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Report No: PAD5463

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED ADDITIONAL GRANT

IN THE AMOUNT OF SDR 9 MILLION
(US\$ 12 MILLION EQUIVALENT)

TO THE

REPUBLIC OF HAITI

FOR A

Additional Financing - Haiti Caribbean Regional Air Transport Connectivity Project
June 5, 2023

Transport Global Practice
Latin America And Caribbean Region

This document is being made publicly available prior to Board consideration. This does not imply a presumed outcome. This document may be updated following Board consideration and the updated document will be made publicly available in accordance with the Bank's policy on Access to Information.

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2023)

Currency Unit = Haitian Gourdes (HTG)

HTG 154.66 = US\$1

US\$ 1 = SDR 0.74336731

FISCAL YEAR

January 1 - December 31

Regional Vice President: Carlos Felipe Jaramillo

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ABBREVIATIONS AND ACRONYMS

AAN	National Airport Authority, <i>Autorité Aéroportuaire Nationale</i>
ACCPAC	A Complete and Comprehensive Program for Accounting Control
ADS-B	Automatic Dependent Surveillance - Broadcast
AF	Additional Financing
AM	Accountability Mechanism
AMO	Project Management Assistance, <i>Assistance à Maîtrise D'ouvrage</i>
CAP	Cap-Haïtien International Airport
CATCOP	Caribbean Air Transport Connectivity Project
CERC	Contingent Emergency Response
CPF	Country Partnership Framework
FM	Financial Management
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
IDA	International Development Association
ICAO	International Civil Aviation Organization
IP	Implementation Progress
MDOD	Delegated Project Management, <i>Maîtrise d'Ouvrage Déléguée</i>
MTPTC	Central Execution Unit of the Ministry of Public Works, <i>Ministère des travaux Publics, Transports et Communication</i>
OFNAC	National Office of Civil Aviation, <i>Office National de l'Aviation Civile</i>
PAP	Toussaint Louverture International Airport
PDO	Project Development Objective
PIU	Project Implementation Unit
P-RAMS	Procurement Risk Assessment Management System
SARPs	Standard and Recommended Practices
SEP	Stakeholder Engagement Plan
SDRs	Special Drawing Rights
TA	Technical Assistance
TORs	Terms of Reference
UCE	Central Execution Unit, <i>Unité Central d'Exécution</i>

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BASIC INFORMATION – PARENT (Caribbean Regional Air Transport Connectivity Project - Haiti - P170907)

Country Haiti	Product Line IBRD/IDA	Team Leader(s) Malaika Becoulet		
Project ID P170907	Financing Instrument Investment Project Financing	Resp CC ILCT1 (9383)	Req CC LCC3C (451)	Practice Area (Lead) Transport

Implementing Agency: Central Execution Unit of the Ministry of Public Works (UCE)

Is this a regionally tagged project?	Country (ies)
Yes	Haiti

Bank/IFC Collaboration

No

Approval Date 28-May-2020	Closing Date 30-Jun-2026	Expected Guarantee Expiration Date	Environmental and Social Risk Classification Moderate
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Financing & Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach [MPA]	<input checked="" type="checkbox"/> Contingent Emergency Response Component (CERC)
<input checked="" type="checkbox"/> Series of Projects (SOP)	<input checked="" type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Expanded Implementation Support (HEIS)

Development Objective(s)



The objectives of the Project (PDO) are to: (i) improve operational safety and navigation efficiency of air transport in the Recipient’s territory; and (ii) increase the climate and disaster resilience of associated infrastructure at the Recipient’s international airports.

Ratings (from Parent ISR)

	Implementation				
	24-Sep-2020	29-Mar-2021	22-Nov-2021	28-Jun-2022	04-Jan-2023
Progress towards achievement of PDO	S	S	S	S	S
Overall Implementation Progress (IP)	S	MS	MS	MS	MS
Overall ESS Performance	S	S	S	S	S
Overall Risk	S	S	S	S	S
Financial Management	S	S	S	S	MS
Project Management	S	MS	MS	MS	MS
Procurement	S	S	MS	MS	MS
Monitoring and Evaluation	S	S	S	S	S

BASIC INFORMATION – ADDITIONAL FINANCING (Additional Financing - Haiti Caribbean Air Transport Connectivity Project - P181119)

Project ID	Project Name	Additional Financing Type	Urgent Need or Capacity Constraints
P181119	Additional Financing - Haiti Caribbean Air Transport Connectivity Project	Cost Overrun/Financing Gap	Yes



Financing instrument Investment Project Financing	Product line IBRD/IDA	Approval Date 05-Jul-2023	
Projected Date of Full Disbursement 30-Sep-2026	Bank/IFC Collaboration No		
Is this a regionally tagged project? No			

Financing & Implementation Modalities

<input type="checkbox"/> Series of Projects (SOP)	<input checked="" type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Expanded Implementation Support (HEIS)
<input type="checkbox"/> Contingent Emergency Response Component (CERC)	

Disbursement Summary (from Parent ISR)

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed	
IBRD				<div style="width: 0%;"></div>	%
IDA	84.00	4.32	78.20	<div style="width: 5.2%;"></div>	5.2 %
Grants				<div style="width: 0%;"></div>	%

PROJECT FINANCING DATA – ADDITIONAL FINANCING (Additional Financing - Haiti Caribbean Air Transport Connectivity Project - P181119)

FINANCING DATA (US\$, Millions)



SUMMARY (Total Financing)

	Current Financing	Proposed Additional Financing	Total Proposed Financing
Total Project Cost	84.00	12.00	96.00
Total Financing	84.00	12.00	96.00
of which IBRD/IDA	84.00	12.00	96.00
Financing Gap	0.00	0.00	0.00

DETAILS - Additional Financing

World Bank Group Financing

International Development Association (IDA)	12.00
of which IDA Recommitted	4.00
IDA Grant	12.00

IDA Resources (in US\$, Millions)

	Credit Amount	Grant Amount	SML Amount	Guarantee Amount	Total Amount
Haiti	0.00	12.00	0.00	0.00	12.00
National Performance-Based Allocations (PBA)	0.00	12.00	0.00	0.00	12.00
Total	0.00	12.00	0.00	0.00	12.00

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

Yes No

Does the project require any other Policy waiver(s)?

Yes No



Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not Currently Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

INSTITUTIONAL DATA

Practice Area (Lead)

Transport

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

**PROJECT TEAM****Bank Staff**

Name	Role	Specialization	Unit
Malaika Becoulet	Team Leader (ADM Responsible)		ILCT1
Xavier Espinet Alegre	Team Leader		ILCT1
Vladimir Mathieu	Procurement Specialist (ADM Responsible)		ELCRU
Khadija Faridi	Procurement Specialist		ELCRU
Adjalou Celestin Niamien	Financial Management Specialist (ADM Responsible)		ELCG1
Lucas Carrer	Financial Management Specialist		ELCG1
Bruce MacPhail	Social Specialist (ADM Responsible)		SLCSO
Kevin McCall	Environmental Specialist (ADM Responsible)		SLCEN
Charles E. Schlumberger	Team Member	Lead Aviation Specialist	ITRGK
Fabian Hinojosa Couleau	Team Member		ILCT1
Felipe Jacome	Team Member	Safeguards	SAES3
Ibrahim Savadogo	Team Member		ILCT1
Iris Teluska	Procurement Team		LCCHT
Karla Dominguez Gonzalez	Team Member	Gender	IAET2
Licette M. Moncayo	Team Member		ILCT1
Maria Cristina Rosa Lucia Villani	Procurement Team		EEAR2
Maria Laetitia Antoine	Procurement Team		LCCHT
Mark Edwin Lunsford	Team Member		ILCT1
Patricia De la Caridad Marrero	Procurement Team		ILCT1
Paula Genis	Team Member	Operational quality assurance	ILCT1

Extended Team

Name	Title	Organization	Location
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I. Background and Rationale for Additional Financing

- 1. This Project Paper seeks the approval of the Executive Directors for an additional grant in the amount of US\$12 million (9 million SDR equivalent) for the Haiti Caribbean Regional Air Transport Connectivity Project (CATCOP; the parent project) (P170907).** The request for US\$12 million of additional financing (AF) due to a cost overrun was submitted by the Government of Haiti on March 30, 2023. No regional IDA is required for this AF. The proposed AF draws exclusively on Haiti's national IDA allocation to cover cost overruns related to repairs recently identified at the Cap-Haïtien International Airport (CAP).
- 2. Haiti CATCOP was approved on May 28, 2020. It received a grant in the amount of SDR 61.2 million (grant IDA-D6290 from the International Development Association, US\$84 million), and was declared effective on August 27, 2020.** The current closing date for the Project is June 30, 2026. The Haiti CATCOP is complemented by investments Air Transport Connectivity in, Saint Lucia and Grenada. The Project Development Objective (PDO) is to (i) improve the operational safety and navigational efficiency of air transport in Haiti's territory, and (ii) increase the climate and disaster resilience of related infrastructure at Haiti's international airports. The Project has four components: Component 1—Operational safety and navigational efficiency of Toussaint Louverture International Airport of Port-au-Prince (PAP) and CAP (investment of US\$58.00 million); Component 2—Drainage system improvements for PAP and CAP airfields (investment of US\$14 million); Component 3—Institutional strengthening and project management (investment of US\$12 million); and Component 4—Contingent Emergency Response (CERC) (investment of US\$0 million). The Project is implemented by the Ministry of Public Works, *Ministère des travaux Publics, Transports et Communication* (MTPTC), through its Project Implementation Unit (PIU), the Central Execution Unit (UCE-MTPTC, *Unité Central d'Exécution*), and its technical directorates (National Office of Civil Aviation, *Office National de l'Aviation Civile* [OFNAC], and National Airport Authority, *Autorité Aéroportuaire Nationale* [AAN]).
- 3. The proposed AF would finance the increased cost associated with rehabilitation (Component 1) and drainage works (Component 2) on the runway at CAP.** The cost overrun was identified during the prefeasibility study and associated with: (i) the runway's deteriorated condition; and (ii) high inflation, heightened security challenges, and deteriorating market conditions for the procurement of civil works.
- 4. The proposed AF is processed under paragraph 12 of Section III of the Bank Policy "Investment Project Financing," which relates to Projects in situations of urgent need of assistance or with capacity constraints.** Chronic fragility has severely constrained the Haitian government's capacity, and there is an urgent need to make the infrastructure for air transport—the key transport mode for national, regional, and international connectivity—more resilient so as to prepare for recurrent natural disasters and increasing climate risks. The implementation arrangements approved by the Board of Executive Directors for the parent project will apply to the additional financing. No additional or new outputs will be added to the Project.

Country and sector context

- 5. Haiti remains one of the world's poorest and most fragile countries, and is grappling with frequent natural disasters and recurrent episodes of institutional and political instability, civil unrest, and gang-**



related violence. Haiti's gross domestic product per capita is US\$1,272, and it ranked 170 among 189 countries on the Human Development Index in 2021. Between 1980 and 2022, Haiti was hit by more than 118 disasters, of which 106 were climate related (floods, storms, draughts, or landslides). An estimated 235,000 people lost their lives to these disasters, which have impacted almost 19 million people cumulatively and have also caused catastrophic material damage.¹ The 2010 earthquake, Hurricane Matthew in 2016, and the August 2021 earthquake are extreme events that have recently devastated the country. A major sociopolitical crisis started in July 2018 with massive and violent demonstrations against fuel shortages, increased fuel prices, and alleged corruption. These were compounded by the assassination of Haiti's president, Jovenel Moïse, on July 7, 2021, which fueled further political instability. Gang violence and kidnappings increased dramatically first in 2020 and again in 2022 and 2023, with gang warfare killing hundreds and displacing thousands over recent years.

- 6. These shocks have compounded Haiti's fragile macroeconomic situation, resulting in economic contraction, severe constraints to public investment, and unmet requirements for investment in resilience across all economic sectors, including air transport.** Haiti experienced negative growth in 2021 and 2022 and has the lowest growth projections in the region for 2023 and 2024, at 0.3 and 1.2 percent respectively.² Inflation reached 22 percent in 2020 and 16 percent in 2021, and food prices tripled from 2020 to 2023.³ Further, natural disasters are undermining any economic gains, with damages and losses associated with hydro-meteorological and geological events alone causing the loss of 2 percent of GDP per year on average. Climate change is expected to further increase the frequency, intensity, and impacts of extreme weather events, increasing future risks of loss and damage, and also the requirements for investment in resilience.⁴
- 7. Haiti continues to depend on air transport for national and international connectivity.** Haiti is served by two international airports – Port au Prince's Toussaint Louverture International Airport and Cap-Haïtien's airport on Haiti's north coast – and 11 regional airports. Air connectivity remains critical to Haiti's economy and its ability to respond to emergencies, particularly given its insularity, weak ground transport infrastructure, and periodic gang control of key roadways. CAP in particular remains a strategic entry port to the north of the country, contributing to both connectivity and territorial continuity. PAP and CAP have continued to operate even during the worst periods of civil unrest, gang violence, and natural disasters, providing essential connectivity to emergency and other humanitarian activities. However, their continued ability to do so is increasingly at risk, due to continued deterioration amid insufficient maintenance.
- 8. Both PAP and CAP are highly exposed to potential impacts from natural disasters and climate change.**

¹ EM-DAT, CRED/UCLouvain, Brussels, Belgium (Version: April 2023): <https://www.emdat.be/>.

² Gustavo Adler, Nigel Chalk, and Anna Ivanova, "Latin America Faces Slowing Growth and High Inflation amid Social Tensions," International Monetary Fund (IMF) blog, February 1, 2023, <https://www.imf.org/en/Blogs/Articles/2023/02/01/latin-america-faces-slown-growth-and-high-inflation-amid-social-tensions>.

³ Haiti, market average, estimated monthly food price index. See World Bank Group, "Monthly Food Price Estimates by Product and Market: Haiti, 8 Markets, 2007/01/01-2023/04/01," <https://microdata.worldbank.org/index.php/catalog/4494>.

⁴ Climate change is increasing hurricane intensity and frequency; by 2050, hurricane wind intensities are likely to increase 5–10 percent and precipitation is likely to increase 25 percent, leading to higher and more violent storm surges. See World Bank Group, "Haiti: Vulnerability," Climate Change Knowledge Portal, <https://climateknowledgeportal.worldbank.org/country/haiti/vulnerability>.



CAP is located on the coast at three meters above mean sea level, in a city with a history of devastating tsunamis. Much of the airport is at a lower elevation than the surrounding communities, which creates a “bowl” effect and exacerbates drainage challenges and flooding risks. Further, drainage deficiencies at the airport and in the surrounding communities are further compounded by solid waste residue from surrounding communities frequently clogging airport drainage systems. While PAP is at a higher elevation (about 25–40 meters above mean sea level) and located much farther from the sea (3.5 kilometers for PAP against 500 meters for CAP, as measured from the nearest runway end), it also suffers from major drainage capacity deficiencies and related flooding risks.

Project performance

- 9. The Project remains on track to meet its Development Objectives.** Progress toward the PDO is currently rated Satisfactory (S), while overall Implementation Progress (IP) is rated Moderately Satisfactory (MS). The overall risk rating for the Project is Substantial. Meanwhile, disbursements total 5.2 percent, which is considerably below the original expected, and the rating for IP was downgraded to MS in March 2021, due to slippage in the recruitment and launch of key project activities under Components 1 and 2, including, among others, rehabilitation and drainage works for the CAP runway. These works slipped from the original schedule in the absence of the Delegated Implementing Agencies model (Maîtrise d’Ouvrage Déléguée or Assistance à maîtrise d’ouvrage [MDOD/AMO]), which was to complement the PIU (UCE-MTPTC) in the implementation and supervision for Components 1, 2, and 3.⁵ While recruitment of the AMO was initiated by the UCE in 2020, it was delayed due to complexities around procurement for such a large contract and low capacity to attract bidders due to the country and market context. With the signing of the AMO contract in December 2022 and its effective mobilization in January 2023, the Project is expected to make significant implementation progress in the next four quarters, with expected improvement of the related rating to S.

Implementation Progress by component is detailed below.

- 10. Component 1: Investments for operational safety and navigational efficiency of PAP and CAP (US\$58 million).** This component finances infrastructure and equipment at Haiti’s two international airports—PAP and CAP. The investments are aimed to improve aircraft operating conditions in compliance with international safety standards as per the requirements of the International Civil Aviation Organization (ICAO), Standard and Recommended Practices (SARPs), and OFNAC. It also aims to improve navigational/taxiing efficiency to better accommodate existing air traffic volumes and air traffic surges related to post-disaster relief flights. This component has a low engagement rate because the procurement of its activities relied on the AMO’s recruitment. However, the PIU had prepared the Terms of Reference (TORs) for acquiring Automatic Dependent Surveillance-Broadcast (ADS-B) equipment, which are currently under review by the AMO. With the AMO’s recruitment, disbursements are expected to increase and amount to US\$ 11.4 million (13 percent) by September 2023.

⁵ The AMO complements the PIU’s capacity with the specialized technical skills necessary to help procure and control the quality of the provision of air transport works, goods, and studies to be financed under Components 1, 2, and 3. For those activities, the AMO supports the preparation of the procurement process and also assists in monitoring activities, under oversight of UCE-MTPTC.



- 11. Component 2: Drainage system improvements for PAP and CAP airfields (US\$14 million).** These investments seek to reduce the risk of airfield flooding at PAP and CAP due to the annual rainy season, hurricanes, and climate change. This is envisaged to be achieved through increasing the drainage capacity at both airfields, in turn making them climate/disaster resilient. This component finances *inter alia* (i) civil works, including improvements to flood management by the PAP and CAP airfield drainage systems (investments for this would be confined within the perimeter of each airport), and (ii) consulting and non-consulting services for corresponding supervision activities and related technical studies, as needed, including for relevant social and environmental risk management instruments. The AMO is currently working on TORs for the drainage works at PAP and CAP. Finalization of the TORs for CAP drainage works is subject to the approval of the proposed AF.
- 12. Component 3: Institutional strengthening and project management (US\$12 million).** The objective of this component is to (i) strengthen the institutional capacity of the Central Executive Unit of the MTPTC, AAN, and OFNAC to manage, operate, and oversee airport operations and their development through a combination of technical assistance (TA) activities and training; (ii) provide TA to assess the capabilities and needs of Unmanned Aircraft Systems in Haiti, and opportunities for their use in defining the related legal framework, as well as to support the Haitian government in identifying and developing potential logistic and supply chains for such Unmanned Aircraft Systems; and (iii) finance project implementation support. The component has made notable progress in institutional strengthening. Phase 1 (Diagnostic and Roadmap) and Phase 2 (Consolidating the Existing Framework) of the activity to support the development of a surveillance authority in Haiti have been completed. Training plans for AAN and OFNAC are being finalized, and progress has been made in the process of contracting firms to provide training. A study on the promotion of women in the Haitian airport sector is underway. A diagnostic analysis related to women's participation in the air transport sector is also being implemented.
- 13. Component 4: Contingent Emergency Response (CERC) (US\$0 million).** The CERC component has not been triggered.
- 14. Performance in terms of Environmental and Social Standards is rated Satisfactory.** As physical works have not yet begun, there have been no environmental and social risk management issues. To date, all documents pertaining to the Environmental and Social Framework that were agreed upon during the parent project's appraisal have been finalized and disclosed in the country. The Grievance Redress Mechanism (GRM) is active, with no grievances registered. Workshops and stakeholder meetings, as well as training on environmental and social standards requirements, including gender aspects, were already conducted during the parent project's implementation. All Environmental and Social Management Plans will be developed once more finalized technical designs become available. In terms of the prevention of gender-based violence, a series of prevention and mitigation activities have been planned. The PIU will initiate training on Gender-Based Violence and Codes of Conduct for the contracting firms once the physical works have begun. There have been no occupational health and safety incidents that would require reporting in line with the provisions set out in the Environmental and Social Incident Response Toolkit (ESIRT).
- 15. Procurement is currently rated Moderately Satisfactory.** This rating is based on the findings of a procurement review dated December 12, 2022. The rating was reported in the Procurement Risk Assessment Management System (P-RAMS) and is also based on detailed discussions during the last



supervision mission between November 14 and 23, 2022. UCE as the implementing agency for MTPTC is staffed by three qualified procurement specialists, who have extensive experience in World Bank procedures. Although the Project's activities are relatively complex, the PIU will benefit from TA to manage the technical aspects of those contracts. Despite progress in the contracts' implementation, there still remain some shortcomings and delays under the STEP1 system (update and archive). Staff will be trained to utilize STEP – specifically, the contract management module – to ensure efficient and appropriate use of this tool.

- 16. Financial Management (FM) is rated Moderately Satisfactory.** The last FM performance review was on December 10, 2022, with a follow-up review conducted in April 2023 to assess progress in FM performance. The FM arrangements (FM staffing/personnel, budgeting, accounting, internal control, funds flow, financial reporting, and auditing) adhere to the standards required by the World Bank. The PIU is revising the Project Operational Manual to by including the report format as annexes and including administrative, financial and accounting procedures. In addition, the PIU needs to complete the networking of the accounting system, ACCPAC (A Complete and Comprehensive Program for Accounting Control), and configure the accounting processes. The parent project includes no outstanding audit reports, and all audit reports received are considered acceptable to the Bank. The latest audit report, due on March 31, 2023, was submitted on time, and is being reviewed by the World Bank team. All loan covenants have been complied.
- 17.** The proposed AF builds on the lessons learned and results from previous Bank-financed transport projects, including previous experience tackling climate change challenges and engaging citizens in a fragile environment with regard to the rehabilitation of vulnerable and critical transport infrastructure.

Rationale for additional financing

- 18. This AF of US\$12 million will cover the estimated cost overrun associated with increased runway rehabilitation (Component 1) and drainage improvement (Component 2).** Considering the current level of inflation, it will also be necessary to consider a provisional additional amount of at least US\$ 2 million compared with previous evaluations.⁶ Overall, an additional US\$ 12 million will be required to ensure full and viable execution of work at CAP and that the PDOs are achieved. The proposed AF does not result in any changes to the nature of activities or to the implementation arrangements.

II. Description of additional financing

Components and costs

- 19. The components' descriptions do not change, but the costs for Components 1 and 2 would increase by US\$8 million and \$4 million, respectively.** The theory of change and the results framework remain

⁶ UCE has experienced a cost increase in civil works contracts that ranges between 15 and 22 percent of the original estimations during 2020 – including civil works in other World Bank Group (WBG) projects in Haiti.



unchanged, including indicators that are directly relevant for the specific activities covered under this Project⁷. The Additional Financing will finance cost overrun for the:

- i. Rehabilitation of CAP's runway under Component 1, which includes civil works and studies for the full rehabilitation of the flexible pavement and the cement concrete in the sublayer.
- ii. Improvement of CAP's drainage system under Component 2, which includes civil works and studies to increase drainage capacity at the airport entrance culverts using climate change projections and increasing the drainage capacity of the internal drainage system, including a larger share of nature-based solutions.

20. The proposed AF remains aligned with the Country Partnership Framework (CPF) of Haiti for the period FY16-21,⁸ the Haiti Systematic Country Diagnostic Update from June 2022, and the Global Crisis Response Framework.⁹ It supports improvements in Area of Focus 1 (Increasing Inclusive Growth) and Area of Focus 3 (Strengthening Resilience and Reducing Vulnerability to Natural Disasters) of the CPF, and, more specifically, contributes to the achievement of the following objectives: (i) Objective 1 (Contribute to Enhancing Economic Opportunities), through improvements in air transport connectivity, resulting in competitiveness and economic growth, and (ii) Objective 7 (Improve Disaster Prevention and Strengthen Climate Resilience) of the CPF, by making the key airport infrastructure more resilient to climate impacts. The Systematic Country Diagnostic Update continues to highlight deficiencies in transport (a key sector supporting one of three priority areas: economic recovery and better job opportunities) as a main challenge for competitiveness in Haiti.

21. The AF will contribute to increasing climate co-benefits. Relative to the parent project, the design of the drainage at CAP will use climate projections and include larger contributions of nature-based solutions¹⁰ to strengthen the Project's contribution in terms of both mitigation and adaptation to climate change.

22. The proposed AF triggers paragraph 12 of Section III of the Investment Project Financing Policy.

⁷ The increased costs do not require changes in the theory of change or in the targets for the indicators relevant to the activities under the proposed AF, which include IRI#3 "Length of CAP runway rehabilitated" and IRI#10 "New culverts built at CAP."

⁸ The Haiti Country Partnership Framework for the Period FY16–19 dated August 27, 2015, was discussed by the Board of Executive Directors on September 29, 2015 (World Bank, *Haiti—Country Partnership Framework for the Period FY16–FY19*, Report No. 98132-HT [Washington, DC: World Bank, 2015]). The CPF was extended to FY21 by a Performance and Learning Review on May 31, 2018, and it was discussed by the Board of Executive Directors on June 27, 2018 (World Bank, *Haiti—Performance and Learning Review of the Country Partnership Strategy for the Period FY16–FY19*, Report No. 124812-HT [Washington, DC: World Bank, 2018]).

⁹ The GCRF will make available up to US\$170 billion in financing over this 15-month period from April 2022 to June 2023 to support developing countries as they navigate these unprecedented crises. Resource allocation across countries and issues will evolve based on specific needs and the strength of programs that achieve development and support people on the ground. Components 1 and 3 of the Project align with Pillar 4 (Strengthening Policies, Institutions and Investment for Rebuilding Better) of the GCRF by improving the air navigation system, and strengthening institutions and the Haitian government's capacity to better manage the air transport sector, while Component 2 aligns with Pillar 3 (Strengthening Resilience) by making the key airport infrastructure more resilient to climate impacts.

¹⁰ Thomas Cuddy and Julianna Scavuzzi, "The Eco-Airport Toolkit e-Collection," https://www.icao.int/environmental-protection/Documents/EnvironmentalReports/2022/ENVReport2022_Art41.pdf.



Justification for processing the proposed AF operation under paragraph 12 of Section III of the IPF policy and for condensed procedures stems from Haiti's severe capacity constraints due to chronic fragility and an urgent need to strengthen the resilience of the infrastructure network in a context of recurrent natural and scarce resources in order to support the air transport sector. Additionally, the use of condensed procedures will help fast-track the delivery of the proposed AF so that activities on the CAP runway (which accounts for 33 percent of the total financing envelope for the parent project) continue to be implemented seamlessly.

- 23. The institutional and implementation arrangements remain the same as for the parent project.** The Project continues to be implemented by the MTPTC through its PIU, UCE-MTPTC, and its technical directorates (OFNAC and AAN). UCE is familiar with World Bank's fiduciary and environmental and social standards, policies, and procedures. It has implemented and is currently implementing several World Bank-financed projects and has the capacity to manage additional funds. The AMO is complementing the PIU's capacity with the required specialized technical skills to help procure and control the quality of provision of works, goods, and studies to be financed under this AF.

III. KEY RISKS

- 24. The overall residual risk rating remains Substantial, even though the AF will help mitigate the risk of not achieving the outcomes by the Project's closing date.** The Political and governance risk is not affected by the AF, and it remains High due to instability in the country. Mitigation measures are nevertheless in place (e.g., close collaboration with government entities). Macroeconomic risk is rated Substantial due to ongoing current inflation, local gas shortages, and devaluation of local currency, which may further increase the cost of civil works. The AF is helping to mitigate this risk. Fiduciary risk is not affected by the AF, and it remains Substantial. Mitigation measures, including FM staff and updates on the FM system, are nevertheless in place. Institutional capacity risk is not affected by the AF, and it remains Substantial. Mitigation measures are nevertheless in place (e.g., recruitment of the AMO). Other existing institutional capacity risk mitigation measures built under the parent project remain applicable: (i) The PIU, which has been in existence for years, has a strong track record in project implementation and is staffed with experienced staff who have not been subject to change or influenced by political leadership fluctuations. (ii) Staff at the PIU work from home when the political-social situation does not allow going to the office. (iii) A flexible approach to supervision and monitoring has been adopted. The revised technical designs under this AF do not increase the Project's technical design risk, which remains Moderate. This is considering that revised designs are well within the scope of the UCE/AMO's expertise.

IV. Appraisal summary

A. Economic analysis

- 25. The AF will ensure that the main economic benefits originally expected are achievable.** The AF would deliver substantial economic benefits to Haiti's society. Considering air transport is the primary means for island nations such as Haiti to connect economically and culturally with the rest of the world, any material enhancement or degradation of air services for such nations would have significant and rapid



economic and social consequences. The AF for improving Haiti's air transport would thus be crucial for its economic growth and cultural exchange with the rest of the world. Accordingly, failure to adequately address the operational safety deficiencies at Haiti's international airports would likely result in a steady withdrawal of both domestic and international air services. The economic costs potentially entailed by loss or curtailment of airline services would impact the entire Haitian economy, including flows of tourism, remittances, labor, goods, services, knowledge, and investments, and not just the regions of Port-au-Prince and Cap-Haïtien. Below is a summary of the AF's major economic benefits:

- i. **Runway rehabilitation at CAP.** This investment would reduce (a) the risk of aircraft accidents/incidents due to deterioration of the runway and related loss of life, and (b) the risk of airport closure due to major pavement failure and related economic loss to the region and country.
- ii. **Resilience improvement at CAP.** Related activities would reduce the risk of airport closure due to airfield flooding and the related economic loss due to flight cancelation. It would also eventually contribute to enhanced national and regional resilience to natural disasters and a related reduced risk of post-disaster life loss and human suffering by ensuring CAP's availability to launch emergency operations in disasters' aftermath. The AF will ensure that resilience improvement includes climate change projections in its design, considering climate projections estimated an increase of intense precipitation in the Nord Department.¹¹

26. The revised cost-benefit analysis (CBA) shows that the Project remains economically viable. Considering the total Project cost of US\$96 million and the quantified benefits of the PAP taxiway improvement and the CAP runway rehabilitation, the Project has a net present value of US\$22 million¹² and an internal rate of return of 10.2 percent, accounting for revised consumer price index.

B. Technical

27. The activities to be financed have the same technical nature as of the parent project and are well aligned with the capacity of the Central Execution Unit of the Ministry of Public Works (Unité Central d'Exécution, UCE), the recruited AMO, and the MTPTC. The additional works would contribute to making the associated infrastructure at the CAP airport more climate and disaster resilient.

28. The Project approach and design remain technically sound and sustainable. Project design builds on successful approaches and lessons learned, as well as the findings of diverse assessments. It also considers numerous technical options to build infrastructure that is resilient to the long-term impacts of climate change. The works to be financed by the proposed AF would be designed applying international engineering standards, and they will be built on lessons learned under past and ongoing Bank-financed operations in Haiti supporting the transport sector (P163490, P170907 and P177210). The AMO is an experienced international engineering firm. It will support the PIU in designing and supervising the works to provide a sustainable and resilient infrastructure. It will do so using the best standards, including nature-based solutions.

¹¹ World Bank Group, "Haiti: Climate Projections," Climate Change Knowledge Portal, <https://climateknowledgeportal.worldbank.org/country/haiti/climate-data-projections>.

¹² The AF for cost overruns is exempt from greenhouse gas accounting and the Social Price of Carbon



- 29. Gender.** The parent project (P170907) has been gender tagged. This Project builds upon the parent project by aiming to close the significant gender gap in employment in the transport sector, which employs only 7 percent women in transport and communications, and 2 percent in construction.¹³ The Project aims specifically to promote gender diversity in the aviation sector and provide training on gender diversity to Haiti airport operators and regulators. The parent project is addressing recruitment, retention, and promotion barriers for women in the Haitian aviation sector and developing a nondiscrimination and equal opportunity policy through the development of a Gender Action Plan. It also supports the full training requirements of new female recruits and expects to increase the percentage of women on medium-skilled jobs, including air traffic controllers, supervisors, and public safety and security screening staff. The proposed AF will support these ongoing efforts and promote the recruitment of female staff for carrying out additional works. This will improve the expertise of local females in the specialized area of civil works in airport infrastructure. These efforts will be monitored using the indicators “Share of women hired in the medium-skill jobs by UCET-MTPTC, OOFNAC, and ANN” and “Share of women included in the medium-skills trainings,” which are included in the original results framework.
- 30. Climate change.** The proposed AF aims to strengthen the climate resilience of the original project by ensuring that all interventions follow a double climate resilience technical assessment: resilience of the interventions and resilience through the interventions. The proposed interventions to be financed by the AF are based on the results of the engineering assessment conducted in March 2023 by the AMO and the PIU, and they are aligned with the study’s¹⁴ recommendations, which invite improvement in investment prioritization, facility planning, design, construction, and maintenance for air transport resilience in Haiti. The AF could also contribute to increasing climate co-benefits, since it is expected to contribute a larger share of nature-based solutions, which have recently demonstrated to have multiple co-benefits, in terms of climate risk mitigation as well as climate adaptation. It could also contribute to increasing climate co-benefits by ensuring that drainage works include climate change projects in their hydraulic designs.
- 31. Citizen engagement.** The parent project builds upon, and further deepens, earlier initiatives implemented in Haiti under previous IDA-financed projects for citizen engagement, project monitoring, and transparency. The Stakeholder Engagement Plan (SEP) identifies the stakeholders, the means to ensure effective Project communication with each stakeholder group, and the indicators to monitor Project implementation. The Project is responding to the technical requirements of airport operators and users, who are its primary beneficiaries. Other stakeholders include the AAN, the National Office for Civil Aviation (OFNAC), airline companies, air traffic controllers, and other service providers at the airports (e.g., food providers). Direct stakeholders were consulted for the parent project’s preparation (since March 2019) and during its early implementation phase. These discussions informed the scope of the project activities. Despite the current context, a consultation and training program on project interventions, in line with existing environmental and social norms and standards, is currently underway virtually and in person. It includes a wide range of stakeholders and focuses on gender inclusion.

¹³ ILO (International Labour Organization), *Women at Work: Trends 2016* (Geneva: ILO, 2016).

¹⁴ World Bank Group, Latin America and the Caribbean Transport Unit, *Enhancing Air Transport Resilience in the Caribbean* (Washington, DC: World Bank, forthcoming).



C. Financial management and procurement

- 32. FM and procurement arrangements for this AF will be the same as for the ongoing parent project.** The proposed AF aims to cover the cost overrun created by cost increases due to inflation and design changes at the CAP airport that were not anticipated at appraisal, without any additional activities beyond those originally planned. Consequently, the implementation arrangements (including FM) for the parent project hold valid for the proposed AF.
- 33. The fiduciary responsibilities of the proposed AF would be managed using the existing capacity at UCE-MTPTC established under the ongoing parent project.** The team at the PIU is well established and capable of conducting all FM and financial procurement in compliance with World Bank policies and procedures. The current FM rating is Moderately Satisfactory. No audit reports are outstanding for the parent project and all the audit reports received are considered acceptable to the Bank. The financial responsibilities of the proposed AF would be managed using the existing capacity of the PIU FM staff, who are adequately equipped to execute the FM functions, as has been assessed through implementation of the parent project. The proposed AF will have the same FM arrangements as for the ongoing project in terms of budgeting, internal control, accounting and financial reporting, disbursement, and external audit. However, for sound implementation of the activities under the proposed AF, the UCE will have to complete the networking of the accounting system, ACCPAC, to configure and integrate all projects managed by the PIU into it.
- 34. A procurement risk assessment was conducted on December 12, 2022.** Given that the proposed AF has the same activities as under the parent project, the risk assessment remains relevant for the AF, which will only finance additional costs due to cost increase and inflation rate. The procurement arrangements defined in the Project Procurement Strategy for Development and considered in the last assessment also remain unchanged.
- 35. The team has been authorized to proceed with negotiations notwithstanding overdue audits on another project implemented by the same unit.** The PIU has six Bank-financed operations.¹⁵ According to the financing agreements, audit reports are to be submitted to the Bank within six months of the end of each fiscal year, i.e., on March 31, 2023. For the fiscal year ended September 30, 2022, all audited financial statements were submitted to the Bank on time except the P163490 Haiti Rural Accessibility and Resilience Project, which is still overdue, due to a delay in recruiting the audit firm (following a restructuring process). The audit firm has now been recruited, field work is ongoing, and the implementing agency is committed to submitting the audited financial statements to the Bank by the middle of May 2023. On April 11, 2023, the team received authorization by Bank management to proceed with negotiations notwithstanding overdue audits.

D. Legal operational policies

¹⁵ The PIU (Unité Central d'Exécution – UCE) within the Ministry of Public Works, Transport and Communications executes the following Bank projects: (i) P155201 MDUR, (ii) P163490 PARR, (iii) P168951 CHUD, (iv) P170907 CATCOP, (v) P171976, and (vi) P177210 RUTAP.



	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

E. Environmental and social

36. Environmental risk is assessed as Moderate. This remains unchanged from the parent project. Project activities are expected to be site specific (occurring uniquely within the current demarcations of both airports), limited in number, and reversible in nature, and they can be mitigated with measures that are readily identifiable and technically and economically feasible (subject to the AF provided). No impact on areas outside the airport perimeter is foreseen, and the majority of environmental and social risks and impacts are expected to be managed within these confines, despite widespread insecurity in the territory beyond the confines of the airport’s perimeters. Environmental and Social Management Plans for each site will be prepared once technical designs are in place to fully assess all potential risks and impacts and set out appropriate mitigation measures. Given the dynamic situation on the ground in Haiti, and the potential additional risks that may become apparent once technical designs are finalized, this risk assessment may be increased during Project implementation in line with the principles of risk-based and adaptive management, as additional relevant information becomes available. The SEP and the Environmental and Social Commitment Plan has been revised and disclosed.

37. UCE-MTPTC has continually demonstrated strong capacity to identify, assess, manage, and report on the environmental and social risks associated with project-financed activities, in line with the requirement of the Environmental and Social Framework. This is the case for closed and active Bank-financed projects despite very challenging circumstances in monitoring and reporting due to the protracted sociopolitical crisis. Environmental and social specialists within UCE-MTPTC have received extensive capacity building training, and their expertise and experience are frequently used to train environmental and social staff in other PIUs in Bank-financed operations in Haiti. Training and capacity building efforts will continue, as needed, during the implementation of AF activities. Given the significant technical expertise associated with the Project-financed interventions and to complement existing capacity, UCE-MTPTC will work closely with technical, and environmental and social focal points from the international MDOD to fully assess and manage potential environmental and social risks arising from the planned interventions.

V. World Bank grievance redress

38. The Project GRM is active and functional for ongoing works. The GRM builds on existing mechanisms developed for other Bank-funded projects in Haiti (i.e., the Municipal Development and Urban Resilience Project and the Cap-Haïtien Urban Development Project) and is working well. The Project GRM will routinely report and keep records of salient issues or grievances that arise, and UCE will ensure timely follow-up and tracking of grievances to their resolution.

39. Communities and individuals who believe that they are adversely affected by a project supported by the



World Bank may submit complaints to existing project-level grievance mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that the complaints received are promptly reviewed to address project-related concerns. Project-affected communities and individuals may submit their complaints to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, due to the Bank's noncompliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with an opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the Bank Management's attention and after the Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's GRS, please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank's AM, please visit <https://accountability.worldbank.org>.



VI SUMMARY TABLE OF CHANGES

	Changed	Not Changed
Components and Cost	✓	
Disbursements Arrangements	✓	
Implementing Agency		✓
Project's Development Objectives		✓
Results Framework		✓
Loan Closing Date(s)		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Implementation Schedule		✓
Other Change(s)		✓

VII DETAILED CHANGE(S)

COMPONENTS

Current Component Name	Current Cost (US\$, millions)	Action	Proposed Component Name	Proposed Cost (US\$, millions)
Component 1– PAP and CAP operational safety and navigation efficiency investments	58.00	Revised	Component 1– PAP and CAP operational safety and navigation efficiency investments	66.00
Component 2–PAP and CAP airfield drainage system improvements	14.00	Revised	Component 2–PAP and CAP airfield drainage system improvements	18.00
Component 3 – Institutional	12.00		Component 3 –	12.00



strengthening & Project Management			Institutional strengthening & Project Management	
Component 4 – Contingent Emergency Response	0.00		Component 4 – Contingent Emergency Response	0.00
TOTAL	84.00			96.00

DISBURSEMENT ARRANGEMENTS

Change in Disbursement Arrangements

Yes

Expected Disbursements (in US\$)

Fiscal Year	Annual	Cumulative
2020	0.00	0.00
2021	3,000,000.00	3,000,000.00
2022	504,604.20	3,504,604.20
2023	12,907,000.00	16,411,604.20
2024	23,588,395.80	40,000,000.00
2025	26,000,000.00	66,000,000.00
2026	21,000,000.00	87,000,000.00
2027	9,000,000.00	96,000,000.00

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Latest ISR Rating	Current Rating
Political and Governance	● High	● High
Macroeconomic	● Substantial	● Substantial
Sector Strategies and Policies	● Moderate	● Moderate
Technical Design of Project or Program	● Moderate	● Moderate
Institutional Capacity for Implementation and Sustainability	● Substantial	● Substantial



Fiduciary	● Substantial	● Substantial
Environment and Social	● Moderate	● Moderate
Stakeholders	● Moderate	● Moderate
Other		
Overall	● Substantial	● Substantial

LEGAL COVENANTS – Additional Financing - Haiti Caribbean Air Transport Connectivity Project (P181119)

Sections and Description
No information available
Conditions



VIII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Haiti

Additional Financing - Haiti Caribbean Air Transport Connectivity Project

Project Development Objective(s)

The objectives of the Project (PDO) are to: (i) improve operational safety and navigation efficiency of air transport in the Recipient’s territory; and (ii) increase the climate and disaster resilience of associated infrastructure at the Recipient’s international airports.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	PBC	Baseline	Intermediate Targets			End Target
			1	2	3	
Improve operational safety and navigation efficiency of air transport						
Targeted upgrade of air navigation systems achieved at CAP and PAP (Text)		Non-precision navigation system: No VSAT or ADS-B	Contract signed	ADS-B implemented	Navigation systems upgraded at CAP and PAP	Electronic navigation system in place (ADS-B implemented and operational)
PAP and CAP runways in compliance with ICAO SARPs (Yes/No)		No	No	No	Yes	Yes
Average Runway Occupancy Time (ROT) of airplanes at PAP (Minutes)		7.50	7.50	7.50	5.00	5.00
Increase the climate/disaster resilience of associated infrastructure at Haiti’s int’l airports						
Average number of days per year the discharge exceeds the capacity of the airport drainage system at		20.00	20.00	10.00	0.00	0.00



Indicator Name	PBC	Baseline	Intermediate Targets			End Target
			1	2	3	
PAP and CAP (Days)						
Average number of days per year the discharge exceeds the capacity of the airport drainage system at PAP (Days)		10.00	10.00	10.00	0.00	0.00
Average number of days per year the discharge exceeds the capacity of the airport drainage system at CAP (Days)		10.00	10.00	10.00	0.00	0.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets			End Target
			1	2	3	
Component 1: PAP and CAP operational safety and navigation efficiency investments						
Length of PAP taxiway system built (Meter(m))		0.00	500.00	1,000.00	1,200.00	1,460.00
Additional aircraft parking apron built at PAP (Square Meter(m2))		0.00	15,000.00	20,100.00	24,000.00	26,100.00
Length of CAP runway rehabilitated (Meter(m))		0.00	1,000.00	2,000.00	2,450.00	2,450.00
Airfield Ground Lighting (AGL) for the CAP runway is installed and operational (Yes/No)		No	No	No	Yes	Yes
PAP RESAs implemented and consistent with ICAO SARPs (Yes/No)		No	No	No	Yes	Yes



Indicator Name	PBC	Baseline	Intermediate Targets			End Target
			1	2	3	
Constructed CAP Air Traffic Control Tower (ATCT) in compliance with ICAO SARPs (Yes/No)		No	No	No	Yes	Yes
ADS-B for CAP and PAP installed and operational (Yes/No)		No	No	Yes	Yes	Yes
Share of infrastructure activities identified as climate resilient (Percentage)		0.00	100.00	100.00	100.00	100.00
Component 2: PAP and CAP airfield drainage system improvements						
Length of PAP drainage system (Meter(m))		3,850.00	3,850.00	3,150.00	2,450.00	2,450.00
New culverts built at CAP (Number)		0.00	0.00	2.00	4.00	4.00
Component 3: Institutional strengthening & Project Management						
Aviation sector strategy prepared (Yes/No)		No	No	Yes		Yes
Wildlife management plan prepared and implemented for PAP and CAP airports (Yes/No)		No	No	No	Yes	Yes
OFNAC safety inspectors trained by a certified agency (Number)		0.00	5.00	20.00	40.00	50.00
Rescue Coordination Center staff trained by a certified agency (Number)		0.00	5.00	20.00	40.00	50.00
Regional training programs attended by AAN and OFNAC (Number)		0.00	1.00	2.00	3.00	5.00
Grievances adequately responded to and/or resolved within the		0.00	100.00	100.00	100.00	100.00



Indicator Name	PBC	Baseline	Intermediate Targets			End Target
			1	2	3	
stipulated service standards (Percentage)						
Share of women hired in medium-skill jobs by UCE-MTPC, OFNAC and AAN (Percentage)	0.00		5.00	10.00	10.00	15.00
Share of women included in the medium-skills training (Percentage)	0.00		10.00	15.00	20.00	30.00
People with Enhanced Access to Transportation Services (Number)	0.00		0.00	1,900,000.00		1,900,000.00
Semi-annual meetings held with stakeholders to discuss their suggestions and related actions taken by the Project (Number)	0.00		2.00	4.00	7.00	12.00

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Targeted upgrade of air navigation systems achieved at CAP and PAP	Haiti currently has a non-precision navigation system (instruments) and is the only CATCOP participating country without an electronic navigation system. The project seeks to upgrade the navigation system by implementing Automatic Dependent Surveillance-Broadcast for	Semiannual	MDOD/AMO consultant's trimestral Project progress reports based on the Supervision consultant's monthly progress	The MDOD/AMO Consultant will compile the information of the physical progress of the air navigation system's subcomponents that will be measured by the Supervision Consultant according to the methodology that will	UCE



	Haiti’s international airports (PAP and CAP), [including receiver antenna(s), consoles for each ATCT, and equipping Haiti-based aircraft], allowing continuous aircraft position reports and improving situational awareness for air traffic controllers and pilots.		reports.	be determined as per its contract. The compiled information will be presented in their trimestral Project progress report.	
PAP and CAP runways in compliance with ICAO SARPs	The indicator measures implementation of the Runway End Safety Areas (RESAs) at PAP and rehabilitation of the CAP runway, including (a) milling and repaving the full length of the runway; and (b) installation of Airfield Ground Lighting (AGL) for the runway. Construction of ICAO-required Runway End Safety Areas (RESAs) for both PAP runway ends would improve operational safety and comply with ICAO SARPs. Rehabilitation of the CAP runway will help comply with ICAO SARPs for runway pavement	Once (Upon completing the project investment)	MDOD/AMO Consultant’s quarterly project progress reports based on the Supervision consultant’s monthly progress reports. OFNAC (the regulator) will assess the compliance of the infrastructure with ICAO SARPs.	The MDOD/AMO Consultant will compile the information of the physical progress of the runways improvements that will be measured by the Supervision Consultant according to the methodology that will be determined as per its contract. The compiled information will be presented in their quarterly project progress report. OFNAC (the regulator) will assess the compliance of the infrastructure with ICAO SARPs .	UCE



	conditions.				
Average Runway Occupancy Time (ROT) of airplanes at PAP	<p>ROT means the amount of time that each aircraft occupies the runway. The target is to reduce the PAP average Runway Occupancy Time (ROT) per arrival-departure cycle by at least 2.5 minutes.</p> <p>Construction of additional taxiways and aircraft parking apron will reduce ROT thereby increasing runway capacity, reduce delays (and GHG emissions), and improve PAP's ability to handle post-disaster spikes in air traffic volume.</p>	Semiannual	Information from the airport traffic control center (AAN)	The MDOD/AMO Consultant will assess on a semiannual basis the ROT at PAP based on the traffic data provided by the AAN's traffic control. AAN will ensure the daily collection of this data through a specific internal process. They will report it in their quarterly Project Progress report.	UCE
Average number of days per year the discharge exceeds the capacity of the airport drainage system at PAP and CAP	The capacity of a drainage system is defined by the cross-section of the drainage channels, the slope, the alignment, possible structures, and the revetment. If the actual discharge exceeds the capacity, inundation follows. The function of a drainage system is to discharge water in a	Annual	AAN information on the drainage system for each airport.	The MDOD/AMO Consultant will assess on an annual basis the average number of days per year the discharge exceeds the capacity of the airport drainage system for each airport, based on the data provided by the AAN. AAN will ensure	UCE



	controlled manner. The availability of the discharge system is defined by the rate (or the number of days per year for both PAP and CAP) the capacity is sufficient to discharge water in a controlled manner.			the collection of this information through a daily field observation and report in their quaterly Project progress report.	
Average number of days per year the discharge exceeds the capacity of the airport drainage system at PAP		Annual	AAN information on the drainage system for PAP.	The MDOD/AMO Consultant will assess on an annual basis the average number of days per year the discharge exceeds the capacity of the airport drainage system for PAP, based on the data provided by AAN. AAN will ensure the collection of this information through a daily field observation and report in their quaterly Project progress report.	UCE
Average number of days per year the discharge exceeds the capacity of the airport drainage system at CAP		Annual	AAN information on the drainage system at CAP	The MDOD/AMO Consultant will assess on an annual basis the average number of days per year the discharge exceeds the capacity of	UCE



				the airport drainage system for CAP, based on the data provided by AAN. AAN will ensure the collection of this information through a daily field observation and report in their quaterly Project progress report.	
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Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Length of PAP taxiway system built	The indicator measures the construction of a partial parallel taxiway and two additional exit taxiways. They would significantly improve aircraft flow and enhance reduce aircraft (Runway Occupancy Time)	Semiannua 	Supervision consultant's monthly progress reports	Physical progress of the taxiway system construction will be measured by the Supervision Consultant, according to the methodology that will be determined as per its contract.	UCE
Additional aircraft parking apron built at PAP	The indicator measures construction of additional aircraft parking apron that together with the	Semiannua 	Supervision consultant's monthly progress	Physical progress of the additional aircraft parking apron will be measured by the	UCE



	additional taxiways would eliminate significant bottlenecks and inefficiencies in aircraft movements, reduce aircraft CO2 emissions, improve aircraft operating safety, and would allow to accommodate spikes in relief flights (passenger and cargo) in post-disaster periods.		reports	Supervision Consultant according to the methodology that will be determined as per its contract.	
Length of CAP runway rehabilitated	The indicator tracks the progress of milling and repaving the full length of the runway and helps comply with ICAO standards for runway pavement conditions. The runway pavement at CAP is deteriorated and is becoming increasingly unsafe.	Semiannua l	Supervision consultant's monthly progress reports	Physical progress of the runway rehabilitation will be measured by the Supervision Consultant according to the methodology that will be determined as per its contract.	UCE
Airfield Ground Lighting (AGL) for the CAP runway is installed and operational	The indicator measures the installation and operational status of the AGL for the CAP runway that will be implemented with the runway rehabilitation. The AGL is a system of runway lighting that provides an enhanced visibility for the	Semiannua l	Supervision consultant's monthly progress reports	Physical progress of the AGL installation will be measured by the Supervision Consultant according to the methodology that will be determined as per its contract.	UCE



	aircrafts in their approach for landing and allows the airport to operate at night. The installation of AGL will highly improve the safety of operations at CAP.				
PAP RESAs implemented and consistent with ICAO SARPs	The indicator measures the construction of RESAs at PAP. The ICAO SARPs require a 150-m RESA including a 60-m paved strip starting from the end of the runway, and a 90-m surface surrounding the runway, suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.	Semiannua l	Supervision consultant's monthly progress reports.	Physical progress of the RESAs construction will be measured by the Supervision Consultant according to the methodology that will be determined as per its contract.	UCE
Constructed CAP Air Traffic Control Tower (ATCT) in compliance with ICAO SARPs	The indicator measures the Construction of a new CAP ATCT in a location and height to provide unobstructed visibility for the full length of the CAP runway. The ATCT can accommodate instruments for air control but must also provide good visibility conditions to the controller.	Semiannua l	Supervision consultant's monthly progress reports	Physical progress of the ATCT construction will be measured by the Supervision Consultant according to the methodology that will be determined as per its contract.	UCE



<p>ADS-B for CAP and PAP installed and operational</p>	<p>The indicator measures the installation of ADS-B at CAP and PAP. The Automatic dependent surveillance—broadcast (ADS-B) is a surveillance technology in which an aircraft determines its position via satellite navigation and periodically broadcasts it, enabling it to be tracked. Such a system brings many benefits for operation and safety. It will notably enhance navigation efficiency and improve pilots and controllers' visibility. I will also increase operational capacity at the airport by providing many operational features that will help maximize the use of the runway infrastructure. Moreover by allowing a more efficient operation, it allows to reduce flight times and thus contributes in reducing fuel consumption and pollution.</p>	<p>Semiannua I</p>	<p>Supervision consultant's monthly progress reports.</p>	<p>Physical progress of the installation and commissioning of the ADS-B will be measured by the Supervision Consultant according to the methodology that will be determined as per its contract.</p>	<p>UCE</p>
<p>Share of infrastructure activities identified as climate resilient</p>	<p>The indicator will track that all the project activities</p>	<p>Semiannua I</p>	<p>Supervision consultant's</p>	<p>During the conception phase of each</p>	<p>UCE</p>



	<p>that will improve the airport infrastructure will integrate climate-resilient measures and that these measures will be completed during the work phase. The following activities will be tracked with this indicator: (a) PAP taxiway, (b) PAP apron, (c) PAP RESAs, (d) PAP paved stopways, (e) CAP ATCT, (f) CAP drainage system, (g) PAP drainage system, (h) CAP runway.</p>		<p>progress reports.</p>	<p>infrastructure component, the MDOD/AMO Consultant will review the proposed designs and specifications to ensure that all infrastructure components integrate adequate climate resilience measures. Completion of all designs with climate resilience measures will represent a value of 50% of the indicator. Within this 50%, the MDOD/AMO will establish a ponderation of each component in order to track the progress of the integration of climate resilience measures in each component design. During work phase, the MDOD/AMO Consultant will review the Supervision consultant's monthly reports and lead periodic field inspections to guarantee</p>	
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				that the climate resilient measures are correctly integrated. Completion of civil works with climate resilience measures will represent a value of 50% of the indicator. Within this 50%, the MDOD/AMO will establish a ponderation of each component in order to track the progress of integration of climate resilience measures in each component realization. The MDOD/AMO will inform UCE about this specific indicator in its trimestral project progress reports.	
Length of PAP drainage system	The current PAP drainage system does not have an optimal configuration. The Project would improve the water evacuation route by constructing a direct connection to the evacuation point. This optimization will,	Semiannua l	Supervision consultant's monthly progress reports.	Physical progress of the drainage system improvement at PAP will be measured by the Supervision Consultant according to the methodology that will be determined as per its contract.	UCE



	therefore, result in a reduction in total length of the current drainage system.				
New culverts built at CAP	The indicator will track the realization of new culverts at CAP in order to improve the existing drainage system: 3 existing culverts (1 east, 1 west, 1 north) will be replaced by 4 larger culverts (2 east, 1 west, 1 north).	Semiannua l	Supervision consultant's monthly progress reports	Physical progress of the construction will be measured by the Supervision Consultant according to the methodology that will be determined as per its contract.	UCE
Aviation sector strategy prepared	An Aviation Sector Strategy guiding sector priorities and investments for the next 20 years. This strategy will form an essential framework for institutional strengthening activities.	Semiannua l	MDOD/AMO Consultant's trimestral project progress reports.	The MDOD/AMO Consultant will monitor the implementation of this activity and determine the methodology to measure the physical progress, as part of the overall project schedule management. They will inform the UCE through the quarterly project report. The indicator will take the value "yes" once the deliverable has been formally accepted.	UCE
Wildlife management plan prepared and implemented for PAP and CAP airports	The indicator measures the preparation and	Semiannua l	MDOD/AMO Consultant's	The MDOD/AMO Consultant will monitor	UCE



	<p>implementation of the Wildlife Management Plan, which will leverage established practices and lessons learned at existing CATCOP airports, as well as international best practices. Wildlife Management Plan will be elaborated with a focus on reducing runway incursions by wildlife and reducing bird strikes by aircraft on landing and takeoff, which was raised as a critical operational safety concern. The indicator will follow the preparation and implementation of the Plan, which will leverage established practices and lessons learned at existing CATCOP airports, as well as international best practices. At the completion of the indicator, the following actions will have been implemented: - Wildlife management risk analysis - Identification and design of mitigation measures -</p>		<p>trimestral project progress reports.</p>	<p>the elaboration of the Wildlife Management Plan and determine the methodology to measure the physical progress of this activity, as part of the overall project schedule. They will inform the UCE through their quarterly project report. The indicator will be considered as "yes" once the implementation of physical measures is fully completed.</p>	
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	Implementation of the Plan - Training of AAN and OFNAC staff on Wildlife Management Plan Implementation				
OFNAC safety inspectors trained by a certified agency	OFNAC safety inspectors require periodic certified training from Boeing and Airbus. The indicator measures the number of OFNAC inspectors trained.	Annual	Trimestral project progress reports and OFNAC training plan.	UCE and OFNAC will establish a training plan for OFNAC staff. They will monitor the implementation of this plan and report through their quarterly project report.	UCE
Rescue Coordination Center staff trained by a certified agency	The indicator measures number of staff trained for the operation of the Rescue Coordination Center.	Annual	MDOD/AMO Consultant's project progress reports and ANN and OFNAC training plan.	The MDOD/AMO Consultant will establish a training plan for OFNAC and ANN staff. They will monitor the implementation of this plan and report through their quarterly project report	UCE
Regional training programs attended by AAN and OFNAC	The indicator measures the participation of ANN and OFNAC in regional capacity building trainings. Indicator target based on an hypothesis of at least one training per year during the implementation.	Annual	MDOD/AMO Consultant's project progress reports and ANN and OFNAC training plan.	The MDOD/AMO Consultant will establish a training plan for OFNAC and ANN staff. They will monitor the implementation of this plan and report through their	UCE



				quarterly project report.	
Grievances adequately responded to and/or resolved within the stipulated service standards	The indicator will track the correct operation of the Grievance Redress Mechanism.	Trimestral	Supervision consultant's monthly progress reports	In its monthly reports, the Supervision consultant will inform on the grievances received, the appropriate response given and the response time. The Stakeholder Engagement Plan stipulates the services standards for the GRM. The MDOD/AMO will verify in the supervision consultant monthly reports that the GRM is correctly functioning, according to these requirements. The expected value for the indicator is 100% once the GRM is in place. The MDOD/AMO consultant will report on this indicator in their quarterly report.	UCE
Share of women hired in medium-skill jobs by UCE-MTPC, OFNAC and AAN	The project will analyze recruitment, retention and promotion barriers for women to participate in	Annually	UCE trimestra l project progress reports	As stipulated in the Operation Manual of the Project, the UCE will establish	UCE



	<p>the aviation sector. Women will be part of a training program to get skills as traffic controllers, supervisors, and public safety and security screening staff and to improve their potential for being hired at UCE-MTPC, OFNAC and ANN. 100% of the women trained and accredited as traffic controllers will be employed to perform within OFNAC.</p>			<p>trimestral report to inform the Bank on the project progress. This report will include a section on Human Ressources. The UCE will inform in this section on the progress of this indicator.</p>	
Share of women included in the medium-skills training	<p>The project will finance training by a certified agency for ANN and OFNAC capacity building for development of medium skills, including those related to air traffic controllers, supervisors, and public safety and security screening staff. The indicator will measure how many women will participate in this training.</p>	Semiannua 	MDOD/AMO	<p>The MDOD/AMO Consultant will establish a training plan for OFNAC and ANN staff. They will monitor the implementation of this plan, disaggregating the share of women participating in the medium-skills training, and report through their quarterly project report.</p>	UCE
People with Enhanced Access to Transportation Services	Number of passengers per year that experience	at the end of the	AAN database: Nu	Airlines & OFNAC database	OFNAC



	improved access to aviation infrastructure and services that have been built or rehabilitated through the project.	project	number of passengers per year		
Semi-annual meetings held with stakeholders to discuss their suggestions and related actions taken by the Project	Number of meeting minutes documenting the discussion on decisions and/or actions taken based on stakeholders' focus group's feedback.	Semi-annual	Minutes of the stakeholders meetings which will be shared with the public on UCE's website.	Collected as part of project M&E.	UCE-MTPTC

