursed on Subcomponent D.1. It should be noted, however, that a major source of inefficiency has been the implementation delays due to design shortcomings in the implementation arrangements during project preparation, (see section III IV B. KEY FACTORS DURING THE IMPLEMENTATION) and was therefore not entirely attributable to UTE-MEF since it had to rely on key implementing partners. In addition, it should be noted that this figure does not fully reflect the contribution of the UTE-MEF to the preparation of key activities of the Component A (design studies of road works, development and implementation of safeguard instruments), which were implemented following the transfer of responsibility for this component to UCE-MTPTC at the R18. In addition, part of the funds were made available to the Project partners, in particular for the purchase of vehicles and other equipment. Nevertheless, the high ratio of administrative costs to disbursements reflects an overall modest efficiency of subcomponent D.1.

18. The administrative costs of the Subcomponent D.2. are low, reflecting a better efficiency of implementation.

Although the actual administrative costs incurred by UCE-MTPTC were below estimated costs at the R20 (expense rate of 43 percent), these costs represent 3 percent of the total amount disbursed for activities under the implementation responsibility of UCE-MTPTC, that is (1) the total amount disbursed on Component A from the R18 to Project closing, and (2) the total amount disbursed on Subcomponent D.2. It should be noted, however, that this figure does not take into account the contributions of UTE-MEF to the preparation of key activities of the Component A. This low administrative cost / disbursement ratio reflects an overall satisfactory efficiency of subcomponent D.2.



ANNEX 8. PROJECT OVERALL OUTCOME RATING ASSESSMENT BASED ON RESULTS EXPECTED BY MID-2021

1. This annex presents a computation of the Project's overall outcome rating based on results achieved by Project closing and results expected to be achieved by mid-2021 regarding activities transferred from the Haiti Center and Artibonite Regional Development Project (Projet de la Boucle Centre Artibonite, PBCA) to the Rural Accessibility and Resilience Project (RARP), with due regard to their impact on the original outcome targets of the Project.
2. Table A8.2 details the outcome indicator framework used for Project efficacy rating. This outcome indicator framework was designed to best reflect the expectations of the Project at appraisal.
3. **According to the assessment, the Project's efficacy rating would be Substantial given that:**
 - a. **The achievement of Project Development Objective (PDO) (i) "enhancing all-weather connectivity" would remain Modest:** 79 additional kilometers (km) of rural and nonrural roads are expected to be completed by mid-2021, which would bring the total of roads rehabilitated to 164.8 km out of the 180 km of roads originally targeted to be rehabilitated by the Project (84.8 km out of 100 km of nonrural roads; 80 km out of 80 km rural roads). Nonetheless, these would only allow to bring the value of Outcome indicator "Share of rural population with access to an all-weather road" to less than 51 percent, which is the maximum value that the indicator can reach if all 180 km originally targeted by the Project are completed. Therefore, the original outcome target of 60 percent would remain partly achieved (57.1 percent rate of achievement).
 - b. **The achievement of PDO (ii) "enhancing logistics for producers" would be upgraded to High:** four additional markets are expected to be rehabilitated or constructed by mid-2021 (Fonds Bruns, Domond, Nan Poste, and Saint-Raphaël). This would bring the value of outcome indicator "People serviced by new or improved climate-resilient markets" to 500,800,³⁶ that is, 263 percent of the original outcome target of 190,000.³⁷ Furthermore, the efficacy assessment assumes that the results obtained at closing for outcome indicator "Share of surveyed persons in selected markets who find their logistics improved by the Project" remain valid for mid-2021, reflecting the Project's improvement of logistics in existing markets. Given the above, the assessment shows that the Project exceeds its objectives for enhancing logistics for producers.
 - c. **The achievement of PDO (iii) "enhancing the region's resilience to climate change" would be upgraded to Substantial:** As detailed in section II.B, "Achievement of PDOs (Efficacy)," the assessment of the achievement of PDO (iii) relies on the assessment of the achievement of four outcomes: (1) enhancing the region's road network resilience, (2) enhancing the sustainability of road investments,

³⁶ The methodology followed to compute this result was in line with that specified in the R18 (when the associated indicator was first introduced). See annex 4 for details.

³⁷ As detailed in Section II. B. Achievement of PDOs (Efficacy), the end target of 190,000 was based on the rehabilitation or construction of 8 markets while 10 markets were expected at appraisal. A sensitivity analysis was carried out to take this factor into account. Based on an end target of 237,500 corresponding to 10 markets, the percentage of achievement would be 211 percent. This figure would not change the conclusions of the efficacy assessment based on expected results by mid-2021.



(3) enhancing the climate resilience capacity of markets, and (4) enhancing the use of climate resilience knowledge, capacity, and tools. The achievement of (1) is assessed as High: the results expected for the rehabilitation of roads would bring the value of outcome indicator “Share of roads classified as vulnerable to natural events and climate change impacts” to 20 percent, that is, a 100 percent achievement rate of the original outcome target of 20 percent. The achievement of (2) and (4) remain Modest. The achievement of (3) is upgraded to Substantial given that the construction and rehabilitation of 4 out of 5 climate-resilient markets would be achieved. As a result, the achievement of PDO (iii) is considered Substantial.

4. **Assuming the same ratings for Project relevance and Project efficiency as outlined in Section II.B., “Achievement of PDOs (Efficacy),” the Project’s overall outcome rating would be Moderately Satisfactory.** The Project relevance rating remains High, as the Country Partnership Framework (CPF) remains valid for FY21. The Project efficiency rating has been assumed to remain Modest for the purpose of the computation. The Project’s overall outcome rating is therefore Moderately Satisfactory, as detailed in Table A8.1.

Table A8.1 Project Overall Outcome Rating Computation Based on Results Expected by Mid-2021

	Original
Relevance of Project Development Objective (PDO)	High
Efficacy (PDO)	Substantial
PDO (i)	Modest
PDO (ii)	High
PDO (iii)	Substantial
Efficiency	Modest
Project overall outcome rating	Moderately Satisfactory



Table A8.2 Outcome Indicator Framework for Efficacy Rating Computation Based on Results Expected by Mid-2021

#	Outcome Indicator	Baseline	Original Outcome Target	Actual (A)	% Achieved of Original Outcome Target (A)	Actual + Expected by 2021 (RARP) (A+B)	% Achieved of Original Outcome Target (A+B)	Comments
PDO 1								
1	Share of rural population with access to an all-weather road (disaggregated by gender)	39%	60%	44%	23.8% ³⁸	Less than 51%	Less than 57%	This indicator was revised in R20.
PDO 2								
2	People serviced by new or improved climate-resilient markets	0	190,000 (R18)	0	0%	500,800 ³⁹	263%	This indicator was introduced in the R18 and revised in the R20 to Project Development Objective (PDO) indicator “Number of producers and users serviced by an all-weather road accessing urban and rural markets.” However, for the purpose of the present computation, only the original PDO indicator was retained as it captures the Project’s contribution to enhancing logistics thanks to new or improved markets.
3	Share of surveyed persons in selected markets who find their	NA	NA	96%	NA	96%	NA	This proxy indicator was defined and measured for the purpose of the Implementation Completion and Results

³⁸ This ratio is calculated using the following formula: (actual result – baseline) / (original outcome target – baseline).

³⁹ The methodology followed for the computation of this result is in line with the methodology specified in the R18 and is further detailed in annex 4.



	logistics improved by the Project (proxy indicator)							Report (ICR). It captures the contribution of the Project to enhancing the logistics of existing markets. For the purpose of the computation, it was assumed that the results of the survey carried out at Project closing would apply to the mid-2021 scenario.
PDO 3								
4	Share of roads classified as vulnerable to natural events and climate change impacts (proxy indicator)	0%	20%	16%	80%	20%	100%	A similar indicator was defined at appraisal ("share of roads classified as vulnerable to natural events and climate change impacts"). It was replaced by the present indicator in the R18. However, the indicator was dropped at the R20. The indicator is reintroduced for the purpose of the ICR. The methodology for the recording of associated results is specified in annex 4.
5	Cumulated amount (in US\$ millions) in projects elaborated using analytical knowledge and tools developed by the proposed Project (proxy indicator)	0	18	6.5	36.1%	6.5	36.1%	This indicator was defined at appraisal as an Intermediate Results Indicator and was dropped in the R18. The indicator is reintroduced as a proxy outcome indicator for the purpose of the ICR.
All PDOs								
6	Share of the population in the Project area satisfied with the quality and impact of the infrastructure financed by the Project.	0%	75%	97.5%	130%	97.5%	130%	



ANNEX 9. BORROWER, CO-FINANCIER, AND OTHER PARTNER/STAKEHOLDER COMMENTS

Comments of the UTE-MEF on the ICR

Arrangement institutionnel

L'arrangement institutionnel mis en place pour la mise en œuvre de l'opération partait du postulat qu'un projet aussi transversal devait réunir un ensemble de partenaires qui n'ont pas l'habitude de mettre en commun leurs moyens pour atteindre des résultats tangibles pour un territoire. Ainsi le Projet allait bénéficier de la force de l'ensemble des partenaires tout en développant la culture de travail interinstitutionnel tant nécessaire pour s'attaquer à des problèmes complexes faisant appel des compétences multiples. D'où l'intérêt de faire appel à une entité du Ministère de l'Economie et des Finances, l'UTE, pour jouer le rôle de coordinateur de l'ensemble des partenaires techniques.

Malheureusement, la pratique a montré que l'arrangement institutionnel, malgré son intérêt sur le papier, n'a jamais été totalement accepté par les partenaires. Le ST-CIAT a très mal vécu le fait de ne pas avoir été l'agence d'exécution du Projet alors qu'il était à l'origine de la réflexion sur l'aménagement de la Boucle Centre Artibonite. Par ailleurs, le fait que la plus grande partie des fonds de l'opération a été consacrée au financement de travaux routiers a été perçu comme un dévoiement du concept BCA.

Le Ministère de l'Agriculture et des Ressources Naturelles (MARNDR) est resté pratiquement en dehors du Projet, une fois passée la phase de préparation.

De façon générale, les partenaires techniques du Projet n'ont jamais mobilisé leurs ressources de façon optimale pour apporter l'appui nécessaire à l'UTE pour la mise en œuvre des activités. Les différents partenaires ont mal vécu le fait de ne pas avoir la gestion directe du financement des activités pour lesquelles ils devaient apporter un appui technique. Cette approche allait à l'encontre de la tradition. Il n'est donc pas surprenant que les comportements aient pu radicalement évoluer lorsqu'à la faveur des restructurations, chaque partenaire a obtenu la gestion des fonds de son secteur.

Enfin, l'attelage entre des institutions n'ayant pas le même niveau de rigueur et des cultures institutionnelles très éloignées les unes des autres a obéré les résultats du Projet.

Notation du projet :

L'UTE-MEF prend acte que le projet BCA est jugé modérément satisfaisant.

Le rapport de la Banque laisse penser que l'UTE serait la structure inefficace et inefficente responsable en grande partie des retards du Projet. L'UTE ne partage naturellement pas cet avis et invite à tenir compte de tous les facteurs qui ont pu limiter les chances de réussite de l'opération et de constater la part de responsabilité de chaque partenaire. Seul un tel exercice peut permettre



de tirer des leçons utiles pour l'avenir. La notation « modérément satisfaisante » est la résultante d'un ensemble de facteurs comme la faible coopération entre les partenaires, l'inadaptation de l'arrangement institutionnel à la réalité et aux capacités des acteurs, l'attelage entre des institutions de capacités trop disparates etc.

En fin de compte, l'évolution des résultats du Projet conduit à conclure que, pour le moment, la collaboration entre plusieurs entités est efficace si les aspects techniques et fiduciaires sont pris en charge, pour chaque type d'intervention, par l'entité la plus expérimentée dans le secteur concerné.

Leçons apprises

- 1. L'investissement dans la connaissance des territoires, de leurs enjeux et des acteurs permet de mieux engager les actions publiques pour le développement ;**
- 2. A ce stade en Haïti, pour des projets multisectoriels, il est important de doter chaque unité de gestion de ressources (humaines, administratives, financières) nécessaires lui permettant d'exécuter les activités dont elle a la charge ;**
- 3. Il est important de renforcer des liens sociaux entre le projet et les communautés afin de capturer les initiatives communautaires à mettre en œuvre parallèlement aux activités planifiées par le projet.**

**Unité Technique d'Exécution
du Ministère des Finances**



Comments of the UCE-MTPTC on the ICR



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Palè de Ministè

Le 22 février 2021

**COMMENTAIRES DU MTPTC SUR LE RAPPORT FINAL DU PPBCA
FINANCE PAR LA BANQUE MONDIALE**

Les caractéristiques propres d'Haïti, notamment son relief accidenté et une longue façade maritime d'environ 1 500 km pour une superficie totale de 28 000 km², sa situation dans une zone de grande activité sismique et son positionnement sur la trajectoire des cyclones, lui confèrent une fragilité naturelle. Cette dernière est renforcée par une fragilité socio-économique qui se manifeste par une faible capacité d'organisation du territoire et la difficulté sinon l'impossibilité à mettre en place des réponses proportionnées aux risques.

Le séisme du 12 janvier a rappelé tragiquement cette fragilité et les parties du territoire les plus menacées, en particulier, le Sud traversé par la faille Enriquillo et le Nord par la faille Septentrionale. Entre les deux, la région Centre-Artibonite apparaissait comme une zone favorable à privilégier pour les investissements publics dans les prochaines années à condition de créer de nouvelles logiques territoriales.

Le Dossier Haïti-Demain conçu, suite à cette expérience sismique catastrophique pour le pays, a conduit à une réflexion globale sur la structuration de l'ensemble du territoire. Dans cette quête de structuration de l'espace haïtien, la Boucle Centre-Artibonite a été choisie en fonction de ses caractéristiques particulières pour être le siège d'un projet concret d'aménagement du territoire conçu pour accueillir un projet économique avec des effets d'entraînement.

C'est dans ce contexte, qu'il était apparu opportun de développer les infrastructures du territoire de la Boucle Centre-Artibonite, de créer un nouvel espace économique et humain, et de proposer un référentiel grandeur nature pour l'aménagement du territoire haïtien. Le Projet de Développement de la Boucle Centre-Artibonite (PBCA) constitue une première réponse que le Gouvernement Haïtien via le MEF, MTPTC ET LE ST-CIAT a formulé pour adresser la problématique du développement de la région BCA. Le MTPTC, au nom des autres partenaires, tient à remercier la Banque pour le soutien au secteur transport et au développement économique ainsi que les équipes qui ont travaillé à la mise en œuvre de ce projet.



Le MTPTC a noté que le projet P133352 BCA comprend un don IDA-H9500 et un don TF-17021 en cofinancement du Fonds d'investissement climatique (CIF). Ces dons ont été approuvés respectivement le 19 Mai 2014 et le 9 juillet 2014 et clôturés à la date du 28 Février 2020. Ce projet financé pour un montant cumulé de USD 58 millions est jugé modérément satisfaisant dans l'atteinte des Objectifs de Développement du Projet (OPD), substantiel par rapport aux objectifs révisés et concorde avec cette évaluation.

Le MTPTC note que la réactivité et le niveau d'attente des résultats ont bien été documentés ainsi que les capacités d'adaptation du projet et des parties prenantes pour l'atteinte des objectifs de développement.

Le MTPTC partage les conclusions du présent rapport sur le niveau d'achèvement obtenu dans des circonstances très particulières et souscrit par ailleurs au fait que les retards constatés ont été analysés au regard des dysfonctionnements institutionnels, des situations socio-politiques difficiles et des conditions climatiques défavorables.

Les progrès réalisés depuis la restructuration de juin 2018 du projet ont permis dans un laps de temps de produire des résultats qui augurent une atteinte substantielle des objectifs du projet visant à améliorer la connectivité dans la région (impliquant le réseau structurant et les routes rurales), l'accès aux zones de production et les conditions d'échanges dans les marchés identifiés. Ces progrès sont dus à une meilleure coordination institutionnelle et implication des partenaires.

Le Ministère a accueilli favorablement, suite à la restructuration de février 2020, le transfert sur le Programme d'Accessibilité Rurale et de Résilience (PARR) les activités qui n'ont pu être achevées sur le projet BCA. La poursuite de ces activités permettra d'améliorer significativement la connectivité facilitant l'accès aux services de base et de renforcer la résilience de la région au changement climatique.

Dans l'ensemble nous notons avec satisfaction que notre évaluation interne et celle du présent rapport convergent vers des conclusions similaires.


Robenson Jonas LEGER
Coordonnateur de l'UCE/BM

