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IMPLEMENTATION COMPLETION AND RESULTS REPORT

ON A

GRANT

IN THE AMOUNT OF SDR 56.3 MILLION

(US\$ 80.5 MILLION EQUIVALENT)

TO THE

REPUBLIC OF HAITI

FOR A

Disaster Risk Management and Reconstruction Project
December 14, 2020

Urban, Resilience And Land Global Practice
Latin America And Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective December 2, 2020)

Currency Unit = Haitian Gourdes (HTG)

HTG65.69 = US\$1

US\$1.43 = SDR 1

FISCAL YEAR

October 1 - September 30

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ABBREVIATIONS AND ACRONYMS

ACP-EU	Africa Caribbean Pacific-European Union
AF	Additional Financing
CAS	Country Assistance Strategy
CCPC	Municipal Civil Protection Committee (Comité Communal de Protection Civile)
CDPC	Departmental Civil Protection Committee (Comité Départemental de Protection Civile)
CERC	Contingent Emergency Response Component
CIAT	Inter-ministerial Committee for Territorial Planning (Comité Interministériel d'Aménagement du Territoire)
CNE	National Equipment Center (Centre National des Equipements)
CNIGS	National Center for Geo-spatial Information (Centre National de l'Information Géo-Spatiale)
CPF	Country Partnership Framework
CRV	Vulnerability Reduction Unit (Cellule de Réduction de la Vulnérabilité)
DA	Designated Account
DDTP	Departmental Directorates of Public Works (Direction Départementale des Travaux Publics)
DGPC	Directorate General of Civil Protection (Direction générale de Protection Civile)
DPC	Directorate of Civil Protection (Direction de la Protection Civile)
DRM	Disaster Risk Management
EA	Environmental Assessment
EMP	Environmental Management Plan
EO	Earth Observation
EPP	Emergency Project Paper
ESMF	Environmental and Social Management Framework
EU	European Union
EWS	Early Warning System
FCS	Fragile and Conflict-affected Situations
FCV	Fragility Conflict and Violence
FER	Road Maintenance Fund (Fonds d'Entretien Routier)
FGHI	Fay, Gustav, Hannah and Ike (successive hydro-meteorological events of 2008)
FY	Fiscal Year
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GoH	Government of Haiti
IDA	International Development Association
IDB	Inter-American Development Bank
IFR	Interim Financial Report
IRI	Intermediate Results Indicators
ISN	Intermediate Strategy Note
ISR	Implementation Status and Results
IOM	International Organization for Migration
LiDaR	Light Detection and Ranging

LIW	Labor-intensive Work
MARNDR	Ministry of Agriculture, Natural Resources and Rural Development (Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural)
MAST	Ministry of Social Affairs and Labour (Ministère des Affaires Sociales et du Travail)
MDOD	Maitrise d'Ouvrage Délégué or Project's Delegated Implementation Agency
MDUR	Municipal Development and Urban Resilience Project (Projet de Développement Municipal et de Résilience Urbaine)
MEF	Ministry of Economy and Finance (Ministère de l'Économie et des Finances)
MENFP	Ministry of National Education and Vocational Training (Ministère de l'Éducation Nationale et de la Formation Professionnelle)
MICT	Ministry of Interior and Regional Authorities (Ministère de l'Intérieur et des Collectivités Territoriales)
MTR	Mid-term Review
MINUSTAH	United Nations Mission for the Stabilization of Haiti (Mission des Nations Unies pour la Stabilisation en Haïti)
MPCE	Ministry of Planning and External Cooperation (Ministère du Plan et de la Coopération Externe)
MSPP	Ministry of Public Health and Population (Ministère de la Santé Publique et de la Population)
MTPTC	Ministry of Public Works, Transport and Communications (Ministère des Travaux Publics, Transports et Communications)
NGO	Non-Governmental Organization
OP/BP	Operational Policy / Bank Procedures
PAP	Project Affected People
PARDH	Action Plan for National Recovery and Development of Haiti (Plan d'Actions pour la Reconstruction et le Développement d'Haïti)
PARR	Rural Accessibility and Resilience Project (Projet d'Accessibilité Rurale et de Résilience)
PDNA	2010 Earthquake Post-Disaster Needs Assessment
PDO	Project Development Objective
PGRAC	Strengthening Disaster Risk Management and Climate Resilience Project (Projet de Gestion des Risques et de Résilience aux Aléas Climatique)
PLR	Performance and Learning Review
PMDLNA	Post-Matthew Damage, Loss and Needs Assessment
PNGRD	National Disaster Risk Management Plan (Plan National de Gestion des Risques et des Désastres)
PPCR	Pilot Program for Climate Resilience
PTDT	Projet de Transport et de Développement Territorial
PTPR	Resilient Productive Landscapes Project (Projet Territoires Productifs Résilients)
PRGRD	Disaster Risk Management and Reconstruction Project (Projet de Reconstruction et de Gestion des Risques et des Désastres)
PRODEPUR	Urban Community Driven Development Project (Projet de développement participatif urbain)
PRORev	Emergency Bridge Reconstruction and Vulnerability Reduction Project (Projet de Reconstruction d'Urgence des Ouvrages d'Art et de Réduction de la Vulnérabilité)

PRUII	Infrastructure and Institution Emergency Recovery Project (Projet de Relèvement d'Urgence des Institutions et des Infrastructures)
PUGRD	Emergency Recovery and Disaster Risk Management Project (Projet d'Urgence de Gestion des Risques et des Désastres)
RAI	Rural Access Index
RAP	Resettlement Action Plan
RF	Results Framework
RPCRR	COVID-19 Response and Resilience Development Policy Operation (Réponse à la pandémie de COVID-19 et le renforcement de la résilience face aux chocs sanitaires et aux catastrophes naturelles)
RPF	Resettlement Policy Framework
SDR	Special Drawing Rights
SEEUR	Urban and Rural Equipment Maintenance Unit (Service d'Entretien des Équipements Urbains et Ruraux)
SNGRD	National Disaster Risk Management System (Système National de Gestion des Risques et des Désastres)
SPP	Simplified Procurement Plan
STEP	Systematic Tracking of Exchanges in Procurement
TAP	Technical Assistance Program
ToC	Theory of Change
ToR	Terms of Reference
UCE	Central Implementing Unit (Unité Centrale d'Exécution)
UCP	Project Coordination Unit (Unité de Coordination de Projets)
UN	United Nations
UNDP	United Nations Development Program
UNOPS	United Nations Office for Project Services
USAID	United States Agency for International Development
WFP	World Food Program

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DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P126346	Disaster Risk Management and Reconstruction
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 de Coordination et Execution - Ministry of Public Works, Unite de Coordination de Projet - Ministry of Interior and Local Authorities

Project Development Objective (PDO)

Original PDO

The Project Development Objective is to support the Recipient in improving disaster response capacity and enhancing the resiliency of critical transport infrastructure.

**FINANCING**

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
World Bank Financing			
IDA-H7460	60,000,000	56,264,999	47,870,470
TF-13014	550,000	338,923	338,923
IDA-D2090	20,000,000	19,735,000	19,148,144
Total	80,550,000	76,338,922	67,357,537
Non-World Bank Financing			
Borrower/Recipient	0	0	0
Total	0	0	0
Total Project Cost	80,550,000	76,338,922	67,357,536

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
01-Dec-2011	03-Apr-2012	24-Nov-2014	31-Dec-2016	30-Jun-2020



RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US\$M)	Key Revisions
25-Jul-2016	28.10	Change in Results Framework Change in Components and Cost Change in Loan Closing Date(s) Reallocation between Disbursement Categories
29-Jun-2017	33.90	Change in Results Framework Change in Loan Closing Date(s) Reallocation between Disbursement Categories Change in Disbursements Arrangements Change in Procurement Change in Implementation Schedule Other Change(s)
27-Jun-2019	48.80	Change in Results Framework Change in Components and Cost Reallocation between Disbursement Categories
25-Jun-2020	61.24	Cancellation of Financing Reallocation between Disbursement Categories

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Moderately Satisfactory	Moderately Satisfactory	Substantial

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	13-Mar-2012	Satisfactory	Satisfactory	0
02	08-Oct-2012	Satisfactory	Moderately Satisfactory	0
03	09-Jun-2013	Moderately Satisfactory	Moderately Satisfactory	4.54
04	21-Dec-2013	Moderately Satisfactory	Moderately Satisfactory	10.63
05	07-Jul-2014	Moderately Satisfactory	Moderately Satisfactory	13.55
06	31-Dec-2014	Moderately Satisfactory	Moderately Satisfactory	19.43
07	26-Jun-2015	Moderately Satisfactory	Moderately Satisfactory	21.16



08	04-Jan-2016	Moderately Satisfactory	Moderately Satisfactory	24.76
09	20-Oct-2016	Moderately Satisfactory	Moderately Satisfactory	28.10
10	26-May-2017	Moderately Satisfactory	Moderately Satisfactory	33.90
11	17-Nov-2017	Satisfactory	Moderately Satisfactory	35.49
12	29-Jun-2018	Satisfactory	Moderately Unsatisfactory	39.00
13	08-Jan-2019	Satisfactory	Moderately Unsatisfactory	46.62
14	28-Jun-2019	Satisfactory	Moderately Unsatisfactory	48.80
15	31-Dec-2019	Satisfactory	Moderately Unsatisfactory	50.68
16	30-Jun-2020	Satisfactory	Moderately Satisfactory	62.99

SECTORS AND THEMES

Sectors

Major Sector/Sector

(%)

Public Administration

9

Sub-National Government

9

Social Protection

11

Social Protection

11

Transportation

65

Public Administration - Transportation

7

Rural and Inter-Urban Roads

58

Water, Sanitation and Waste Management

15

Public Administration - Water, Sanitation and Waste Management

15

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3)

(%)



Finance	24	
Finance for Development	24	
Disaster Risk Finance	24	
Human Development and Gender	3	
Gender	3	
Urban and Rural Development	72	
Disaster Risk Management	72	
Disaster Response and Recovery	24	
Disaster Risk Reduction	24	
Disaster Preparedness	24	
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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

1. **At appraisal in November 2011, Haiti was still recovering from the earthquake of January 12, 2010.** The earthquake had killed an estimated 220,000 people and had displaced 1.5 million people, and damages were evaluated at US\$7.8 billion. The Government of Haiti (GoH), in coordination with the World Bank, the European Union (EU), the Global Fund for Disaster Relief and Recovery (GFDRR), the United Nations Development Programme (UNDP), the UN Office for Disaster Risk Reduction, the United States Agency for International Development (USAID), and others established one recovery plan for the 2010 earthquake, and improved its ability to respond to adverse events by complementing the recovery plan with the 2010 Action Plan for National Recovery and Development of Haiti (PARDH)¹ organized along four pillars: (i) economic reconstruction; (ii) social reconstruction; (iii) territorial reconstruction; and (iv) institutional reconstruction.
2. **Recurrent natural disasters such as the four successive events in 2008—Tropical Storm Fay and Hurricanes Gustave, Hannah and Ike (FGHI) and associated impacts—revealed important shortcomings in Haiti's overall National Disaster Risk Management System** (Système National de Gestion des Risques et des Désastres --SNGRD) **at the time of appraisal.** Critical issues included: (i) the absence of a legislative and institutional framework to support SNGRD; (ii) lack of a high-level coordination mechanism that convenes line ministries and technical institutions responsible for disaster risk management (DRM) and coordination with development partners leading to ad hoc DRM activities that are often not institutionalized, although the 2010 earthquake aid response headed by UNDP had initiated donor coordination on DRM; (iii) lack of risk awareness and technical capacity for risk-informed decision making from national to local levels; and (iv) an incomplete network of a Comité Communal de Protection Civile (CCPC) and Comité Départemental de Protection Civile (CDPC) to cover all 140 municipalities with the capacity to prepare and respond to catastrophic events. The impacts of extreme events have, in particular, exposed the high vulnerability of Haitians to seismic and hydro-meteorological events, given the fragile socioeconomic and unstable political context, compounded by high exposure to multi-hazards.
3. **The damaged transport sector, affected by the 2010 earthquake and other catastrophic events, hindered prompt access and response to affected populations.** While about 80 percent of the country's overall transportation and movement of people and goods takes place by road, the Haitian road network is limited, poorly maintained and impacted by extreme events, with regions being isolated during rainy seasons. The overall impact of the Earthquake on the transport sector has been estimated at US\$595 million with around 70km of main roads damaged according to the PDNA². Critical issues identified in the transport sector include: (i) the road network is most vulnerable to hydrometeorological events that rupture the network; (ii) all-weather road disruption prevents emergency response from the Direction de la Protection Civile (DPC) reaching affected populations; (iii) damaged roads and bridges are costly to rebuild after catastrophic events as they are sometimes washed away; and (iv) the disruption of the road network affects socioeconomic activities and delays economic recovery. *Haiti Demain*³ 2010's territorial objectives and strategies for reconstruction considered the road network as a structuring element and catalyst for urban development that

¹ PARDH 2010: <www.haitireconstructionfund.org/sites/haitireconstructionfund.org/files/Haiti%20Action%20Plan.pdf>

² Haiti Earthquake PDNA: <www.gfdr.org/sites/default/files/GFDRR_Haiti_PDNA_2010_EN.pdf>

³ Haiti Demain 2010 : <www.oas.org/en/ser/dia/docs/HAITI_DEMAIN.pdf>



needed to be resilient to seismic and hydro-meteorological events. Integrated risk management was to rely on the use of scientific, environmental, social, and local data.

Rationale for World Bank Engagement

4. At appraisal, the objectives of the project aligned with the Bank's priorities given in the three pillars of the **Haiti Country Assistance Strategy (CAS) FY2009-12 (48284-HT)**: (i) promote growth and local development; (ii) invest in human capital; and (iii) reduce vulnerability to disasters. The Bank had a comparative advantage in DRM and transport operations based on the experience of past projects in disaster risk management and transport starting with the 2005 *Projet d'Urgence de Gestion des Risques et des Désastres (PUGRD)* that was followed by the 2008 *Projet de Reconstruction d'Urgence des Ouvrages d'Art et de Réduction de la Vulnérabilité (PRORéV)*, and the 2010 *Projet de Relèvement d'Urgence des Institutions et des Infrastructures (PRUII)* that were geared toward strengthening the DRM system and civil protection and supporting the reconstruction of damaged infrastructure. Prior initiatives which Haiti launched to increase its capacity to prepare for and respond to adverse events had resulted in, among others: (i) the creation of CCPCs that needed to be strengthened and scaled up to the rest of the 140 municipalities; (ii) the investment in human capital; and (iii) the enhancement of the technical capacity to analyze, manage and apply risk information to decision making, planning and programing that needed to be further strengthened and built up; and (iv) the increase of spot improvements in transport and bridge reinforcement that had proved effective to enhance the road network resilience and generate positive impacts, but which had to be replicated and scaled up. The project brought together DRM and transport in the design to build both ministries' ownership and promote potential synergies, including self-reinforcing impact and shared know-how of risk, preparedness, and resilience. The design, aimed at enhancing the resilience of the transport sector, was ahead of its time when resilience mainstreaming was not yet the norm.

Theory of Change (Results Chain)

5. The **Emergency Project Paper (EPP)** did not include a **Theory of Change (ToC)**. The inferred ToC based on the third Restructuring in 2019 (Figure 1), remains valid for the original project design and is unpacked under the Efficacy section.

Problem Statement: Disasters adversely affect Haitians, assets and socioeconomic opportunities

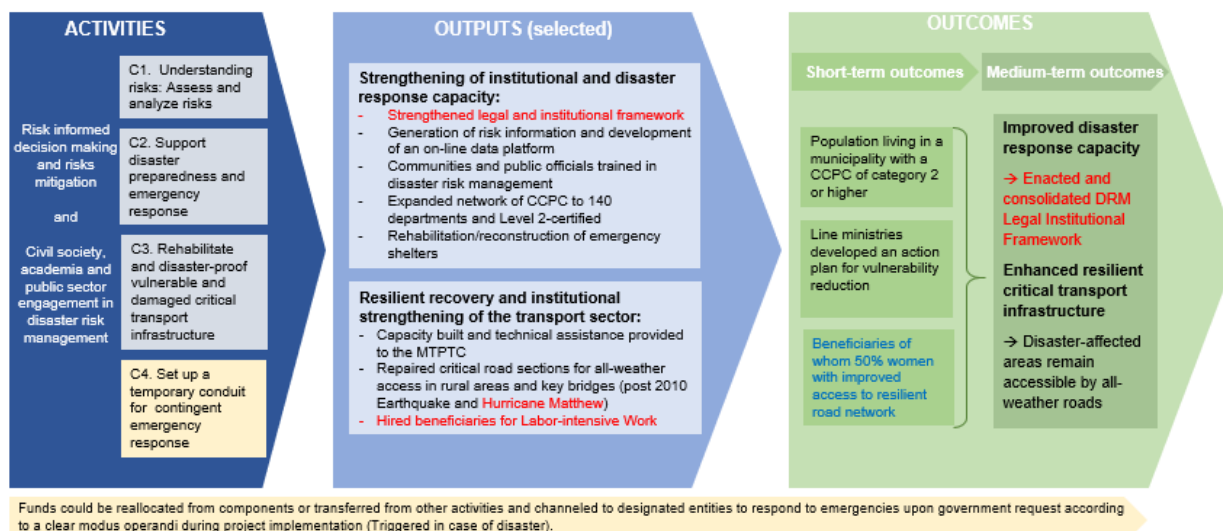


Figure 1: Theory of Change



Project Development Objectives (PDOs)

6. **The original PRGRD Project Development Objective (PDO)**, as stated in the Financial Agreement approved on January 11, 2012 and consistent with the EPP is to support the Recipient in improving disaster response capacity and enhancing the resiliency of critical transport infrastructure.

Key Expected Outcomes and Outcome Indicators

7. **The key outcomes indicators were:**
- Line ministries developing an action plan for vulnerability reduction.
 - Share of population living in a municipality with a certified CCPC.
 - Number of cumulative road closure days per year.

Components

8. **The project included five components:**
- **Component 1, Natural Hazard Risk Assessment and Analysis (SDR 2.18 million / US\$4 million).** Strengthening the institutional capacity of the implementing line Ministries to incorporate natural hazard risks into development planning and collection of disaster risk data under a Technical Assistance Program.
 - **Component 2, Support to Disaster Preparedness and Emergency Response (SDR 9.06 million / US\$14.5 million).** (2.1) Strengthening the DPC including: (a) improving the capacity of the DPC's operational efficiency; (b) constructing a multi-purpose center for the DPC; (c) building the capacity of the existing CCPCs and establishing new CCPCs; and (d) carrying out simulation exercises to, inter alia, evaluate the operational capacity of the CCPCs. (2.2) Improving the communication network and decision-support system including: (a) establishing alert communication protocols with the national disaster response system; (b) developing a civil protection communication system; and (c) provision of training for the use of CCPCs' early warning system or communication protocols and equipment. (2.3) Carrying out function and structural assessment of the national shelter network; and rehabilitating and constructing priority shelters.
 - **Component 3, Rehabilitation of Vulnerable and Damaged Critical Transport Infrastructure (SDR 23.13 million / US\$37 million).** (3.1) Strengthening the institutional capacity of the MTPTC and other relevant ministries, departments and agencies for: (a) identifying vulnerabilities in the transport sector; (b) building resilience in the transport sector; (c) improving emergency response capacity to restore access to isolated areas; (d) promoting road safety; and (e) increasing the efficiency of road maintenance system. (3.2) Carrying out construction, reconstruction and/or reinforcement of identified investments in the transport sector, inter alia, bridges, roads, and the riverbank. (3.3) Identifying critical investments to protect local access to maintain road network, and carrying out the design, rehabilitation, construction, reconstruction and/or other work as may be required to protect said investments.
 - **Component 4, Emergency Response and Recovery (SDR 0.62 million / US\$1 million).** Facilitating rapid response upon occurrence of an Emergency, including the carrying out of emergency infrastructure reconstruction, rehabilitation, and associated studies (Emergency Response Activities).
 - **Component 5, Project Management and Implementation Support (SDR 2.5 million / US\$4 million) with two implementing units.** Strengthening and developing the institutional capacity for Project management, coordination, implementation, and monitoring and evaluation (M&E), including: (5.1) Strengthening the capacity of the Central Implementing Unit (Unité de Coordination de Projets --UCP) housed at the DPC under the MICT for: (a) overall coordination of the project, including consolidation of financial and progress reports; and (b) management, coordination, implementation, and M&E of Components 1 and 2 of the Project. (5.2) Strengthening the capacity of the Project Coordination Unit (Unité Centrale d'Exécution UCE) under the MTPTC for management, coordination, implementation, M&E of Components 3 and 4 of the Project.



B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

Revised PDOs and Outcome Targets

9. **The scope of the PDO remained unchanged. However, the targets for PDO Indicators No. 1 and No. 2 were adjusted, while PDO indicator No. 3 was replaced during restructurings:**

- Line ministries developing an action plan for vulnerability reduction - Target was reduced from 5 to 2.
- Share of population living in a municipality with a certified CCPC of Category 2 or higher - Target was increased from 40 to 70 percent.
- Number of beneficiaries from an improved and resilient investment on the road network (replaced Number of cumulative road closure days per year), of which 50 percent beneficiaries being women - Target was increased from 75,000 to 150,000 beneficiaries.

Revised PDO Indicators

10. **PDO indicators were realigned for better clarity, consistency, and realism:** one was adjusted, and one was replaced during the first restructuring in July 2016; and the targeted beneficiaries with access to resilient transport indicator was doubled during the third restructuring in June 2019.

Revised Components

11. **Project components remained the same during the life of the project,** although additional funds were provided to components and funds were reallocated between components and sub-components (see para 12).

Other Changes

12. **The Result Framework (RF) and funding for components and sub-components (see para 8) were changed during four restructurings:**

- **First restructuring (July 2016, level 2 restructuring).** The RF was changed by modifying, adding, and removing some PDO indicators and intermediate results indicators (IRI), and the closing date was extended until June 30, 2017.
- **Second restructuring and Additional Financing (AF) Grant (May 2017, AF and level 2 restructuring).** A US\$20 million emergency additional financing was provided to respond to the impacts of Hurricane Matthew. To allow the implementation of additional activities, the closing date was further extended to June 30, 2020. Component 3 received 85 percent of the additional grant, while the parent project funds were reallocated between disbursement categories. In addition, four IRIs were revised and eight were added.
- **Third restructuring (June 2019, level 2 restructuring).** The PDO number of beneficiaries targeted by the road network improvement was increased from 75,000 to 150,000 while seven IRIs were adjusted to reflect the changes in project scope. Activities supported under Component 2 were streamlined, the scope of Component 3 was adjusted (two bridges were cancelled), and financing proceeds were reallocated between the various categories.
- **Fourth restructuring occurred early May and endorsed in June 2020, level 2 restructuring** was triggered by the March 2020 COVID-19 pandemic as some activities had been delayed, and uncommitted funds (US\$4 million) were cancelled and reallocated to a different World Bank operation that supported Haiti's emergency response to COVID-19.



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

13. **The various changes to the project over time aimed to address the impact of Hurricane Matthew, as well as to ensure that the PDOs were realized effectively and efficiently.** The RF also reflected updates to ensure that the outcomes of the revised project (including the AF and the four restructurings) were better measured.

II. OUTCOME

A. RELEVANCE OF PDOs

Rating: High

Assessment of Relevance of PDOs and Rating

14. **PRGDR objective remains highly relevant at closing, as it evolved from an emergency stance to strengthen DRM as a cross-cutting theme and provided the DRM system with a legal and institutional framework.** The PDO remains consistent with the Country Partnership Framework (CPF) FY2016–19 (98132-HT)—which is the ongoing CPF—as it contributes to two of the three areas of focus of the CPF: (i) the resilience area, supported by enhanced climate resilience through strengthening natural disaster preparedness and improving disaster prevention; and (ii) the inclusive growth area, supported by promoting labor-intensive works (LIW). The Performance and Learning Review (PLR) updated the CPF FY2018 (144812-HT) that sought to further strengthen the CPF’s robust approach to resilience in 2018 by: (i) increasing funding; (ii) improving targeting to high-risk areas; (iii) sharpening the focus on local capacity to prepare for and respond to disasters; and (iv) mainstreaming DRM in other sectors. The new 2020 Haiti COVID-19 Response and Resilience Development Policy Operation (RPCRR -- PGD132-HT) blends the Bank-wide COVID-19 response with DRM. Mainstreaming DRM in other sectors has become the norm in the Bank’s Haiti portfolio (Annex 8).

15. **The PDO remains a priority for the GoH.** The frequency and severity of hydrometeorological hazards in Haiti are anticipated to increase due to climate change, and the population remains vulnerable to their impacts. The PDO contributes to the inclusive, multisectoral and participative process of the 2nd National Disaster Risk Management Plan 2019–2030⁴, approved by the government of Haiti in June 2020.⁵ The Plan is divided into four strategic axes that are aligned with international (e.g., Sustainable Development Goals and climate change)⁶ and regional (Caribbean Disaster Management Strategy)⁷ commitments. The GoH approved the DRM Legal and Institutional Framework⁸ (the National DRM System) in June 2020, which is a direct and critical DRM achievement of the improved disaster response capacity element of the PDO.

B. ACHIEVEMENT OF PDOs (EFFICACY)

Rating: Substantial

Assessment of Achievement of Each Objective/Outcome

16. **PDO’s achievement is assessed against the targets confirmed in the June 2019 third restructuring and is unpacked along the lines of the two distinct but complementary elements of the PDO:** (i) supporting the recipient in improving disaster response capacity; and (ii) enhancing the resiliency of critical transport infrastructure. Throughout the

⁴ NDRNP 2020: <www.haitilibre.com/docs/PNGRD_BAT_2020_SMALL.pdf>

⁵ Decree 103 on the National DRM Plan in Le Moniteur, 15 juin, 2020.

⁶ UN 2015 SDG 1 (Target 1.5.3: adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030) <<https://sdgs.un.org/goals>>

⁷ CDMs 2014: <CDwww.cdema.org/CDMStrategy2014-2024.pdf>

⁸ Decree 103 on the creation and organization of the National DRM System in Le Moniteur, 15 juin, 2020.



restructurings the PDO was not changed as the scope of the project remained the same, however some indicators were reviewed to better reflect the objective of the project.

PDO 1: Supporting the Recipient in improving disaster response capacity

17. **PRGRD exceeded three and reached five targets of the PDO intermediary outcome indicators of the first sub objective of improved disaster response capacity missing only three targets** (Table 1, Table 2 and Annex 1).

Outcome Indicator 1. Line ministries developing an action plan for vulnerability reduction was achieved through two main risk assessment capacity building tracks highlighted below.

18. **PDO Indicator #1: Line ministries developing an action plan for vulnerability reduction.** The project built risk assessment capacity by strengthening the institutional capacity of two key sectoral ministries and their relevant departments as well as communities. This met the target of two ministries as the original target of five was reduced to two ministries during the second restructuring. The Ministry of Public Health and Population (MSPP) and the Ministry of National Education and Vocational Training (MENFP) mainstreamed disaster risk in their development planning and developed sector-specific disaster risk integration tools. Under the IRIs for “Natural Hazard Risk Assessment and Analysis”, all but one IRI targets were achieved or exceeded as discussed below and shown in Table 1:

- **Track 1: PRGRD improved DRM capacity to better understand risks at the community and centrals level, as the number of DRM trainees exceeded the target.** The project trained 127 ministry officials on risk management, exceeding the target by 81 percent. However, women officials did not reach their target—14 percent instead of 50 percent—as women constitute only 30 percent of public servants in Haiti. 1,520 beneficiaries were trained on DRM, which exceeded the target by 90 percent; however, only 14 percent of the trained beneficiaries were women, missing the target of 50 percent.
- **Track 2: PRGRD strengthened the capacity of the National Center for Geo-spatial Information (CNIGS) within the Ministry of Planning and External Cooperation (MPCE) to assess risks.** The project improved risk assessment capacity by generating key risk data by using earth observation (EO), remote sensing technology (LiDaR) and modeling hydrological risks. By closing, the entire country was covered by a high-resolution digital elevation model and high resolution aero-photography that were used to generate the first detailed hydrological risk model. This risk information served to prepare the Bank’s 2017 Municipal Development and Urban Resilience (MDUR) Project and the 2020 Rural Accessibility and Resilience (PARR) Project’s Artibonite Centre Loop. The CNIGS also delivered the open data geo-referenced database platform (www.haitidata.org)⁶ that made the entire risk information publicly available. Thirty-five risk maps were produced, but the delivery and upload of the final maps to Haitidata will be completed under the subsequent successor, Projet de Gestion des Risques et de Résilience aux Aléas Climatique (PGRAC) as the project encountered delays in paying the contractor and travel restrictions after the COVID-19 pandemic.

Table 1: Extent of Achievement of IRI Targets of PDO Indicator 1

Intermediate Results Indicators	Baseline/ Unit	Rest. 3 Target	Number Achieved	% Achieved
Intermediate Results 1: Natural Hazard Risk Assessment and Analysis				
1.Number of beneficiaries from a training in disaster risk management	0 #	799	1,520	190%
2.Number of ministry officials benefitting from a training program in risk management	0 #	70	127	181%



3. Percentage of the national territory covered by a high-resolution Digital Elevation Model and high resolution aero-photography	0 %	100%	100%	100%
4. Number of risk maps are produced, disseminated and available in an open-data online platform	0 #	35	0	0%
5. A first pilot detailed hydrological risk modelling is developed using the Digital Elevation Model	No	Yes	Yes	100%

Note: Percentage achieved is color coded: yellow – not achieved set target; light green – achieved set target; and dark green – exceeded set target.

Outcome Indicator 2. Exceeded share of population living in a municipality with a CCPC (Municipal Civil Protection Staff) of category 2 or higher was exceeded through three main DRM capacity building tracks highlighted below.

19. **PDO Indicator #2: Share of population living in a municipality with a CCPC of Category 2 or higher.** The project aimed to expand the 73 existing CCPCs to cover all 140 municipalities with a level 2 certification, and train 2,800 CCPC volunteers to provide emergency services to the population. In addition, the project strengthened the **DRM legal and institutional framework** by supporting a road map to provide the DRM system with a legal basis. The project also aimed to rehabilitate or construct twelve emergency shelters. All but two IRIs targets under “Support to Disaster and Preparedness and Emergency Response” were achieved or exceeded **as discussed below and shown in Table 2:**

- **Track 1: With PRGRD’s impetus and support, Haiti enacted the National DRM System, Decree 103 on June 15, 2020.** The Government of Haiti implemented the DRM road map with strong support from the project, and the target was exceeded when the DRM Legal and Institutional Framework was enacted by presidential decree in June 2020. The decree became a prior action of the COVID-19 Response and Resilience Development Policy Operation (P171474). It was a pivotal turning point as it allows existing and future projects to be grounded in the new Legal and Institutional Framework. In addition, the DPC has already been elevated to a General Direction (DGPC) in September 2020 and will allow the DPC to have its own budget.
- **Track 2: PRGRD scaled up DRM capacity and strengthened the CCPCs.** Central and local-level capacities were strengthened on various aspects of DRM, internal management, public information and communication of alerts, project management, contingency planning, and training on COVID-19 prevention. The target for training of central, departmental and municipal CCPC staff to a level 2 certification was exceeded by 18 percent; however, the target for the creation of operational CCPCs with a level 2 certification was missed by 15 percent owing to the difficulty in accessing areas affected by civil unrest (Section III), especially after 2018. Capacity building of CCPC’s volunteers on DRM resulted in enhanced emergency response after Hurricane Matthew. The pilot tools to evaluate and prioritize evacuation shelters were developed reaching the indicator target. However, the project was only able to rehabilitate seven emergency shelters, missing the target of 12; the remaining five shelters will be rehabilitated under the PGRAC.
- **Track 3: PRGRD expanded Haiti’s early warning system coverage.** Four pilot departments were connected to the national radio system, and proved invaluable during the catastrophic events (Figure 2). A diagnostic study was also carried out to establish a national emergency communication system in Haiti’s ten departments.

Table 2: Extent of Achievement of IRI Targets of PDO Indicator 2

Intermediate Results Indicators	Baseline/ Unit	Rest. 3 Target	Number Achieved	% Achieved
Intermediate Results 2: Support to Disaster Preparedness and Emergency Response				
6. Number of CCPC Staff trained and Level 2-certified (Office Management & Emergency Operation Center Management)	1,100 #	2,800	3,313	118%



7. Number of Level 2-certified operational CCPCs	0 #	140	119	85%
8. A national radio communication system has been initiated and at least four pilot departments have been connected to the national level	0 #	4	4	100%
9. A draft road map with a score card for a disaster risk management system is developed	No	Yes	Yes	100%
10. Pilot evacuation shelters have been rehabilitated or reconstructed with multi-hazard resilient measures	0 #	12	7	58%
11. Pilot evacuation shelters tool to evaluate and prioritize shelters needs is developed and used in the affected area by Matthew	No	Yes	Yes	100%

Note: Percentage achieved is color coded: yellow – not achieved set target; light green – achieved set target; and dark green – exceeded set target.

PDO 2: Enhancing the resiliency of critical transport infrastructure

20. The PRGRD exceeded four and reached four targets of the PDO intermediary outcome indicators related to the second sub objective of enhanced resilient critical transport infrastructure (Table 3, Annex 1).

Outcome Indicator 3. Achieved target of the number of beneficiaries from improved and resilient investments on the road network, of whom 50 percent were female, from improved and resilient investments on the road network through three main tracks highlighted below.

21. **PDO Indicator #3: Beneficiaries of whom 50% were women with improved access to resilient road network as women also directly benefited from all-weather roads (mobility, flow of goods and service provision).** PRGRD aimed at mainstreaming DRM in the transport sector by strengthening relevant institutions, and by improving critical road sections and spot improvements to all-weather standards: (i) 100 kilometers of non-rural roads, seven damaged bridges prior and after Hurricane Matthew; and (ii) 40 spot improvements prior to Hurricane Matthew and 15 damaged road sections after Hurricane Matthew were targeted for rehabilitation, among other works. The project also aimed to provide five departments with investment plans to improve all weather rural accessibility and generate economic opportunities through LIW. All the IRI targets under “Rehabilitation of Vulnerable and Damaged Transport Infrastructure” were either achieved or exceeded as discussed below and shown in Table 3:

- **Track 1: PRGRD targeted the rehabilitation of road structures that required rapid intervention before they fell to a level beyond repair.** All activities achieved their targets and enhanced the resilience of three corridors in the South. The project brought 120 kilometers of roads to all-weather standards, and helped communities avoid isolation during floods events by being able to access Haiti's main road network (Annex 1). Six bridges were rehabilitated or rebuilt, and one bridge that was damaged by Hurricane Matthew was rebuilt to the required standards. The project also carried out 112 spot improvements and land slide prevention on river crossings, drainage improvements, road repairs, and coastal road protection and exceeded the indicator by 180 percent. All pre-Hurricane Matthew road rehabilitation activities were completed to resilient standards and remained in use during and after flood events. For example, the Chalon and Dolin bridges, built prior to Hurricane Matthew, have both withstood the impact of the hurricane and were critical to the emergency response in providing safe access to the impacted rural communities. Similarly, at Port-à-Piment, the Tiburon coastal road remained accessible after Hurricanes Irma and Laura.
- **Track 2: PRGRD was the precursor of the contingent emergency response component (CERC) at the Bank:** Component 4 had an earmarked allocation of US\$1 million that could be triggered in the event of a transport



recovery emergency. As Hurricane Matthew caused significant damage to the country's southern peninsula funds from Component 4 enabled the project to quickly respond to key needs. The MTPTC was able to carry out immediate recovery activities: (i) undertake rapid assessments to identify critical weaknesses in the road network and re-establish access to the southern departments; (ii) construct a temporary bridge allowing safe, all-weather access to 1.4 million people in the South; (iii) deploy technical experts to join the MTPTC's reconnaissance team for needs assessment; and (iv) support initial connectivity restoration. These activities were covered in one year, just in time for the US\$20 million AF grant to become effective in November 2017. Thus, the US\$1 million contingent fund proved to be an effective innovation ahead of the subsequent and mainstreamed CERC instrument in Bank investment projects.

- **Track 3: The project built the capacity of MTPTC at the national level and beneficiaries at the commune levels, while also creating job opportunities.** At the central level, the project improved the identification of infrastructure investments, medium to long term prioritization, and asset management for emergency recovery and reconstruction activities. The project developed and mainstreamed the Rural Access Index (RAI) methodology and the spot-improvement approach in MTPTC. Five departments prepared risk informed investment plans to improve all-weather rural accessibility based on the RAI methodology. The project brought innovative, reliable and less expensive engineering solutions, such as metallic bridges. Investments were informed by hydrological models, multi-hazard maps and communities gained knowledge on environmental matters. Both men and women were trained to carry out labor-intensive work, exceeding the target by 6 percent; this helped create skilled laborers or corps de métiers, boost income generating activities in mainly poor areas, while judiciously targeting women representation at 40 percent.

Table 3: Extent of Achievement of IRI Targets of PDO Indicator 3

Intermediate Results Indicators	Baseline/ Unit	Rest. 3 Target	Number Achieved	% Achieved
12. Roads rehabilitated, Non-rural	0 km	100	120	120%
13. Number of bridges built or rehabilitated with satisfactory technical standards	0 #	6	6	100%
14. Number of spot interventions to protect local access, executed with satisfactory technical standards	0 km	40	112	280%
15. Number of departments with investment plans to improve all weather rural accessibility, based on the Rural Index Access methodology	0 #	5	5	100%
16. Number of bridges and road sections damaged by Hurricane Matthew that have been repaired or consolidated with satisfactory technical standards	0 #	15	27	180%
17. Number of bridges damaged by Hurricane Matthew that have been rebuilt with satisfactory technical standards	0 #	1	1	100%
18. Number of person/days of LIW generated by project activities	0 #	350,000	370,000	106%
19. Actions are taken in a timely manner in response to feedback received during consultation sessions with beneficiaries/project affected people (Feedback, Responses and Actions are monitored and reported)	No	Yes	Yes	100%

Note: Percentage achieved is color coded: yellow – not achieved set target; light green – achieved set target; and dark green – exceeded set target.

Justification of Overall Efficacy Rating



22. **PRGRD largely achieved both its PDO sub objectives of improved disaster response capacity and enhanced resilient critical transport infrastructure in Haiti. The project achieved the targets for all three PDO indicators (Table 4).** It supported the development of the DRM legal and institutional framework, which has since been enacted on June 2020 as the National DRM System, which is a fundamental contribution to sustainable DRM in Haiti. The project met nine and exceeded seven of the 19 IRI targets and missed targets of the remaining three IRIs. Activities that will contribute to the achievement of these three IRIs were transferred to PGRAC for implementation. **As such, the efficacy of the project is rated Substantial.**

Table 4: Achievement of PDO Indicator Targets

PDO	Baseline/ Unit	Rest. 3 Target	Number Achieved	% Achieved
PDO Indicator				
Line ministries developing an action plan for vulnerability reduction	0 #	2	2	100%
Share of population living in a municipality with a CCPC of Category 2 or higher	20%	75%	77.3%	103%
Number of beneficiaries from an improved and resilient transport infrastructure	0 #	150,000	150,000	100%

Note: Percentage achieved is color coded: yellow – not achieved set target; light green – achieved set target; and dark green – exceeded set target.

C. EFFICIENCY

Rating: Substantial

23. **Economic efficiency.** The project did not require an economic analysis at appraisal as it was appraised under OP/BP8.00. A quantitative economic analysis carried out for the project's DRM components for the ICR (Annex 4) indicates that the project's DRM components are viable with a net present value (NPV) of US\$6.9 million over 20 years at a discount rate of 6 percent,⁹ with an economic rate of return (ERR) of 22 percent, and a benefit cost ratio of 1.5. An ex-post analysis could not be carried out for the transport component in the absence of the required data. However, given the nature of the transport interventions to address disruptions to essential access to habitations during emergencies, they are prima facie economically justified.

24. **Design efficiency.** The project was prepared in a relatively short time—about one year from identification to effectiveness in April 2012—in the aftermath of the 2010 earthquake in a very poor Fragile, Conflict and Violence (FCV) affected country. The design was comprehensive, and used a cross-sectoral approach, with transport being the single largest sector. It made use of two existing project implementation units that were already implementing other Bank and development partner projects, and that were anchored in the relevant ministries. The design was flexible, as the soft and hard activities were constantly calibrated to respond to needs in a timely manner. The design also allowed critical issues such as the development of the strategic legal and institutional DRM framework, to be addressed and to respond to Hurricane Matthew through an additional grant. The design was innovative, as it incorporated a US\$1 million emergency contingent component as the precursor to the subsequent and ubiquitous CERC instrument in Bank investment projects.

25. **Implementation efficiency.** The PRGRD experienced early disbursement delays and despite being confronted by several endogenous and exogenous factors (Section III the project was completed on time, with about 95 percent of the

⁹ As suggested by the Bank since 2016.



original grant and the additional grant disbursed,¹⁰ with the remaining five percent being transferred to the COVID-19 Response and Resilience Development Policy Operation (P171474). The project was restructured four times; the additional financing, which was concurrent with the second restructuring, extended the closing date from June 2017 to June 2020 to allow for the implementation of additional activities. In response to the COVID-19 pandemic, US\$4 million was transferred to the Bank's Haiti COVID-19 Response Project. In addition, project activities that were delayed by the COVID-19 pandemic were transferred to the ongoing PGRAC project (see Annex 1 for details).

26. **Administrative efficiency.** Given the country and project context, the project required extensive Bank implementation support on issues ranging from financial management, and procurement to contract management. Despite these challenges, the share of disbursed administrative costs against the overall project disbursement was 5.8 percent,¹¹ which is within acceptable benchmarks.

Assessment of Efficiency and Rating

27. **The discussion above confirms that Bank's resources were efficiently utilized in difficult country and project conditions. As such, the efficiency of the project is rated "Substantial".**

D. JUSTIFICATION OF OVERALL OUTCOME RATING

Rating: Moderately Satisfactory

28. **The rating for the relevance of the PDO, efficacy and efficiency were respectively rated "High", "Substantial", and "Substantial".** However, since project implementation had some shortcomings, with three IRI targets not being met and some project activities having to be transferred to the PGRAC for their completion, the overall outcome of the project was rated "Moderately Satisfactory".

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

29. **Gender.** Literature on the impacts of disasters shows that women are often differently and disproportionately affected by disasters. Gender impacts were achieved by the project through training of women and female beneficiaries: 75,000 women were direct beneficiaries; and 242 women from the public sector and CCPCs were trained. Women also played a prominent role in project implementation from participation in CCPCs to being trained to perform LIW; they contributed to, and were paid for, 148,000 days of LIW. School and shelter water and sanitation improvements will benefit girls during school days in general and women during disaster events while all-weather roads will ensure women's mobility, trade flow and service provision (Annex 7).

30. **Institutional Strengthening.** Institutional strengthening was an integral part of the project and its outcomes as discussed in Section II.B. The project contributed towards institutional capacity due to improved institutional support for transport and especially DRM capacity (see Section II. Efficacy).

31. **Mobilizing Private Sector Financing.** Not relevant for this project.

32. **Poverty Reduction and Shared Prosperity.** One of the project's goals was to reduce poverty and to increase shared prosperity for the 150,000 direct beneficiaries living in disaster-prone and poor areas in the South. Moreover,

¹⁰ The initial grace period end date of October 31, 2020 was extended to December 31, 2020 to allow the Government to document some expenditures and receive UN outstanding financial reports. Therefore, the factsheet automatically generated by the Operations Portal presents outdated figures. The final disbursement numbers will be updated in the system.

¹¹ The final number will be updated in the systems as the grace period is ongoing and close on December 31, 2020.



the project benefited 1.4 million indirect beneficiaries, such as rescue workers, health care workers, and other Haitians who are highly exposed to disastrous events. There are indications that the project had a positive impact on education, health—preventing deaths, injuries and event-triggered epidemics—safety and mobility.

33. **Other Unintended Outcomes and Impacts.** The sustained support to the DRM legal and institutional framework resulted in the adoption of the national DRM system and the creation of the DGPC, a game changer for building resilience in Haiti. Other DRM programs and projects carried out by the government and development partners sought to maintain a close collaboration and complementarity with the Bank team to leverage DRM impacts, and advance capacity building, for instance, WB-UNDP-Inter-American Development Bank Pilot Program for Climate Resilience (PPCR)¹² in 2011–2015 implemented by Comité Interministériel d'Aménagement du Territoire (CIAT), and the EU-GFDRR-WB, Africa Caribbean Pacific-European Union Natural Disaster Risk Reduction Program¹³ in 2018–2020.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

34. Given the aftermath of the 2010 earthquake and Hurricane Tomas in 2010, key factors that affected project preparation were the challenges to set up realistic objectives as well as to ensure simple design, appropriate selection of stakeholders, and to establish adequate risk mitigation measures.

35. **Realistic Objectives.** The PDOs were focused and realistic; however, as the project was prepared in less than a year in an FCV context, it was a challenge to set targets for the transport component when setting targets for results. The outcomes and outputs were sharpened by: (i) amending the results framework during the first restructuring by drawing on a new baseline for transport, and through stakeholder consultations, and (ii) by relying on the post Hurricane Matthew needs assessment during the second restructuring. In the absence of any benchmarks during project design after the 2010 earthquake, the agreed-upon targets turned out to be ambitious for DRM interventions.

36. **Design Challenges.** Solutions applicable in other settings were not appropriate or implementable in Haiti because of the anthropogenic factors and natural conditions as well as the lack of well-performing institutions as these were already challenged and had themselves been victims of the earthquake. The project design benefited from lessons learned from the 2005 PUGRD, 2008 PRODEPUR, 2009 PRORéV and 2010 PRUII as Haiti presented a unique case after the earthquake (Annex 8). The original project design was appropriately ambitious in institutional arrangements and type of activities, despite the exogenous factors affecting the country (Section III). The design also allowed the project to adjust indicators and activities to meet the challenges brought by Hurricane Matthew and the evolving FCV conditions.

37. **Selection of Implementing Agencies.** In the aftermath of the 2010 earthquake, national institutions were severely affected. The loss of life of civil servants, and collapse of public buildings made the selection of well-performing counterpart institutions a particular challenge. Hardly any local contractors were available. The project overcame some of those difficulties by contracting MDODs and UN agencies to implement works and train beneficiaries, including those in unsafe areas because of the civil unrest.

¹² <http://ciat.gouv.ht/projets/programme-pilote-pour-la-r%c3%a9silience-climatique-pprc>

¹³ <https://www.gfdr.org/en/haiti-building-disaster-and-climate-resilience-haiti>



38. **Adequacy of Risk Identification and Mitigation Measures.** At appraisal, the project was rightly categorized as “High Risk” and the original risk rating was reduced to “Substantial” after the mid-term review (MTR). The rating remained unchanged thereafter until the final rating, when it was upgraded to “Moderate” given the government’s encouraging response on DRM, despite the political uncertainty. Risk mitigation measures—and the innovative contingent emergency response component as part of project design—helped achieve the PDO, and even exceeded many of the targets despite the inherent risks.

39. **Reputational risks.** The project incorporated several measures to ensure transparency in implementation. It included a redress mechanism for potential grievances from a wide variety of stakeholders. This mechanism enabled vulnerable persons, especially during resettlement, to seek legal recourse if they were not satisfied with the project’s grievance redress mechanisms. A pro-active stance was also adopted to address issues ex-ante, consisting of site visits and discussions as well as bi-monthly consultation meetings with beneficiaries to resolve issues amicably.

40. **Implementation capacity and sustainability.** The key concerns were low implementation capacity of staff and constraints in hiring quality personnel. The most realistic available options after the earthquake to ensure efficient fund flow was to work with UCP and UCE, which were continuously strengthened through training programs in specific needed technical areas. Staffing plans were finalized before appraisal and were updated after restructuring, while time-based consultancy contracts, Bank handholding and training provided by Bank staff and consultants were also used; however, these trainings should have been increased due to the inadequate capacity.

41. **Knowledge.** The design integrated knowledge generation and dissemination through the improvement of CNIGS capacity, equipment and data acquisition, and an enabling environment for the inclusion of EO for project component preparation as well for needs assessment after Hurricane Matthew.

42. **Procurement and Financial Management (FM).** Assessments during project preparation had pointed to high procurement and FM risks due to poor capacity. At appraisal, manuals on FM and procurement existed as both units were implementing Bank projects; these manuals were updated over the course of the project. Procurement and FM support consultants were hired to train and help both ECP and ECE implementing units in bridging their capacity gaps in preparing timely accounts and reports.

43. **Community participation.** The project design incorporated the identification of beneficiaries based on a transparent participatory process that was complemented at the second restructuring by the inclusion of women. This measure created confidence and resulted in a larger adoption among communities in the South and Delmas. The social team carried out a tailor-made training at the local level to improve understanding of DRM issues, especially appropriation by micro and small enterprises and communities.

B. KEY FACTORS DURING IMPLEMENTATION

Factors subject to government and/or implementing entities control

44. **Commitment to DRM process.** MTPTC demonstrated a strong commitment to improve the resilience of the transport sector. As the MICT was affected by the high ministers’ turnover, the DPC remained committed to pursuing the PDO and the soft IRIs, namely, to legalize the National DRM System, consolidate the build up at the local level (CCPCs), and the generation and usage of scientific and technical knowledge.



45. **Funds flow, staffing, procurement.** Implementation started slowly, mainly because of the lack of adequate management, staffing and delays in procurement of several contracts, insufficient budgetary allocations for resettlement compensation, and delayed fund release by UCP for all the DRM contracts, as the MICT had a high turnover of ministers needing to be familiarized with the project before signing contracts and payments (see Figure 2), unlike the UCE that increased disbursements after RAI were finalized and priority roads and bridges were firmed up.

46. **Restructuring.** Overall project implementation consistently improved, following the project's first two restructurings in 2016 and 2017, particularly for Components 1 and 2 by the end of 2018. These restructurings provided further clarity to the results framework and reallocated funds between implementing agencies for greater effectiveness.

47. **Collaborative and participatory approach.** Implementation agencies sought collaboration with key stakeholders as a key to successful project implementation: capacity building at all levels; data acquisition; development of plans; and implementation of pilot shelter activities. LWI resulted in a remarkably high level of active and productive participation by community members, local organizations and micro-small enterprises. Such collaboration and participation led to a more effective implementation of activities than would have been otherwise the case.

Factors subject to the World Bank Control

48. **Adequacy of supervision.** Sixteen implementation support missions provided the UCP and UCE with extensive support from the Bank. These missions made sure that the back-on-track action plan suggested early on by the Bank was effective in implementing mitigation measures. Bank supervision missions, which helped to identify key implementation challenges and possible solutions, were organized separately by the DRM and transport teams after the MTR; this resulted in reduced coordination between the DRM and transport aspects of the project.

49. **Regular, strategic, outcome-focused support.** The Bank worked with the government of Haiti and the project agencies to complete the four restructurings in a timely manner. Bank staff and consultants provided expert guidance during regular missions and interim technical missions on procurement, finance, safeguards, and monitoring and evaluation. The Implementation Status and Results (ISRs) candidly detailed project setbacks and challenges and recorded the agreed solutions to overcome them. After the fourth restructuring, the IP rating was upgraded from MU to MS as activities were completed or under completion with some of them transferred to the PGRAC allowing the project to spend most of the funds.

Factors outside the control of the government and/or implementing agencies

50. **Between 2012 and June 2020, Haiti was hit by 16 floods, seven hurricanes, two droughts, an earthquake, two cholera outbreaks and the COVID-19 pandemic, with Hurricane Matthew¹⁴ disrupting project implementation. Other exogenous factors were:** political gridlock and social unrest, interspersed with spikes in violence that lasted during the life of the project; and violence and unrest which culminated to new heights during the final two years and that seriously affected project implementation in certain regions, and therefore its results. Depreciation in the exchange rate of the Haitian gourde by 169 percent vis-a-vis the US dollar from effectiveness affected the implementation of some contracts, as local costs were not adjusted for inflation. The US dollar appreciated by 12 percent against the SDR, which reduced the project envelope by 5 percent from US\$80 million to US\$76 million, affecting the finances of the project, and leading to a reallocation of funds among different components during the restructurings. Eight different ministers of MICT during project implementation meant multiple re-appropriation of the

¹⁴ Hurricane Matthew declared by NOAA a 1-in-1,000 Year Flood Event: <www.weather.gov>



project by the new minister, and administrative burdens associated with delayed signatures of documents and approvals for payments (Figure 2). Lack of local capacity, adequate services and contractor creditworthiness, especially after the gourde depreciation, also affected the project (See Annex 9).

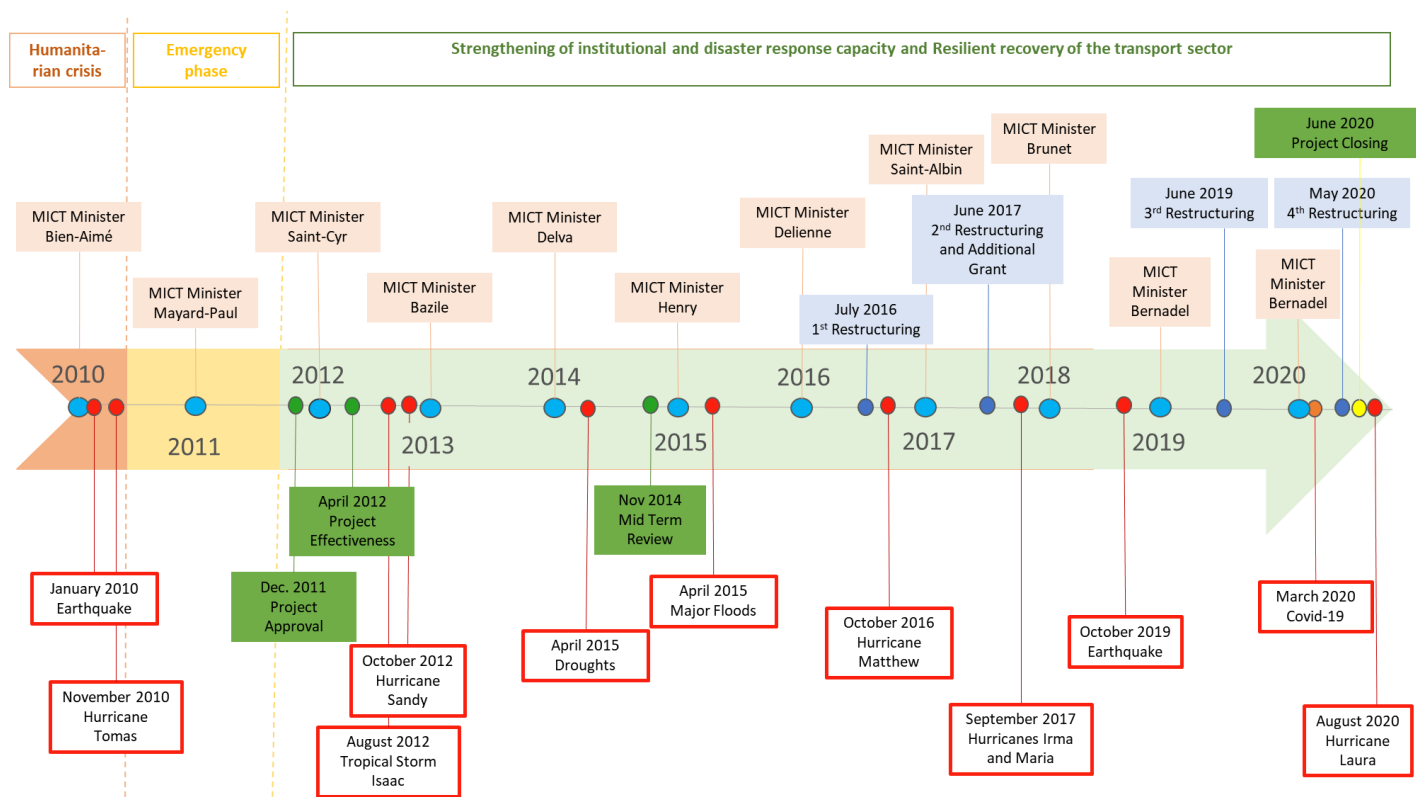


Figure 2: Timeline of Institutional Changes, Main Disasters and Project Milestones

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

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

M&E Design

51. **The monitoring arrangements as described in the EPP were in accordance with generally accepted practices.** The project would use various monitoring and evaluation tools to assess the impact of the project on direct beneficiaries, including the establishment and operation of: (i) a management information system (MIS); (ii) a baseline survey within six months of project effectiveness; (iii) semi-annual technical audits; (iv) an MTR; (v) a final project evaluation; and (vi) regular monitoring and evaluation reports. Most DRM baselines were appropriately set during appraisal, while transport baselines were set during the first restructuring as per project design and finalization of the RAI. Some indicators and targets were too ambitious for the construction capacity of the UCP and the country's FCV conditions added to the uncertainties under which the project was implemented (Figure 2). However, restructurings were realistically used to adjust indicators and their targets. For example, the transport outcome level indicator was replaced during the second restructuring as it would not be appropriate to compare the number of road closure days without having a clear



measurement of the intensity and impact of disasters affecting the road section. The number of emergency shelters to be rehabilitated or constructed had to be downscaled from 25 to 12, while the number of spot interventions to protect local access was increased from 20 to 40. Gender targets were set too high in the Haiti context, where the baseline inclusion of women in public institutions was very low. IRIs were increased significantly from seven at appraisal to 19 after the third restructuring.

M&E Implementation

52. **M&E procedures were improved over time.** Progress reports, begun in 2013 and submitted by UCP and UCE, did not provide updates on the agreed indicators. This problem was resolved after the MTR because both implementing units received Bank support to improve monitoring and evaluation implementation. Monitoring and evaluation data on all activities were collected, measured, recorded, analyzed, verified and stored—including data disaggregated by gender—after the second restructuring. Monitoring and evaluation of short- and long-term results during implementation were based on the results framework.

M&E Utilization

53. **Reports and information submitted by the UCP and UCE provided key inputs to prepare the MTR and ISRs and plan midcourse corrections, although some delays were reported.** After adjusting the project baseline following the first and second restructurings, data was collected and analyzed on outcomes and outputs. This helped project rescoping during the Third Restructuring, as well as the systematic evaluation and appropriate rating of different aspects of the project.

Justification of Overall Rating of Quality of M&E

54. **Overall M&E quality is rated as Modest.** The monitoring and evaluation design was adequate, but its implementation was not timely to assess the achievement of the PDO and measure project implementation progress, especially during the initial stages.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

55. **Compliance with overall social and environmental safeguards is rated Moderately Satisfactory.** At appraisal, the project was rated “Category B” and triggered the following Bank safeguard policies: Operations Policy (OP) 4.01 Environmental Assessment; OP 4.11 Physical and Cultural Resources; and OP 4.12 Involuntary Resettlement.

56. **The project implemented the environmental safeguard policies effectively, despite significant obstacles such as Hurricane Matthew, socio-political unrest, and the spread of COVID-19.** During the early years of implementation, compliance with safeguards was “Satisfactory”, as: (i) all appropriate safeguards instruments (ESIA, ESMP and the Resettlement Action Plan, RAP) were timely prepared and disclosed; and (ii) no issue interfered with the smooth implementation of these instruments. However, gaps in compliance with Bank safeguards policies and procedures were identified in the later years of the project. One transport site showed environmental, health and safety (EHS) issues in inadequate workers’ gear and occupational hazards; these were subsequently rectified.

57. **Social safeguard policies were also effectively implemented by the project.** Site visits allowed the client to monitor measures to prevent or mitigate impacts of labor influx through sensitization and implementation of signed codes of conduct by all workers. Staffing was not always in compliance with the OP and staff time dedicated to the project could not be pin pointed, as staff worked for different Bank and other development partner projects. The



project's ISRs rated compliance with social safeguards as "Satisfactory" or "Moderately Satisfactory" through May 2018, when the rating was dropped to "Moderately Unsatisfactory" due to extended delays in compensation for involuntary resettlement. The reasons include bureaucratic obstacles to legalize land titles, difficulties in identifying project affected people (PAPs), PAPs living abroad, and bureaucratic procedures to print checks and delays by the government of Haiti in paying compensation. The rating was then upgraded when all compensation issues were resolved.

58. **The project significantly improved the implementation of a Grievance Redress Mechanism (GRM) despite less staff-time dedicated to the GRM as described in the Operational Manual.** The GRM received questions and grievances through focal points at the community level; grievances were also received during bimonthly site visits and consultation meetings with beneficiaries. These grievances were addressed in a timely and satisfactory manner (see Para. 39).

59. **Financial Management.** Compliance with the project's financial management was moderately satisfactory until 2017 and was downgraded to "Moderately Unsatisfactory". Moderate and recurrent shortcomings in financial management jeopardized the ability of UCP and UCE to provide the timely and reliable information required to manage and monitor project implementation. The increased volume of work of new projects assigned to these units, without adjusting their capacities, posed challenges that affected the ability to maintain acceptable FM arrangements. However, most audit reports and interim financial reports (IFRs) were provided on time and were accepted by the Bank. Difficulties in FM were: (i) lack of pro-active preparation, updating and execution of the budget and low project execution in comparison to the annual planned activities; (ii) long delays in the submission of applications for advances to the designated accounts, and in obtaining refunds of unutilized balances from UN agencies; (iii) discrepancy between the expenditures incurred in the project records and the expenditures recorded in the Bank system; (iv) use of different accounting systems that were not satisfactorily functional and updated; (v) delays in submitting IFRs as agreed in the financing agreements; and (vi) unclear staff-time allocation for the project. Some of these issues persisted until the end of the project, despite the efforts of the Bank team in guiding project FM staff to address them.

60. **Procurement.** Compliance with the project's procurement regulations was moderately satisfactory until closing on June 2020. Procurement remained satisfactory and led to the timely issuance of bid documents and evaluation of bids and proposals until 2016. Contracts thereafter, were significantly affected by delays in signing or amendments to contracts, mainly on account of : (i) an increase in running costs and operating expenses that sometimes resulted in an adjustment to contracts, for activities with a significant share of imported goods affected by the depreciation of the gourde vis-à-vis the US dollar; (ii) unclear terms of reference, resulting in financial proposals being higher than the available budgets and unclear staff-time allocation by the contractors to the project; and (iii) delays in updating activities in Systematic Tracking of Exchanges in Procurement (STEP). STEP was fully implemented for procurement management only in 2019. Contract management was a challenge and resulted in delays and poor implementation of contracts and in the termination of some contracts at the last minute.

C. BANK PERFORMANCE

Quality at Entry

61. **The Bank deployed due diligence in preparing the emergency project using a framework approach to ensure flexibility.** The project was prepared in nine months—April to December 2011—in the face of extremely challenging circumstances after the 2010 earthquake. Project activities were identified through close consultations with the government of Haiti, notably the MITC and MTPTC. Project activities provided tailor-made technical assistance to pursue DRM strengthening and the resilience of the transport assets in vulnerable areas. The project team drew on the Bank's global experience across several DRM and transport projects as well as lessons from post-earthquake investments in



Haiti—PUGRD, PRODEPUR and PROReV—and capitalized on the on-going dialogue with the government of Haiti, with the DPC and MTPTC.

62. **The project basics were sound, the components well targeted, and the delivery mechanisms had proven effective in the past**, despite the emergency situation in Haiti in the aftermath of the 2010 earthquake in an FCV context. Some targets and baselines, especially for the transport component, were to be established or revised during project implementation. The Bank ensured that the project was well prepared and had met the Bank's strategic, technical, economic, institutional, financial, safeguard and fiduciary requirements. The risk assessment was comprehensive, and appropriate risk management measures were included in the project design and in the implementation support plan. The results framework was sound, with three outcome indicators as well as 19 IRIs, after the second restructuring.

63. **The Bank embedded the emergency response component (Component 4) in the project design that proved to be an innovation after Hurricane Matthew.** The RAI methodology had to be developed and applied to determine the key transport assets that had to be brought to all-weather standards. The first restructuring enabled not only the baselines to be adjusted and the targets to be calibrated, but also enabled revisions and fine tuning of some PDOs and IRIs to ensure feasible monitoring, given the circumstances. The project design was flexible in adjusting to changing conditions and to evolving priorities, as the project was affected by exogenous factors, notably Hurricane Matthew. The second restructuring helped put the project back on track, while the additional grant helped the project focus on the transport assets affected by the hurricane. The third and fourth restructurings were used to ensure that the project kept pace, and that the indicators were more realistic, while the delivery of certain activities was transferred to PGRAC following the COVID-19 pandemic.

Quality of Supervision

64. **The Bank provided timely and adequate support and guidance to the project at the national, local and community levels.** The implementation of project activities was supported by bi-annual supervision missions and by a multidisciplinary team although, by 2016, field missions were led separately by sector owing to logistical constraints. Field visits and multi-stakeholder and development partner discussions were integral to supervision missions. The achievement of the PDO was central to the team's efforts, especially during the project's four restructurings. The Bank team reported on project status candidly in aide-memoires and ISRs, listing achievements, shortcomings, challenges, and actions required to get the project on track to realize planned outputs and outcomes. Such actions included direct and consultant support through training and assistance, especially for FM. Appropriate solutions were devised during supervision missions; for instance, the UCP's lack of experience in managing construction and other service contracts was addressed by tapping the United Nations Office for Project Services (UNOPS) for the construction of the multipurpose center, and by resourcing the World Food Program (WFP) for setting up a communication network. Yet, the task team leaders' turnover had some bearing on the supervision timeliness when the changes occurred.

65. **The Bank team worked with the project agencies to restructure the RF to measure project outcomes better as well as to provide greater clarity to project officials.** The reallocation of funds among project components and the AF after Hurricane Matthew helped increase the scope of the project. In turn, it contributed to the important outcome of building much-needed DRM capacity and the enactment of the National DRM System as well as in improving the resilience of the transport sector.



Justification of Overall Rating of Bank Performance

Rating: Moderately Satisfactory

66. **Bank performance is rated Moderately Satisfactory.** The Bank prepared an emergency response project and revised it when necessary, through restructurings and additional financing. The Bank provided regular, timely, and sound implementation support, differentiating technical advice to each unit to solve challenging issues and to ensure the quality implementation of all components. The Bank brought together multiple stakeholders, various tiers of government of Haiti, civil society and development partners to move forward the DRM agenda. The Bank's support, advice, reporting, and supervision were acknowledged and appreciated by all stakeholders from government agencies, development partners to communities. However, there were some weaknesses identified in the MTR that the Bank should have been more pro-active in addressing, affecting the implementation progress after the firsts and second restructurings.

D. RISK TO DEVELOPMENT OUTCOME

67. **The enacted National DRM System, the Earth observation (EO) knowledge base, communications and early warning systems, and transport sections developed under the project face moderate risk to sustainability.** The continuity and further strengthening of these achievements are supported by ongoing projects, such as MDUR, PGRAC, PARR and RPCRR. These interventions are designed to support all layers of government and beneficiaries to increase resilience and manage natural shocks. The data and knowledge base developed by the project will continue to be used by the government, development partners, academia, NGOs, and possibly beneficiaries, to formulate strategies, shape policies and design programs and projects to manage future disaster risks better.

68. **The successor projects need to focus on improving the operations and maintenance of post-disaster plans and financing of outputs:** (i) the DPC within MICT for communications and early warning systems and the CNIGS for EO data; (ii) the FER within MTPTC with micro-small enterprises and communities for escape routes and key bridges that should be routinely maintained by FER; and (iii) and the DPC within MICT as well as MSPP and MENFP with micro-small enterprises and communities for shelters and multipurpose management and construction. The small infrastructure requires only low-budget maintenance that should be assumed by the communities in conjunction with CCPCs, and under CCPCs' supervision.

69. **Political instability, the difficult economic outlook, the COVID-19 pandemic, and civil unrest continue to remain an important characteristic of Haiti's landscape.** While the National DRM System has been enacted, a buttressing of the system by development partners, relevant national institutions and communities will increase political commitment and mainstream the DRM process. The DRM approach gains momentum as communities benefit from the results of the painstaking efforts of international, national and local stakeholders over the years.

V. LESSONS AND RECOMMENDATIONS

70. **The World Bank long-term judicious, sequential and multisectoral engagement with the client and communities paid off and led to the formulation and adoption of a badly needed National DRM Strategy in a FCV country.** The Bank maintained the policy dialogue with the Client over the years to support the preparation and adoption of the DRM legal and institutional framework, and the enactment of the National DRM System after more than ten years in the making. This transformative outcome was attained by blending Bank instruments over the years—such as Investment Project Financing (PUGRD, PRGRD), Development Policy Operation (RPCPP), and Trust Funds (GFDRR)



providing grants—to Haiti, an FCV country. To by-pass the gridlock at the central level, the long-term focus was on building the capacity of CCPCs and communities, and engagement and ownership at the local level so they become key partners in DRM preparedness, and response while relying on beneficiaries' peer pressure to spearhead policy change. Concomitantly, the gradual building of resilient key transport infrastructure proved instrumental to maintain all-weather mobility as well as flow of goods and services for rural communities that proved instrumental after events such as Hurricanes Irma and Laura. Also, building the EO knowledge will provide decision makers with better risk assessment capability to design policies, programs and projects in the future. Importantly, the Bank maintained the policy dialogue over the years to support the preparation and adoption of the DRM legal and institutional framework, and the enactment of the National DRM System after more than ten years in the making. Looking forward, it is crucial to sustain the momentum of deploying the National DRM System by: (i) clearly defining institutional prerogatives, attributes and coordination mechanisms and expand the adoption to all branches and tiers of government of Haiti, NGOs and communities; (ii) adopting a flexible, participatory, EO-based and inclusive stance in the design of policies, planning, and implementation; and (iii) ensuring the strengthening of the newly elevated DGPC and the CCPCs to sustain effective emergency response (Annexes 8 and 9).

71. The multisectoral approach allowed to gradually mainstream DRM in critical sectors starting with transport as being the modal backbone of mobility and flow of goods and services after a disaster where innovation and flexibility helped increase the road network resiliency. The approach was initiated with the 2005 PUGRD, where two distinct units implemented the project. The PRGRD had the same architecture, with the two units implementing the transport and DRM activities. The transport component adapted to a complex and changing situation in Haiti through three successful approaches: (i) the pre-CERC earmarked funds in stand-by mode were efficiently disbursed after a catastrophic event (i.e., after Hurricane Matthew); (ii) innovative, reliable, less expensive engineering solutions, such as new gabion reinforcement techniques to increase the resilience of transport infrastructure in flood-prone areas; and (iii) trained and empowered men and women for LIW, building unique skills that would continuously be needed for resilient local transport upkeep. Proper and continuous training of beneficiaries on gender neutral LIW to develop skilled laborers—corps de métiers—proved instrumental in building resilient assets at the local level. This inclusive approach could be extended and diversified to develop skilled worker expertise for building disaster-proof buildings (e.g., houses, schools, and health centers), using flood-proof and coastal erosion grey and green interventions. The linking of unique income-generation skills of beneficiaries to ongoing government DRM programs has ensured ownership of assets, upkeep, sustainability and resilience (Annex 8).

72. DRM knowledge proved critical to inform decision making and helped Bank and other development partner prepare resilient project. The Bank helped build scientific and EO capabilities to design policies, programs and projects and the use of EO is gradually being at the core of a DRM decision-support system. The DRM decision-support system and tools present risk information in the appropriate way to be understood and assimilated by the end-user. When these systems will be fully operational under the ongoing PGRAC, his system and these tools will be able to simulate and predict events to help formulate more effective strategies, design policies, EWS, and prioritize programs and projects with real-time monitoring capabilities that allow for proper evaluation and recalibration. This domain has also open opportunities and internship for fresh university graduates in Haiti hence contributing to jobs and the new economy.

73. The DRM multisectoral implementation arrangements presented, both advantages and challenges as the project was implemented by two distinct units under the MICT and MTPTC, while well calibrated contractual arrangements proved effective. Hosting the implementing unit within each line ministry proved effective as each unit had its technical comparative advantage: transport for the UCE and DRM soft interventions for the UCP. However, the coordination mechanism between the two units suffered by the end of the project and requires to be formally



established and institutionalized across sectors in the future to ensure efficiency, know-how and experience sharing of lessons learned. In an FCV country with low capacity, the building of a super sectoral implementing unit to oversee several projects could be effective but should constantly be assessed. The tendency to increase the workload of good performing implementing units such as UCE executing several projects could affect their performance, if they are not properly monitored and effectively staffed. Yet, relying on contractual arrangements with clearly defined scopes and schedules with UN agencies and accredited MDODs, especially in unsafe areas, proved effective as the scope of the contracts and their timelines were clearly defined and complied with. Adequate staffing, continuous capacity building and performance monitoring are pivotal measures that should be adopted to fortify such productive implementing agencies that could manage several projects in FCV countries. In case of considering more than one implementation unit, the Bank should improve coordination within multisectoral interventions, such as DRM and transport, so that outputs and outcomes are efficiently achieved in FCV countries (Annex 8).



ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Improving disaster response capacity & enhancing the resiliency of critical transport infrastructure

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Line ministries developing an action plan for vulnerability reduction	Number	0.00 01-Dec-2011	5.00 01-Dec-2011	2.00 25-Jul-2016	2.00 24-Jun-2020

Comments (achievements against targets):

Target was achieved at 100%. The original target of 5 line ministries (MSPP, MENFP, MARNDR, MPCE and MEF) was reduced to 2 during the First Restructuring following the MTR due to delays in finding local consultants (allocated budget could not accommodate the hiring of international consultants) with the adequate skills to perform the training and produce the action plan for vulnerability reduction. The the MSPP and the MENFP benefited from tailor-made tool (safe hospitals and safe schools respectively) development and staff training while the 2 action plans were formulated by the end of the project.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Share of population living in a municipality with a CCPC (Comite Communal de	Percentage	45.00 01-Dec-2011	40.00 01-Dec-2011	75.00 25-Jul-2016	77.30 27-Jun-2020



Protection Civile - Municipal
Civil Protection Staff) of
category 2 or higher

Comments (achievements against targets):

Target was exceeded (+3%). The original target of 40% was increased to 75% after the First Restructuring. After delays to initiate the capacity building process (change in Minister delaying the contract signing), four MDODs accredited by DPC were contracted to carry out tasks in dedicated geographical areas.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of beneficiaries from an improved and resilient investments on the road network	Number	0.00 01-Dec-2011	70000.00 25-Jul-2016	150000.00 25-Jul-2016	150000.00 30-Jun-2020
Percentate of Female Beneficiaries from an improved and resilient investments on the primary and secondary road network	Percentage	0.00	50.00	50.00	50.00

Comments (achievements against targets):

Target was achieved at 100%. The PDO target to restore all-weather road access for more than 150,000 direct beneficiaries, of which 50% women and 1.4 million indirect beneficiaries was successfully achieved. During the Second Restructuring following Hurricane Matthew with an additional financing, the target was more than doubled from 70,000 to 150,000 beneficiaries to which the gender sub-indicator was added.



A.2 Intermediate Results Indicators

Component: Natural Hazard Risk Assessment and Analysis

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of beneficiaries from a training in disaster risk management, disaggregated by sex	Number	0.00 01-Dec-2011	400.00 25-Jul-2016	799.00 27-Jun-2019	1520.00 26-Jun-2020
Dissaggregation by sex in percent	Number	0.00 02-Dec-2019	50.00 01-Dec-2011		14.00 26-Jun-2020

Comments (achievements against targets):

Target was exceeded (+90%). The target was revised upward during the First Restructuring once the MDODs accredited by DPC were contracted. The MDODs performance was beyond expectation as MDODs almost doubled the set target. However, the gender target was not reached as it was ambitious: most women in targeted areas did not have free-time for training as they are full-time housewives handling domestic tasks (water and wood hauling, cooking, etc.) as well as sometimes other tasks such as tending and harvesting.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of ministry officials	Number	0.00	75.00	70.00	127.00



benefitting from a training program in risk management, disaggregated by sex		01-Dec-2011	25-Jul-2016	27-Jun-2019	26-Jun-2020
Dissaggregation by sex in percent	Number	0.00	50.00		23.00
		02-Dec-2019	01-Dec-2011		26-Jun-2020
Comments (achievements against targets): Target was exceeded (+81%). The target was revised downward during the Third Restructuring. However the performance of the MDODs' was beyond expectation and the target was exceeded by 81 percent. The gender target was not reached as it was ambitious: women civil servants in Haiti do not exceed 30% of the public work force.					
Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Percentage of the national territory covered by a high resolution Digital Elevation Model and high resolution aero-photography	Percentage	0.00	100.00	100.00	100.00
		01-Dec-2011	25-Jul-2016	25-Jul-2016	26-Jun-2020
Comments (achievements against targets): Target was achieved at 100%. The target remained unchanged during the duration of the project.					
Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised	Actual Achieved at



				Target	Completion
Number of risk maps are produced, disseminated and available in an open-data online platform	Number	0.00 04-May-2017	35.00 29-Jun-2017	35.00 29-Jun-2017	0.00 25-Jun-2020

Comments (achievements against targets):

Target was not reached. The necessary risk information to develop the risk maps was produced, but the risk maps were not finalized. Constrains to the development of the risk maps include payment delays related to the high turnover of ministers needing to be familiarized to the project, as well as to seasonal constraints during the rainy seasons. The finalization of the 35 maps was transferred to the PGRAC project.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
A first pilot detailed hydrological risk modelling is developed using the Digital Elevation Model	Yes/No	N 15-Mar-2017	Y 29-Jun-2017	Y 29-Jun-2017	Y 25-Jun-2020

Comments (achievements against targets):

Target was achieved at 100%. The result indicator was introduced during the Second Restructuring following Hurricane Matthew. Modelling results were used for the preparation of the MDUR project. With significantly strengthened capacity the CNIGS delivered the following project activities, i.e., geo-referenced database, layers for modeling, open-data platform www.haitidata.org, managed by the CNIGS. Several ad hoc national and regional workshops on the availability and the potential use of the data were organized. Towards the end of the project, a high-profile event was scheduled to increase the CNIGS visibility and share its new acquired capacity, but was cancelled due to the COVID-19 pandemic.

**Component:** Support to disaster preparedness and Emergency Response

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of CCPC Staff trained and level 2-certified (Office Management and Emergency Operation Center Management), disaggregated by sex	Number	0.00	2300.00	2800.00	3313.00
		01-Dec-2011	01-Dec-2011	27-Jun-2019	26-Jun-2020

Comments (achievements against targets):

Target was exceeded (+18%). Following the MTR, four MDODs were hired and their performance exceeded the initial target of 2,300 trained CCPC staff, therefore the indicator target was increased to 2,800. CCPCs were rated according to 4 categories: (i) Category 1: Excellent Level - No need for restructuring but reinforcement activities needed to maintain efficiency (ii) Category 2: Good Level - Low need for restructuring with moderate efficiency-enhancing activities; (iii) Categories 3: Medium Level - Need for restructuring and major efficiency-enhancing activities; (iv) Category 4: Low Level - Complete restructuring to be done and restructuring action plan to be drawn up.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of level 2-certified operational Municipal Civil Protection Committees (CCPCs)	Number	0.00	144.00	140.00	119.00
		01-Dec-2011	01-Dec-2011	25-Jul-2016	25-Jun-2020

Comments (achievements against targets):



Target was missed by 15%. The original target was reduced to 140 level 2- certified operational CPCCs during the First Restructuring. The COVID-19 pandemic disrupted the final phase of the training. Level 2-certified training continues under the PGRAC.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
A national radio communication system has been initiated and at least four pilot departments have been connected to the national level	Number	0.00 01-Dec-2011	4.00 25-Jul-2016	4.00 25-Jul-2016	4.00 26-Jun-2020

Comments (achievements against targets):

Target was achieved at 100%. Having the adequate expertise and capacity, WFP was contracted to install the radio system and train the relevant officials.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
A draft road map with a score card for a disaster risk management system is developed	Yes/No	N 01-Dec-2011	Y 25-Jul-2016	Y 25-Jul-2016	Y 25-Jun-2020

Comments (achievements against targets):



Target was achieved at 100%. The intermediate indicator was strategically added during the First Restructuring. The UCP/MICT defined and implemented the timeline to maintain the policy dialogue, develop and initiate a process review, and finalize the DRM institutional and legal framework that was enacted and officially released on June 15, 2020.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Pilot evacuation shelters have been rehabilitated or reconstructed with multi-hazard resilient measures	Number	0.00	25.00	12.00	5.00
		13-Jan-2017	29-Jun-2017	27-Jun-2019	26-Jun-2020

Comments (achievements against targets):

The target was not achieved (-42%). This activity suffered from the lack of engineering capacity at the UCP/MICT delaying the rehabilitation of emergency shelters. The indicator target was downsized during the Third Restructuring. Only 5 emergency shelters were finalized and the remaining 7 will be finalized in the PGRAC.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Pilot evacuation shelters tool to evaluate and prioritize shelters needs is developed and used in the affected area by Matthew	Yes/No	N	Y	Y	Y
		15-Mar-2017	29-Jun-2017	29-Jun-2017	25-Jun-2020

**Comments (achievements against targets):**

Target was achieved at 100%. 378 shelters have been evaluated in Sud, Nippes and Grande Anse (representing around 1,033 structures). The developed prioritization methodology will become the standard for risk-based planning of future investments and is currently used by the PGRAC.

Component: Rehabilitation of Vulnerable and Damaged Critical Transport Infrastructure

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Roads rehabilitated, Non-rural	Kilometers	0.00	100.00	100.00	120.00
		01-Dec-2011	25-Jul-2016	25-Jul-2016	30-Jun-2020

Comments (achievements against targets):

Target was exceeded (+20%). The implementation of these activities was on track thanks to the already experimented and efficient implementation unit UCE/MTPTC, while selectively using UNOPS.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of bridges built or rehabilitated with satisfactory technical standards	Number	0.00	5.00	6.00	6.00
		01-Dec-2011	01-Dec-2011	29-Jun-2017	30-Jun-2020

Comments (achievements against targets):



Target was exceeded (+20%). The implementation of these activities was on track thanks to the well performing UCE/MTPTC.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of spot interventions to protect the local access executed with satisfactory technical standards	Number	0.00 01-Dec-2012	20.00 25-Jul-2016	40.00 29-Jun-2017	112.00 30-Jun-2020

Comments (achievements against targets):

Target was exceeded (+180%). The original target set during the First Restructuring was increased during the Second Restructuring following Hurricane Matthew. Thanks to the UCE/MTPTC efficiency and the depreciation of the Gourde, a total of 112 critical points was treated in the South, South-East, Grande Anse allowing safe and all-weather access to more than 120 kilometers of roads.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of departments with investment plan to improve all weather rural accessibility based on the Rural Index Access methodology	Number	0.00 01-Dec-2011	3.00 25-Jul-2016	5.00 29-Jun-2017	5.00 30-Jun-2020

Comments (achievements against targets):



Target was achieved at 100%. The original target set during the First Restructuring was increased during the Second Restructuring following Hurricane Matthew.

In addition to the development of the RIA methodology, 5 investment plans were developed, and the RIA methodology is being mainstreamed and used to draw the plans of other Departments under new projects.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of bridges and road sections damaged by hurricane Matthew that have been repaired or consolidated with satisfactory technical standards	Number	0.00 15-Mar-2017	15.00 29-Jun-2017	15.00 29-Jun-2017	27.00 30-Jun-2020

Comments (achievements against targets):

Target was exceeded (+80%). 27 roads segments damaged by Hurricane Matthew were repaired, and 11 post-Matthew work packages were delivered in compliance with technical standards.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of bridges damaged by hurricane Matthew that have been rebuilt with satisfactory technical	Number	0.00 15-Mar-2017	3.00 29-Jun-2017	1.00 27-Jun-2019	1.00 30-Jun-2020



standards

Comments (achievements against targets):

Target was achieved at 100%. The original target was set after Hurricane Matthew (Second Restructuring) to complete the rehabilitation and construction of 3 bridges. Because of delays accumulated in the bidding process and potential security constraints on site, the target was reduced to 1 bridge. Yet, 18 emergency bridges with their spare parts were supplied under the Project to increase the MTPTC preparedness.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of man/days of LIW generated by project activities	Number	0.00 15-Mar-2017	300000.00 29-Jun-2017	350000.00 27-Jun-2019	370000.00 30-Jun-2020
Female Beneficiaries	Percentage	0.00	30.00	30.00	40.00

Comments (achievements against targets):

Target was exceeded by 6%. UNOPS trained and empowered men and women to perform LIW building unique skills that will continuously be needed for resilient local transport upkeep. Moreover, income-generating activities attracted female to be enrolled in training and carry out the work.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Actions are taken in a timely	Yes/No	N	Y	Y	Y



manner in response to feedback received during consultation sessions with beneficiaries/project affected people(Feedback, Responses and Action are monitored and reported)		21-May-2017	29-Jun-2017	29-Jun-2017	30-Jun-2020
Comments (achievements against targets): Target was achieved at 100%. This target was introduced during the Second Restructuring following Hurricane Matthew to make sure actions, especially those related to post-Matthew, are taken in a timely manner in response to feedback received during consultation sessions by beneficiaries/project affected people.					



B. KEY OUTPUTS BY COMPONENT

Objective/Outcome 1: Improving disaster response capacity	
Outcome Indicator 1:	1. Line ministries developing an action plan for vulnerability: Achieved
Intermediate Results Indicators (not specified as TOC was inferred) and Key Outputs are merged	1. Number of beneficiaries from a training in disaster risk management: Exceeded.
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	2. Number of ministry officials benefitting from a training program in risk management: Exceeded. 3. Percentage of the national territory covered by a high-resolution Digital Elevation Model and high resolution aero-photography: Achieved. 4. Number of risk maps are produced, disseminated and available in an open-data online platform: Unmet. 5. A first pilot detailed hydrological risk modelling is developed: Achieved.
Outcome Indicator 2:	Share of population living in a municipality with a CCPC (Comité Communal de Protection Civile - Municipal Civil Protection Staff) of category 2 or higher: Achieved
Intermediate Results Indicators (not specified as TOC was inferred) and Key Outputs are merged	1. Number of CCPC Staff trained and level 2-certified (Office Management and Emergency Operation Center Management): Achieved.
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	2. Number of level 2-certified operational Municipal Civil: Unmet. 3. A national radio communication system has been initiated and at least four pilot departments have been connected to the national level: Achieved. 4. A draft road map with a score card for a disaster risk management system is developed: Achieved. 5. Pilot evacuation shelters have been rehabilitated or reconstructed with multi-hazard resilient measures: Unmet.



	6. Pilot evacuation shelters tool to evaluate and prioritize: Achieved.
Objective/Outcome 2: Enhance the resiliency of critical transport infrastructure	
Outcome Indicator 1:	1. Number of beneficiaries from an improved and resilient investments on the road network: Achieved.
Intermediate Results Indicators (not specified as TOC was inferred) and Key Outputs are merged	1. Roads rehabilitated, Non-rural: Exceeded. 2. Number of bridges built or rehabilitated with satisfactory: Achieved. 3. Number of spot interventions to protect the local access executed with satisfactory technical standards: Exceeded. 4. Number of departments with investment plan to improve all weather rural accessibility based on the Rural Index Access methodology: Achieved. 5. Number of bridges and road sections damaged by hurricane Matthew that have been repaired or consolidated with satisfactory technical standards: Exceeded. 6. Number of bridges damaged by hurricane Matthew that have been rebuilt with satisfactory technical standards: Achieved. 7. Number of man/days of LIW generated by project activities: Exceeded. 8. Actions are taken in a timely manner in response to feedback received during consultation sessions with beneficiaries/project affected people (Feedback, Responses and Action are monitored and reported): Achieved.
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	



ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Pierre Bonneau	
Jean Philippe Bazil (380174)	
Ann Marie Boulanger (405271)	
Jean-Martin Brault (371225)	Senior Water Supply and Sanitation Specialist
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Gamila Kassem (370962)	Counsel
Patricia E. Macgowan (9212)	
Christina E. Malmberg Calvo (15615)	
Michel Matera (314287)	Sector Leader
Carmelie Montuma (382103)	
Alois Ndorere (297461)	
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Fabio Pittaluga (268001)	Senior Social Development Specialist
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Gaetano Vivo (259943)	Disaster Risk Management Specialist
Frantz Voltaire (346501)	Driver
Van Anh Vu Hong (370125)	Senior Urban Development Specialist
Pauline Zwaans (301160)	Senior Operations officer
Supervision/ICR	
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Bruce MacPhail	Social Specialist
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Giovanni Michele Toglia	Team Member
Naraya Carrasco	Team Member
Marcela Nandllely Gonzalez	Team Member
Marie Eleonor Jean Baptiste	Procurement Team
Noris Viviana Sandoval Sierra	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		
FY11	7.249	38,126.52
FY12	36.351	161,160.13
FY17	0	584.84
FY19	0	179.50
FY20	0	0.00
Total	43.60	200,050.99
Supervision/ICR		



FY12	25.018	125,681.45
FY13	63.760	343,120.22
FY14	79.011	801,804.58
FY15	113.706	734,160.53
FY16	51.091	225,609.38
FY17	32.919	426,033.26
FY18	32.134	423,119.53
FY19	26.184	223,083.32
FY20	30.003	416,258.51
Total	453.83	3,718,870.78



ANNEX 3. PROJECT COST BY COMPONENT

Components	Amount at Approval (US\$M)	Suggested Amount with the Additional Financing (US\$M)	Actual at Project Closing (US\$M)	Percentage to total amount of project at Closing (%)
Component 1: Natural Hazard Risk Assessment and Analysis	3.50	4.10	4.10	100%
Component 2: Support to Disaster Preparedness and Emergency Response	14.50	13.58	13.58	100%
Component 3: Rehabilitation of Vulnerable and Damaged Critical Transport Infrastructure	37.00	49.60	49.60	100%
Component 4: Emergency Response and Recovery	1.00	0.94	1.49	159%
Component 5: Project Management and Implementation Support	4.00	4.78	4.23	88%
Total	60.00	73.00	73.00	100%
Net Total minus US\$ 4M cancelled and transferred to COVID-19 Bank Project	60.00	73.00	69.00	95%

Note: The appreciation of the US dollar vis-à-vis the SDR reduced the Amount at Approval from US\$60 million to US\$53 million at the first restructuring in July 2016. Hence, the US\$20 million AF were added to the US\$53 million to reach US\$73 million at the second restructuring after Hurricane Matthew. At the fourth restructuring, US\$4 million were cancelled and transferred to a COVID-19 response Bank project in Haiti. These cancellations are not reported in the system.



ANNEX 4. EFFICIENCY ANALYSIS

Background

1. Financial analysis and economic analysis differ in several ways. The objective of commercial profitability analysis is to assess the net financial results of a project from the investor point of view, while the national profitability analysis aims to identify and measure the net economic benefits of the project from the society point of view. Moreover, commercial profitability analysis is based on prevailing market prices, while economic analysis is determined with the help of adjusted prices (i.e., shadow prices) that are deemed to approximate true economic prices (reflecting the social opportunity cost, e.g., price distortions, subsidies, taxes, etc.). Similarly, for commercial profitability analysis, the time value of money is described by applying the private discount rate based on the prevailing interest rate of the capital market, while in the case of economic analysis, the social discount rate is applied, i.e., the rate at which the country can borrow money taking into consideration the country risk. Three main indicators are usually considered in the financial and economic analysis to determine the viability of the project:

- The Net Present Value (NPV), which is the difference between the discounted flow of total benefits and costs.
- The Internal Rate of Return (IRR), which is the discount rate that zeroes out the NPV or the interest rate that makes the NPV of all cash flows equal to zero. In other words, the IRR estimates the return on the project, expressed as a percentage or interest rate.
- The Present Value of Benefit-Cost Ratio (PVBCR), which is the ratio of the present value of benefits over the present value of costs over the life of the project. Sometimes the Benefit-Cost Ratio is based on undiscounted benefits to costs, but this is a less useful measure.

2. **Costs and Benefits.** Disbursement of IDA funds is considered as costs by year in the Benefit-cost Analysis (BCA). Benefits were calculated for Components 1, 2 and 5 associated with the DRM components; however, benefits associated with the transport components (Components 3 and 4) were not calculated for lack of data due to the difficulty of collecting car flow statistics after a disaster while disaster occurrence and intensity are difficult to predict. The risk premium per capita associated with the reduction of flood risk is detailed in Appendix 1 and is based on the reported storm and flood events over the last 25 years (University of Louvain Disaster Database) and targets 150,000 beneficiaries. The value of statistical life was calculated for Haiti based on OECD (2015) and the benefit transfer was based on Navrud (2009). See gained benefits' assumption in Appendix 1. Damages are not considered in the analysis, as no data was readily available on the infrastructure that withstood hurricanes (such as Hurricane Laura). Income generated by the beneficiaries from 370,000 person days is based on the GDP/capita/day.

Table 4.1: Benefit-Cost Analysis of the DRM Components

Indicators	Discount Rates over 20 years			Criteria
	4%	6%	8%	
NPV (US\$ Million)	9.7	6.9	4.8	>0
ERR (±%)	22%	22%	22%	≥ discount rate considered
PVBCR	1.7	1.5	1.3	>1

3. The project's DRM Components are viable with a Net Present Value (NPV) of US\$6.9 million discounted at 6 percent (although a 4% discount rate could be used, as Haiti is an FCS country with a growth rate of less than 1.5% since 2015 and a negative growth rate of 0.9% in 2019) over 20 years, an Economic Rate of Return of 22 percent, and a Present Value of Benefit over Cost Ratio (PVBCR) of 1.5 (Table 4.1).



Flood Risk Reduction Benefit Methodology

4. A risk premium to reduce the effect of storms and floods in Haiti was calculated based on past events over 25 years. As the calculation of damages is difficult to assess (historic data series is crude and unreliable), the risk reduction of death, injuries, post event immediate socio-economic activity and damages will be considered as benefits based on data provided. It is important to mention that event intensity in terms of death, injuries and damages is significantly underreported and the following results should be considered as a lower bound premium.

5. Weather hazards are the phenomenon, while risk is the likelihood of that phenomenon affecting all regions in Haiti. The likelihood, which is based on past events with a return period of 25 years, is estimated and refers to the percent chance or probability of a hazard happening in a specific place over a certain period of time. The risk premium or risk in monetary terms is the likelihood *multiplied* by the cost. Hence, for the costs, the value of statistical life (VSL) is used for premature death, the GDP per capita for 5.6 days per event and with the same number of days for post event recovery affecting people.

6. For premature death, a benefit transfer was applied to derive the VSL in Haiti. The transfer of the unit to adjust for differences in income value is as follows:

$$WPp = WPs \times (Yp / Ys)^{\beta}$$

Where:

WPp = willingness to pay in policy country

WPs = willingness to pay in study country

Yp = income in the country policy denominated in purchasing power parity dollar (PPP\$)

Ys = income in the country of study denominated in purchasing power parity dollar (PPP\$)

β = income elasticity for different environmental goods and services, which are considered normal goods, are typically greater than 0 (perfectly inelastic which would have meant that β is set at 1.2).

7. In this particular case, the income is conservatively assumed to be more inelastic, which means that the percentage responsiveness of quantity demanded is significantly and slightly lower relative to the percentage change in income respectively. The VSL for Haiti is US\$38,861 in 2019 for each premature death, and 10 percent of the VSL for each injured person (World Bank, 2016).

8. Damages (though underreported) are based on previous monetized damages over the last 25 years in the University of Louvain disaster database. As for the socioeconomic losses accruing immediately after the event, the affected population forgo an average of 4 days + 11 days (before and after the event) for storms and floods (over 365 days) per event of socioeconomic activities (professional activity, eating, schooling, health, coping, etc.) after the occurrence of an event. Hence, the project intervention could avert or reduce these disruptions and the GDP per capita (US\$755 in 2019, although the disposable income could be a better metric but was not readily available) is used for the gained socioeconomic benefits per event.

9. The likelihood and risk premium of storms (earthquakes were not added as an early warning system to predict earthquakes does not exist in Haiti) were calculated for Haiti over the last 25 years. Over the last 25 years (1955-2019), all 88 storms and floods occurring in Haiti are accounted for in the analysis (Table 4.2). These reported events affected 9.5 million people (the same population could be affected more than once), 7,777 people died, and 11,524 people were injured. The return period or years between events amounts to 0.28 or more than once a year, while



the event probability stands at 352 percent. The yearly death risk valuation over the period is US\$302.2 million, the yearly people affected risk valuation is US\$81.0 million while the yearly people injury risk valuation is US\$44.8 million. These figures are adjusted per capita to be used in the targeted areas of the project. In other words, an insurance policy against the risk of death, injuries and forgone socioeconomic activities could be in the vicinity of US\$34.83 per capita per year. This does not include direct effects (such as productivity losses, damages, and impairment) and indirect effects (such as the spread of disease).

10. The project is assumed to: reduce the average disruption days from fifteen days to eight days (four days per event and two days before and after the event); reduce average injuries by a third; reduce average deaths by a third, as reported by the data gathered after Hurricanes Irma and Laura (overall, Laura registered 31 deaths, seven injured persons, and eight missing persons in Haiti) in August 2020 due to the efficient work done by the CCPCs. These are preliminary results that could be refined when all data and impacts of Laura and forthcoming hurricanes are analyzed on a regular basis.

Table 4.2: Likelihood of Storm and Flood Events and Risk Premium over the last 25 years

Category	Last 25 years: 1985-2019					
	Unit	Event	Affected	Injury	Death	Damages
Period	Years	25	25	25	25	25
25-year Period mid-population considered	#	9,503,790	9,503,790	9,503,790	9,503,790	9,503,790
Storm and flood data	#	88	3,877,889	11,524	7,777	5,357,552,837
Return period (years between events)	Years	0.28				
Average death per event	#				88	
Average people affected per event	#		44,067	131		
Damages per event	US\$					60,881,282
Event Likelihood per year over the period	%	352%				
VSL ₂₀₁₉ per capita	US\$			3,886	38,861	
Yearly Death Risk valuation over the period	US\$			1,791,316	12,088,740	
GDP ₂₀₁₉ per capita	US\$		755			
Yearly People Affected Risk valuation for 3.11 + 11 days hence 14 days in total	US\$		4,523,281			
Yearly Damage Risk Valuation over the period	US\$					214,302,113
Yearly Risk Over the Period in 2019 prices	US\$/capita		10.04	3.98	26.83	
Forgone yearly risk value in 2019 prices in BCA	US\$/capita		4.62	1.23	8.29	
Benefit used per capita per year in the BCA	US\$/capita	US\$14.13/capita/year over 20 years				

Note: 1995 and 2019 mid-period is considered for the population. 2020 and 2031 mid-period is considered for the projected population. Damage cost reporting is inadequate.

Source: Author based on Louvain University Disaster database: www.emdat.be/database; Navrud (2009); World Bank (2016); and WDI (2020).

Reference

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

Unofficial Translation

The Government of Haiti (GoH) commends the World Bank on the work done through the Disaster Risk Management and Reconstruction project (PRGRD). The GoH is satisfied by the decision to continue the efforts initiated by previous administrations in the management of risks and disasters. Indeed, referring to the achievements and results of PRGRD I and II (AF), GoH still considers that the objectives of the project were relevant and that they were achieved overall. Their impacts undoubtedly contribute to the reduction of the risk of disasters in the country and to the improvement and strengthening of the national road transport network as well as the country's capacity to build its resiliency. GoH fully appreciated the support of the World Bank throughout the implementation of the project and the capacity demonstrated by the UCP/MICT and UCE/MTPTC in the coordination and technical and financial management of the project.

Assessing the Project's Impacts

Based on the project's achievements during its implementation and the results already recorded, some impacts can already be measured. We can notably say:

1. In view of Component 1, given the tools available and used, the number of people trained in knowledge and understanding of risk, the project had a considerable impact in taking risks into account in programs and projects in Haiti. Events including Understanding Risk in Haiti and the information and training workshops that followed made it possible to appreciate the enthusiasm of the participants, their need to understand and acquire knowledge about DRM. In addition, the engagement of the population, national and international institutions executives, in particular, tools for DRM decision-making on DRM such as aerial photographs, LiDaR products and associates and their use are all important elements proving the positive impact and importance of the project's achievements. For example: the use of Haitidata.org digital platform, as an open platform facilitating the sharing of information and documentation related to the DRM; LiDaR products allowing to formulate multi-risk communal plans in the South with UNDP support; and the production of risk maps at a high level of accuracy.
2. Sectoral disaster vulnerability reduction plans in the Education and Health sectors are major firsts in the field. This allows these sectors to make informed decisions to reduce vulnerability. Mechanisms are provided for their periodic review and updating. Knowledge of the importance of these tools has attracted strong interest from other sectors which have expressed the desire to have them as well.
3. In terms of institutional support, the project has contributed to the development of documents that have led to the enactment of the legal framework of Civil Protection and the National Risk and Disaster Management System (SNGRD). In this process, the CPD was elevated to the rank of Directorate General (DGPC). This change allows for a better positioning of civil protection structures at the national level and the dynamization and strengthening of the different structures of the system both at the central and territorial level.
4. Actions to strengthen the Joint Committees for Civil Protection (CCPC) under Component 2 have given them greater capacity and have made them more effective both at the organizational level and in



preparing and responding to emergencies. Recent events that have hit the country, including Hurricanes Matthew, Laura, the COVID-19 Health Crisis, have made it possible to appreciate the positive impact of the project by seeing the CCPCs in action, taking their responsibilities and accompanying the people of their commune through awareness-raising and response activities. Thanks to their interventions many of the loss of life were averted. CCPCs are more precise in their actions and, in the event of disasters, have dispatched timely information that improved decision-making effectiveness. It has even been noted that some of them take initiatives to mobilize resources for their operations or the implementation of risk reduction projects. For example, the CCPC of Les Anglais region has contacted NGOs working in its commune to try to mobilize resources for the construction of housing to relocate fishermen living in high-risk areas and the construction of a temporary shelter on land purchased by the committee itself. It is also worth mentioning the initiatives of the CCPC of the d'Aquin region through community actions that have been able to mobilize resources useful to its operation.

5. The functional assessment of shelters in the South has enabled the SNGRD to have reliable information on the number of shelters available for geolocation, capacity, and reliability. In addition, the project by rehabilitating shelter schools compensated for losses in the area following the passage of Hurricane Matthew. These interventions have enabled the beneficiaries, year-round, to have secure and more functional schools. It currently has water supply points, kitchen cafeterias and functional toilet blocks, ramps and access roads that facilitate traffic, considering the use of users with reduced mobility. Parent committees, principals, teachers, and schools expressed their satisfaction during the visits. It is regretted that the initiative in the Nippes region could not be completed but will be completed under the PGRAC.
6. Achievements in strengthening the transport sector by improving access, under Components 3 and 4 have reaped benefits to the population that was satisfied by the level of impact of these interventions. Interventions at the local level such as repairing critical points in the road network, building gabions, stabilizing and protecting riverbanks, installing bridges on rivers, among others, were highly appreciated by the beneficiaries. Users and residents are no longer hampered in their movement during rainy periods. Also, responses to crisis situations have been of paramount importance to the population. An example of this was the short-term re-establishing access to the areas affected by the construction of temporary bridges, e.g., the La Digue River in Petit Goâve). Roads that were damaged by water runoff, those cut off by flooded rivers thus affecting transport and trade were quickly rehabilitated. This allowed the resumption of traffic in these areas thus allowing people to go about their occupation properly.
7. It is necessary here to express the satisfaction of decision-makers and users in the face of sustainable interventions at the level of the road network. All these interventions at this level have strengthened resilience and increased the efficiency of the national road system.

Unrealized Actions

Under Component 2, it was found that activities could not be completed until the end of the project due to the situation stemming from the health and security crisis. They have been evaluated and appropriate decisions have been made. This was the case with the development of communication tools and community awareness for the



DPC, Application *Signalert and Application DEWN of Civil Protection*, also the development of risk maps based on LiDaR data in critical areas at the country level.

Moreover, due to the weakness of the operators, the multifunctional civil protection center and the Nippe shelters could not be completed.

The decision to transfer certain actions to the new MICT's PGRAC was appropriate and was validated. Also, funds that could not be used were transferred and used to facilitate the COVID-19 pandemic response instead of activating the PRGRD emergency component.

A Few Lessons Learned

The project achievements must be safeguarded, and lessons should be considered and considered in future actions. In view of the specific actions, GoH believes it is necessary to:

Strategically

Better integration of prevention into SNGRD actions must be considered in future actions - in addition to disaster preparedness and response measures, it is essential, among other things, to:

1. Implement an effective and sustainable prevention system;
2. Pay immediate attention to short-, medium- and long-term risks; and
3. implement mitigation work in flood-risk areas through initiatives related to planning and environmental protection.

Institutionally

Ensure the maintaining and dynamism of the decentralized structures of the Civil Protection. The CCPCs form the basis of the SNGRD. It is imperative, not only to continue their strengthening but also to facilitate their evolution. For this, special attention must also be paid to the central and departmental civil protection structures. Regular training at all levels, the strengthening of institutionalization must continue according to the general and strategic vision of the newly elevated DGPC.

The need to continue to energize and strengthen decentralized structures (CCPC and CLPC) based on the CFPB vision. It is important to ensure the training of all CCPC members (including brigadiers) and to continue until local Civil Protection Committees (CLPC) coverage is achieved at the national level.

Structurally

Strengthening the resilience of the road network is an asset to the country's development. There is a need to ensure the support and maintenance of the infrastructure established under the project while also involving the beneficiaries.

Conclusion

It is imperative to maximize the induced effects of the project. It laid the foundation on which other partners and



development actors had to build and build on to continue to collaborate and work with decentralized civil protection structures.

Effective strategic communication remains essential to promote achievements and ensure the collaboration of stakeholders, as well as better knowledge management to ensure the consolidation of achievements, design and execute new interventions. The work carried out, which undoubtedly helped to limit the loss of life in the event of disasters, guaranteed the non-displacement of the population, and supported the country's development efforts, and strengthened the resilience still need to be demonstrated and known by citizens and so are the activities generated under the project.

While deploring the constraints in the execution of the project, it is necessary to work proactively to make this different for future actions. This will involve taking steps to identify and circumvent constraints causing prolonged delays intermittently in the implementation of the project in conjunction with the UCP/MICT and UCE/MTPTC.

Considering all the above and the results of the evaluations carried out by both national experts and the World Bank that GoH welcomes, GoH concludes that the PRGRD I-II was a relevant project. Its implementation and achievements have been satisfactory and beneficial to the Haitian people.



ANNEX 6. SUPPORTING DOCUMENTS (IF ANY)

PRGRD EPP 2011

Restructuring papers 2016, 2017 (AF), 2019 and 2020

ISR (16)

Aide-Mémoires

Government ICR (in French) for the DRM and Transport Components

The National Disaster Risk Management System of Haiti enacted on June 15, 2020

Government Comments on Bank ICR (in French)

ANNEX 7. BEFORE AND AFTER PHOTOS

The populations of two geographical departments, South and Grand'Anse, benefited from the following road improvements: about 100,000 people.

Before	After
Section of the RN2 Metal nozzle protection	
	
Vieux Bourg d'Aquin Protection	
	
Boileau bridge banks Protection	
	



Before		After	
Multipurpose Chardonnières School additional structures, water fountain, sanitation and showers			
			
			
Multipurpose Ile à Vache School water tank solar powered pump			
			



Before	After		
Multipurpose Maranatha de Loris School fountain, kitchen, cafeteria, sanitation and showers			
			
			



ANNEX 8. THE BANK'S MULTISECTORAL APPROACH TO DRM IN HAITI

1. **Natural events have been extremely severe in Haiti.**¹⁵ Haiti's vulnerability to adverse natural events is not only due to its exposure to hazards but is also largely driven by the high structural vulnerability of its infrastructure. Haiti has not been able to reduce the vulnerability of its infrastructure and buildings. Building regulations are not enforced due to financial and administrative constraints. Available data indicates that built-up areas in Haiti are particularly vulnerable, as most Haitians live in self-constructed housing, built without the appropriate technical expertise, combined with the fact that 51 percent are exposed to flood events and 60 percent are concentrated in high seismic hazard zones.¹⁶ This increase in physical vulnerability was clearly evidenced after the 2016 Hurricane Matthew. Damages and losses were estimated to be an equivalent of around 32 percent of GDP. The largest share of the hurricane's damages and losses (59 percent) was in infrastructure (transport and energy sectors) and residential buildings, of which 31 percent were in the housing sector alone.

2. **The most recent Bank achievements on the DRM strategy in Haiti are articulated in the Performance and Learning Review (PLR) of the 2018 CPF, and build on previous and ongoing DRM projects, particularly PRGRD.** The CPF PLR Area of Focus aims to: (i) strengthen natural disaster preparedness; and (ii) improve disaster prevention and strengthen climate resilience. Progress under the first Area of Focus has been on track: over 77 percent (more than 8 million people) are covered by a certified "level 2" or higher local civil protection committee with a target of 100 percent; two emergency radio systems currently cover 80 percent of Haiti's population, with a target of 100 percent (four hinterland department and coastal radio systems installed). Under the second Area of Focus, substantial results were achieved in strengthening climate resilience through investments and technical support where the Bank was quick to react flexibly and restore access of over two million people to all-weather roads following Hurricane Matthew, and reduced risk in the transport sector by retrofitting critical infrastructure, such as bridges and roads. Knowledge and tools to better understand risks and vulnerability, identify and prevent disaster risk, and increase early warning capacity and response were developed: high-resolution digital elevation models, flood models, the first Atlas of multi-hazard maps, and data to track population movements. Moreover, 15,000 masons in para-seismic and para-cyclonic construction were trained and the capacity of the National Geo-Spatial Institute (whose maps are shared on an open access platform) was strengthened.

3. **Most Bank DRM projects were multisectoral by design and included enhancement of the resilience of sectors.** All DRM projects focused on building capacity and providing risk information to inform investments, while learning from past interventions. Given the high exposure to natural hazards and the socio-economic conditions of Haiti, the Bank strategy was to mainstream DRM in several sectors, including transport, urban and more recently landscapes, as well as health. All sector twinning included capacity building activities to assess risk and integrate DRM considerations in the targeted activities. Also, the capacity building focused on understanding local risk to build DRM capacity, confidence, and ownership. Over time, sectors have benefited from the soft and hard experience, as well as lessons learned during the implementation of the PUGRD, PRGRD, and other projects. Several Bank lending instruments were considered for projects in Haiti, however, given the successful experience of the US\$1 million contingent emergency fund, (now called) the CERC has become a requisite for most projects. The implementation of activities through two implementing units and respective line ministers, provided that coordination and collaboration is properly institutionalized, is a feature that was used in various projects (PUGRD, PRORéV and PRUII). The PRORéV, which is a transport project, took the lead on the National DRM System in 2009, with CIAT being in the driver's seat; however, the process was disrupted by the 2010 Earthquake and was passed on to the PRGRD. A selected number of DRM/multisectoral projects gives a brief overview of the sector combination and implementation architecture before and after the PRGRD.

¹⁵ Haiti Country Risk Profile, World Bank 2018.

¹⁶ Haitian Cities: Actions for Today with an Eye on Tomorrow, Haiti Urbanization Review, World Bank 2018.



Design and Implementation prior to PRGRD

4. **PUGRD (Emergency Recovery Loan 2005)** was a DRM project with a hybrid multisectoral focus, institutional strengthening, and local level risk management. The 2004 PUGRD was the first DRM project in response to six consecutive devastating events affecting the country between 2001 to 2003: Tropical Cyclones Michelle and Lilli as well as two flash floods and two riverine floods. These were compounded by a flash flood affecting 100,000 people in May 2004 and Storm Jeanne affecting 300,000 in September 2004. In addition to emergency repairs, the project focused on setting up the Permanent Secretariat for Risk and Disaster Management (SPGRD) at the central level and building the capacity of the DPC at the local level, given the weak DRM institutions. The project assisted in the creation of new committees and/or strengthening of existing committees that became the CCPCs to support the design and implementation of vulnerability reduction activities at the local level. Support to strengthen the EWS was also part of the project. During the restructuring of the SPGRD following the 2010 earthquake, the EWS activity was transferred to the PRGRD to free up funds for the emergency response. The SPGRD was prepared as an emergency project, focusing on reconstruction and rehabilitation of roads, houses, embankment protection works, schools, shelters, etc. However, the project was already forward looking as it initiated some small steps in addressing the country's high vulnerability to disasters and strengthened institutions. For instance, the project strengthened the SPGRD through public awareness and fostered the Reduction Committee, which played a key role in mobilizing resources and coordinating the efforts, as well as the DPC and local risk management. Moreover, communities were considered as critical in identifying risks and mitigating them, while their involvement ensures local ownership, builds trust in local institutions, and generates employment. Despite the progress, by project end, the management, administrative and technical capacity of DPC needed further strengthening, as it did not have the required autonomy and adequate staffing, let alone dedicated offices to effectively operate.

5. The institutional weakness of having a DPC instead of a DGPC was already foreseen as a shortcoming for DRM operations in the future. Key features include:

- a. Urban DRM Capacity building.
- b. First DRM/multisectoral project.
- c. Two implementing units were considered, their capacity built up to reach Bank standards.

6. **PRODEPUR (Specific Investment Loan 2008 although AFs were grants after the 2010 Earthquake) and PREKAD (Emergency Recovery Loan 2011) - DRM with a housing reconstruction focus, institutional strengthening, and local level risk management.** Both projects focused on debris removal and housing repair or reconstruction after the 2010 earthquake, and improved access to basic and social infrastructure of poor urban communities. Both projects had institutional building activities for DRM but were ambitious with a complex design in a highly unstable political decision-making context. The main challenges included the lack of construction standards agreed early on during the design of the project, leading to a reduction of the number of houses repaired or reconstructed. After effectiveness, the government prioritized the transfer of the displaced population from camps to rented houses, instead of to the new houses. Despite these challenges, activities such as demand driven local multi-purpose infrastructure with the participation of communities and the ability of municipalities to absorb and implement successful sub-projects, were positive factors that were considered in the design of the 2017 MDUR. Moreover, the development of neighborhood-level urban plans, in close collaboration with CIAT and the CNIGS, integrated DRM information and developed profiles of future projects based on risk maps. These planning tools are available to mayors for future use and could eventually be scaled up to other municipalities. Hence, both projects strengthened institutional capacity in terms of mainstreaming DRM into construction and urban planning. More importantly, the MTPTC was strengthened to take the institutional and technical lead for reconstruction and DRM activities after the earthquake. The UCP/BMPAD was responsible for managing both projects.



Key features include:

- a. Local level DRM Capacity building.
- b. DRM with community-driven multisectoral activities.
- c. One effective implementing agency with good standing.

7. PROReV (Emergency Recovery Loan 2009) - DRM with transport to increase the resilience of the road network after the 2008 FGHI. The project assisted Haiti in restoring access to selected critical points of the transport system after the FGHI emergency, and to reduced vulnerability to disasters by strengthening Haiti's "National Disaster Risk Management System". The project improved the resilience of transport infrastructure, reconstructed bridges and strengthened transport asset management by improving asset maintenance through FER. The strengthening of Haiti's National Disaster Risk Management System focused on creating Vulnerability Reduction Units (CRV) and supported the key functions within the CIAT inter-ministerial committee thematic working groups housed at the Premiership office. CIAT included representatives from SPDRG, MTPTC, land-use planning, water and risk management, habitat and urban development, and mapping/IT. The project was ambitious, and the activities were downsized through restructurings. CIAT continued to be responsible for the preparation of the risk assessment studies and associated risk management plans (PPRs) for the cities of Cap-Haïtien and Les Cayes, that led to the MDUR (2017). The project had two implementing units: (i) the UCE/MTPTC implementing most of the investments in transport, as it had the capacity and the ability to compensate for institutional weaknesses in the line ministries; and (ii) BMPAD/UCP/MEF was responsible for serving as the fiduciary agent on behalf of MPCE for activities under CIAT. Key features include:

- a. National DRM Capacity building.
- b. DRM with transport.
- c. Two implementing units, with one brought to standards under PUGRD and one did not reach Bank standards.

Design and Implementation inspired by PRGRD

8. MDUR (Investment Project Financing 2017) - DRM with Urban to enhance resilience and service provision. The project objective is to reduce urban flooding and enhance resilience in the city of Cap-Haïtien and improve the capacity of six municipalities in the Cap-Haïtien metropolitan area to plan, finance and deliver basic municipal services and management. Beneficiaries will benefit from improved disaster risk reduction flood-proofing works. The project focuses on risk informed and integrated management of the urban ravines and flood mitigation along the river basin. Activities also include support to planning, financing, and managing resilient infrastructure, and deliver local services in urban areas. Eligible sectors are listed as priorities in the Communal Development Plans (PDCs), Urban Plans (PUs) and/or triannual investment plans, and/or as agreed among different municipalities in the case of inter-municipal sub-projects. A CERC component is also included in the project. Unlike the PRGRD, the CERC component did not have an earmarked budget, but funds will be allocated by the project as needed and according to a pre-established list of critical goods, works, and consultant services as required to support respond to a potential the emergency. Project implementation arrangements mimic the PRGRD architecture with the UCE/MTPTC and the UCP/MICT and include an additional sub-UCP in Cap-Haïtien. Capacity building is envisaged to enhance the performance of the units. Key features include:

- a. Urban DRM Capacity building.
- b. DRM with urban project.
- c. CERC considered.
- d. Two implementing units based on PUGRD and using the same PRGRD implementing arrangements.

9. PARR (Investment Project Financing 2018) - DRM and Rural Transport connectivity and resilience. The project objective is to increase all-weather road access in selected sub-regions and improve the resilience of selected segments



of the road network. Component 1 used the RAI developed under PRGRD, where a multicriteria analysis including climate change index, poverty index, and healthcare accessibility, was used to target the roads. Component 2 followed the PRGRD resilience process, where rehabilitation and repair of damaged and vulnerable critical spots/segments, drainage structures, retaining walls and erosion control structures were considered. Beneficiary involvement in LIW will increase the ownership of the assets at the local level, as was the case under the PRGRD. The project adopted the CERC component with a US\$1 million envelope like PRGRD and had an additional grant to implement the Artibonite Center Loop partially prepared under PRGRD. Implementation is being assumed by the UCE/MTPTC with envisaged capacity building to enhance the performance of the unit. Key features include:

- a. National DRM Capacity building.
- b. DRM with transport.
- c. CERC considered.
- d. Same implementing agency as previous projects.

10. **PTPR (Investment Project Financing 2018) - DRM and Land use resiliency.** The project aims to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds and to enable the GoH to respond promptly and effectively to an eligible emergency. The project is going to restore ecosystem services at sub-watershed level to safeguard and enhance agricultural production and reduce the vulnerability of economic and ecological systems to external shocks. Component 1 will strengthen institutional capacity, including the analysis of climate-related data for improved planning and climate-related disaster risk prevention. Component 2 will strengthen resilient agricultural production and practices. Component 4 adopted the zero allocation CERC with its CERC Operational Manual clearly outlining the triggers, eligible expenditures and procedures for using part of the IDA resources of the Project. Under Component 3, the project implementing unit is set up where capacity building is envisaged to enhance the performance of the unit. Key features include:

- a. National DRM Capacity building.
- b. DRM with agriculture.
- c. CERC considered.
- d. One implementing unit whose capacity will be built.

11. **COVID-19 DRM (Development Policy Operation 2020) - DRM and Health Emergency.** The operation aims to support Haiti in mitigating the impacts of the current COVID-19 outbreak and enhance resilience to natural hazards and health-related shocks. Twelve indicators were considered to trigger the DPO funds. Most indicators are associated with COVID operations, including early warning, health centers, and contribution of the CCPCs by raising awareness. Two indicators will help improve the National DRM System operations by developing: (i) a disaster risk financing strategy; and (ii) the operational practices and procedures for the allocation, audit and evaluation of the National Emergency Fund within MEF that is one of the conduits for channeling emergency funds. Key features include:

- a. National DRM Capacity building.
- b. DRM with health.



ANNEX 9. EXOGENOUS FACTORS AFFECTING PROJECT IMPLEMENTATION

1. **Haiti is the only FCV country in the Latin America and Caribbean region and is also the poorest country in the Region.** The World Bank classifies Haiti as a fragile state due to its low Country Policy and Institutional Performance Assessment (CPIA) rating (see next para) for economic, social and public sector policies and institutions. Fragility is attributed to the country's weak institutions and its corresponding vulnerability to instability, conflict and violence.¹⁷ This weakness in institutions has resulted in limited economic opportunities, with an economy barely expanding to keep up with population growth and a high level of poverty since 2018. Haiti's GDP per capita has decreased from US\$868 in 2018 to US\$755 in 2019, as the GDP growth switched to negative territory. Based on the most recent household survey (2012), over six million Haitians live below the poverty line with less than US\$2.41 per day, and more than 2.5 million lie below the extreme poverty line (US\$1.23 per day). A recent analysis of poverty trends based on a 2017 follow-up survey of Well-being via Instant and Frequent Tracking found no significant changes in poverty incidence and is largely explained by the high vulnerability of households to shocks. This has led to low levels of trust between the state and citizens, further heightening the likelihood of conflict and violence.¹⁸ In many poor or marginalized communities, the state is seen as largely absent, with armed groups filling the vacuum. Disenfranchised, and without effective channels to voice needs and demands, citizens regularly take to the streets in protest, sometimes violently.

2. **The CPIA rates countries against a set of 16 criteria grouped in four clusters: (i) economic management; (ii) structural policies; (iii) policies for social inclusion and equity; and (iv) public sector management and institutions.** A country is considered in a fragile situation, if it has either: (i) a harmonized average CPIA country rating of 3.2 or less; or (ii) the presence of a UN and/or regional peace keeping force. Haiti fulfills both criteria, belonging to the high institutional and social fragility group with a CPIA rating ranging between 2.8 and 2.9 over the FY2010-20 period (Table A9.1). The MINUSTAH has been stationed in Haiti from 2004 to 2017 and was bolstered in 2010 after the Earthquake.

3. **Over 93 percent of Haiti's surface is exposed to two or more hazards per year.** Hydro-meteorological hazards are related to the precipitation caused by northern polar fronts, tropical cyclones (mainly from June to November), and waves. Moreover, the interaction of the Caribbean and North American tectonic plates causes seismic hazards. Other secondary hazards include landslides, torrential debris flows, soil liquefaction, and tsunamis. As a result, Haiti experiences both low probability/high impact events (like the 2010 earthquake or the 2016 Hurricane Matthew) and high probability/low impact events (like Hurricane Maria or mild floods, see Table A9.1).

4. **The preparation and implementation of the PRGRD was subject to various factors linked to its FCV context and exposure to multi-hazards.** As shown in Table A9.1, a number of factors affected the implementation of the DRM components, although the enactment of the National DRM System was the most important outcome achieved by the project that could positively affect the CPIA public sector management and institution sub-rating in the future. In addition to the deteriorating economic management over the period (depreciation of the Gourde, inflationary pressures and economic contraction), Haiti has suffered 29 meteorological and seismic events during the period (Major Floods: 5, Moderate Floods: 2, Mild Floods: 9, Hurricane: 7, Drought: 2, Earthquake: 1, Cholera outbreaks: 2, Covid-19 outbreak: 1, an average of 3.2 events per year), with the most devastating event being Hurricane Matthew in October 2006. Moreover, political gridlock and social unrest led to constant government changes, almost every year, while eight different Ministers of the MITC took office during the project, which translated into tremendous delays. The performance of DRM components was directly affected, as the new Ministers were the ultimate decision-makers of the project executed by the MICT/DPC/UCP. Sometimes, new Ministers did not fully (or took some time to) subscribe to the project, while they had to

¹⁷ Country Partnership Framework for the Republic of Haiti FY16-FY19 (Report No. 98132-HT).

¹⁸ Ibid.



process the contracts and payments for each DRM activity under the project. This was not the case for the transport components, as the relevant directorate general under which the MTPTC/UCE oversaw contractual administration. All these factors, in addition to the difficulty to find the national service providers with the right skills to build capacity, took their toll on the timely implementation of the DRM activities.



Table A9.1: Haiti Exogenous Factor Milestones from 2010 to 2021

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	6 2020	9 2020	12 2020	2021
Donor Country Strategy/funding	PNDA launched: 2-2010 with CSOs and Int. NGOs at the forefront of the relief effort. US\$ 5.3 + 4.6 billion pledged by Int./donor communities did not fully materialize. HIRC approves US\$50 million worth of projects: 6-2010. HRF established on 3-2010 to pool resources to efficiently implement the APRD: US\$401.4 million received until 12 2019 and will close in June 2021.													
WB-wide/ WB Country Strategy	CAS													
National Country Strategy/Slogan	Haiti Demain (CIAT) 3 2010 Action Plan for the Recovery and Development (APRD) of Haiti 3 2010	President: Haiti is Open for Business			Haiti Strategic Development Plan (UNDP)		Atlas des menaces naturelles en Haiti (WB)	Presidential Caravane de Changement Project		Bank-wide Strategy for FCV National Disaster Risk Management System 2019- 2030 replaces 2001's updated in 2009.	Bank-wide COVID-19 Response			
Exogenous Factors														
Disaster	2 major floods 2 mild floods Earthquake Cholera Outb. H Tomas	2 mild floods TS Emily H Irene	1 moderate flood 2 mild floods 2 Cholera Outb. H Isaac H Sandy	1 mild flood	Drought 1 moderate flood	Cholera Outb. 1 major flood H Erika	Drought 3 major floods 3 mild floods H Matthew	1 major flood 1 mild flood H Irma H Maria	Earthquake	2 mild floods H Dorian	COVID-19	COVID-19 H Laura		
UN, President, Government & Parliament	MINUSTAH is bolstered	President Martelly: 4 2011 PM Conille: 10 2011 MICT: Mayard-Paul	PM Lamothe: 5 2012 MICT: Saint- Cyr	MICT: Bazile	PM Duperval Guillaume: 12 2014 MICT: Delva	PM Paul: 1 2015 MICT: Henry Local elections held	Martelly stepped down: 2-2016 PM Jean: 2 2016 PM Jean- Charles: 3 2016 MITC Delienne Moise elected: 11 2016	President Moise: 2-2017 PM Lafontant: 3 2017 MICT Saint- Albin Local elections held	PM Lafontant resign: 7 2018 PM Céant: 9 2018 MICT Brunet	Moise announces that he would not step down: 2 2019 PM Céant was dismissed through a no-confidence vote in 3 2019 PM Lapin: 3 2019 resigned in 7 2019 MICT Bernadel Legislative and mayoral elections due in 10 2019 were indefinitely postponed after Parliament failed to pass an elections law	Legislature's mandate expired in 1 2020 State of Emergency for COVID-19: 3 2020 PM Joute: 4 2020 MICT Bernadel			
Population growth (annual %)	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.2				
GDP growth (annual %)	(3.1)	5.5	2.9	4.2	2.8	1.2	1.5	1.2	1.5	(0.9)				
GDP per capita (current US\$)	666	744	770	816	832	816	735	766	868	755				
Poverty headcount ratio at national poverty lines (% of population)			58.50%											
Inflation, consumer prices (annual %)	4.8	6.3	5.0	4.8	3.4	6.7	11.5	10.7	12.5	18.7				
Gourdes/US\$ (end of period)	40.3	40.3	41.6	43.1	44.6	48.6	60.4	65.6	65.4	84.1	108.5	105.4		
SDR/US\$ (end of period)	0.65	0.65	0.65	0.65	0.69	0.72	0.75	0.70	0.72	0.72	0.73	0.71		
FCV Score (FY)	2.86	2.93	2.93	2.9	2.9	2.83	2.83	2.9	2.88	2.88				
PRGRD timeline		Preparation	Effectiveness		Midterm	Rest 1	Rest 2-AG		Rest 3	Rest 4 - Closing				

