PROJECT PROFILE (PP)
HAITI

I. BASIC DATA

Project name:	Water Management Program in the Artibonite Basin	
Project number:	HA-L1087	
Project team:	This document was prepared by the project team consisting of: Marion Le Pommellec (RND/CHA), Team Leader; Bruno Jacquet, Marie Bonnard (RND/CHA); Sergio Ardila, Lina Salazar, David Corderi (INE/RND); Natacha Marzolf (INE/ENE); Pierre Kenol Thys (ENE/CHA); Leila Chennoufi (VPS/ESG); Jennifer Doherty-Bigara (INE/CCS); Laurence Telson (ICS/CDR); Emilie Chapuis, Marise Etienne Salnave (PDP/CHA); Taos Aliouat (LEG/SGO); and Lisa Restrepo (INE/RND).	
Borrower:	Government of Haiti	
Executing agency:	Ministry of Agriculture, Natural Resources and Rural Development	
Financial Plan:	IDB:	US$ 20,000,000
	Local:	US$ 0
	Total:	US$ 20,000,000
Safeguards:	Policies triggered:	B.01 (OP-704, OP-102), B.02, B.03, B.04, B.05, B.06, B.07, B.14 and B.17.
	Classification:	B

II. GENERAL JUSTIFICATION AND OBJECTIVES

A. Background and Justification of the Program

1.1 The Artibonite basin, a strategic region. With an area of 6,800 km2 on the Haitian territory[1], representing 25% of the country, the Artibonite watershed is the largest hydrographic basin of Haiti. The Artibonite River is the first source for hydroelectric generation and irrigation water in the country. In the upper watershed, the Péligre dam was built in 1956 in order to control flooding in the Artibonite valley and to supply water to the irrigation district downstream. In 1971, it was modified to allow the generation of electricity, and its management passed under Electricity of Haiti (EDH). The hydro-electrical plant, currently under rehabilitation with Bank's support, is the main renewable source of energy in the country, with an average annual production of 320 Gwh at full capacity (30% of the country production). Upstream Péligre dam, around 150,000 rural households get their main income from agriculture, livestock raising and charcoal production. The Artibonite Valley, the largest irrigation district in Haiti with more than 30,000 ha, is located downstream Péligre. In this very fertile area, 50,000 rural families cultivate rice (80% of the national production) and high-value vegetables, production that corresponds to an estimated annual value of US$57.5

[1] The upper part (2,700 km^2) is located in Dominican Republic.

million.[2] The Artibonite Valley is also one of the most-populated areas in Haiti, with a population density above 500 inhabitants/Km^2.

1.2 Water management-related issues in the Artibonite basin. The upper Artibonite watershed suffers similar environmental challenges as the rest of the country. Poverty and demographic pressure result in deforestation and unsustainable agricultural practices: 97.5% of the area is under cultivation while more than 50% is considered unsuitable for agriculture, and 47% face elevated to very severe erosion risks. In the absence of infrastructures to retain water and soil, most rain events produce large run-off that concentrates in gullies generating flash floods and high erosion, which is estimated at 120T/Ha/year on average in the watershed. A direct consequence is the silting of the Péligre reservoir, which storage capacity passed from 600 Mm^3 to 300 Mm^3 in 60 years. Conversely, in the absence of rain, access to water is difficult in the hillside areas and becomes a major constraint to agriculture and livestock breeding during the dry season.[3]

1.3 EDH manages water at Péligre dam and its main objective is electricity generation, giving little weight in its water management decisions to irrigation needs or flood mitigation. Moreover, the decreased water storage capacity of the reservoir, combined with insufficient water measuring equipment and decision support systems, makes water management for flood control or irrigation purposes even more difficult. This situation often results in large water releases that cause floods downstream, and important associated losses. The Artibonite Valley is the Haitian region with the highest irrigation vulnerability index (100/100) and the 2nd highest population vulnerability index (38/100); in the Valley, the annual value of damages to crops due to floods reaches US$4.3 million/year.[4] Damages at Canneau dam, located at the head of the irrigation system, and of irrigation and drainage canals, are particularly severe. Under the Bank's financed Agricultural Intensification Program (HA0016 and HA-L1021), US$38 million were recently invested to repair infrastructures or protect them against erosion. Achievements include the rehabilitation of around 40 Km of canals and drains and the building of five large protection walls to prevent the master canals from collapsing, but additional works remain necessary. Moreover, among the reforms pursued in the agricultural sector with Bank's support (policy-based grant 2731/GR-HA), an InterMinisterial Commission was created in 2012, to ensure that EDH water management decisions at Péligre dam better integrate irrigation needs and flood mitigation. Positive results on the field already demonstrate the importance of this Commission that requires strengthening to ensure its sustainability.

1.4 The problems above are compounded by deficiencies in the operation and maintenance of the irrigation district. Its main infrastructures are under the responsibility of the Organization for the Development of the Artibonite Valley

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[2] Projet binational de réhabilitation du bassin versant du fleuve Artibonite, dans la zone frontalière entre Haïti et la République dominicaine – Diagnostic, ACDI/OXFAM Québec/CRC Sogema, 2007; HA-L1074 economic assessment, Agueda/IDB, 2012.

[3] ACDI, OXFAM Québec et CRC Sogema, 2007 (Ibid); Sedimentation Study Péligre Reservoir, IDB/GLM Engineering, 2008.

[4] Evaluation de la vulnérabilité aux inondations des infrastructures hydro-agricoles dans la Vallée de l'Artibonite, BID/Body, 2009; Environmental vulnerability in Haiti, USAID, 2007; Agueda/IDB, 2012 (Ibid).

(ODVA), but this institution suffers severe management weaknesses, and budget restrictions. Some sections of the master canals are about to collapse, a situation that would impede delivering water to up to 30,000 Ha downstream; damaged equipment makes almost impossible to regulate flows at Canneau dam, which results in excessive or insufficient flows in the irrigated area; and insufficient conservation has resulted in silted drainage canals. Operation and maintenance of small infrastructures, including cost recovery, are theoretically under the responsibility of Water Users Associations (WUAs), recently created under operation HA0016, but they remain too weak to assume this new function. Added to this, the lack of regulation equipment in the canals makes water management at plot level impossible. Those problems intensify the frequent excess, or scarcity, of water resulting from the accumulation of water management deficiencies starting from the upper areas, and contribute to low agricultural productivity.[5]

1.5 Last but not least, any water impacting activity conducted in the Dominican part of the watershed has the potential to exacerbate problems downstream on the Haitian side, but coordination between the two countries is currently almost nonexistent, although a process is ongoing to create a binational commission.

1.6 **Project rationale.** As outlined above, erosion, flooding, and water availability for agriculture, are key and interrelated challenges to address in the strategic Artibonite basin. Studies suggest that the situation has aggravated in recent times, and that water stress will continue increasing as a consequence of climate change[6]. Those challenges result from three main problems: (i) inappropriate land use in the upper basin (¶1.2); (ii) lack or bad state of infrastructures and equipment to manage water flows all along the watershed (¶1.2-1.4); and (iii) inability of the institutions and stakeholders to effectively and sustainably manage the resource and maintain infrastructures and equipment (¶1.3-1.4). Unsustainable agricultural practices are going to be addressed by other large-scale operations[7]. Consequently, the proposed operation will: (i) focus on investments that will extend, improve or secure water regulation infrastructure and equipment; and (ii) pursue recent efforts undertaken to strengthen the institutions and stakeholders in charge of water management.

2.1 **Consistency with National priorities.** The program is aligned with the "Centre Artibonite Loop" territorial development program; Strategic Program for Climate Resilience; National Management Plan of Risks and Disasters; National Irrigation Policy; and 2013-2016 Agricultural Recovery Program.

2.2 **Consistency with the Country Strategy, Sector Strategy and GCI-9.** The program is aligned with the Bank's Country Strategy with Haiti for 2011-2015

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5 Réforme du schéma institutionnel de la gestion de l'eau et des infrastructures du périmètre irrigué de la Vallée de l'Artibonite, Société du Canal de Provence, 2013; Agricultural Intensification Program final evaluation, AECOM, 2013

6 Agricultural Risk Management in the Caribbean, Lessons and Experiences, 2009-2012, World Bank; Haiti Strategic Program for Climate Resilience, CIAT, 2013; BID/Body, 2009 (Ibid). National Adaptation Plan of Action, 2006; Mimura, N., *et al*, 2007: Small islands. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 687-716.

7 Operations that finance "smart subsidies" to promote the transfer of eco-friendly agricultural practices and the payment of ecosystemic services: HA-L1041, HA-L059, and others donors' (USAID, UNDP/GEF) programs.

(GN-2646), which sets agriculture as a priority sector and the Artibonite region as a priority area of intervention. It is also included in the 2013 Country Program Document (GN-2696). The program contributes to the four lending program priority targets outlined in the Report on the Bank's Ninth General Increase in Resources (AB-2764) and its Results Framework: (i) small and vulnerable countries; (ii) poverty reduction and equity enhancement, as beneficiaries will be mainly small farmers; (iii) support climate change initiatives, renewable energy and environmental sustainability, by promoting better management of water resources; and (iv) support regional cooperation and integration, as the Artibonite basin is a regional public good. The operation is consistent with the strategic priority "Protect the environment, respond to climate change and enhance food security," and will contribute to its Regional Development Goal "Annual growth rate of agricultural GDP" and its output "Farmers given access to improved agricultural services and investments."

B. Program Objectives and Expected Results

2.3 The general objectives of the program are to decrease crops, livestock and infrastructures losses and to increase agricultural productivity in the Artibonite basin. The specific objectives are to decrease flooding and erosion, and to improve the availability and effective use of agricultural water in the area. The program is structured in two components.

2.4 **Water management infrastructures and equipment.** The objective of this component is to improve water management in the upper and lower watershed. This component will finance the construction or rehabilitation of infrastructures and associated equipment, such as: (i) upstream watershed small protection infrastructures; (ii) Canneau dam and master canals; (iii) drains in the irrigated district; and (iv) water flows monitoring and regulating systems from the tributaries upstream Péligre dam to the lowest canals in the irrigation district.

2.5 **Institutional strengthening.** This component aims at improving the management of the water resource and the maintenance of hydraulic infrastructures in the Artibonite basin. It will finance technical assistance, and limited material support (small office buildings and equipment) to strengthen the implicated stakeholders, especially WUAs, ODVA, the Commission for the multi-purpose water management at Péligre dam, and the future Artibonite bi-national commission.

III. TECHNICAL ISSUES AND SECTOR KNOWLEDGE

3.1 In term of institutional design, the challenge is to identify an effective execution mechanism, building on the competencies existing in some ad hoc executing units, while at the same time supporting the ongoing reform of the MARNDR.

3.2 A key issue to address is the operation and maintenance of the irrigation district. Component 2 will support WUAs (in charge of cost recovery) and ODVA in that sense, but some administrative reforms at ODVA may be needed prior to any strengthening activities (and may be achieved through contractual conditions).

3.3 Special attention will be made to include climate change consequences on rainfall variability in the models for future infrastructure.

IV. SAFEGUARDS AND FIDUCIARY SCREENING

4.1 Based on the Environmental and Social Safeguards Compliance Policy (OP-703), this operation is classified as B. An environmental assessment will be necessary as well as a consultation with affected parties and a limited Disaster Risk Assessment given Haiti's exposure to Natural Disasters. As detailed in the environmental and social strategy (Annex III), potential impacts and risks related to biodiversity, gender, pollution and other environmental and social aspects will be assessed and an Environmental and Social Management Report (ESMR) will be prepared. Specific arrangements will also be prepared to monitor the overall environmental and socio-economic benefits of this operation.. A fiduciary risk assessment will also be undertaken before POD approval in order to determine the fiduciary risk level and define the corresponding modalities for the fiduciary management of the project.

V. OTHER ISSUES

5.1 Bank Procurement Policies (GN-2349-9 and GN-2350-9) and the Procurement Provisions for Haiti (GN-2654) will apply.

5.2 Retroactive financing, in accordance with sections 1.9 and 1.12 of GN-2349-9 and GN-2350-9 respectively, is needed for an amount of US$500,000 to cover the advance payments for works (and related supervision) that must start at the beginning of the 2013 dry season to prevent the left bank of the Artibonite River downstream Canneau dam from collapsing. It is expected that the contracts will be signed immediately upon the approval of operation HA-L1087 by the Board.

5.3 Component 2 will finance institutional strengthening for several key stakeholders in the Artibonite basin. To conduct the associated activities, and given their specific and prior experience with the said stakeholders, some firms will be contracted through single-sourcing in conformity with section 3.10 of GN-2350-9 to ensure continuity of services: Consortium CECI/SOCODEVI/TECSULT/ PRODEVA, to strengthen WUAs (estimated amount of the contract: US$2 million); AMF, to support the reinforcement of ODVA (US$500,000); and OXFAM-Québec, to support the future binational commission (US$1 million).

VI. RESOURCES AND TIMETABLE

6.1 Annex V of this document details costs and timeline for this program preparation. This distribution of the Proposal for the Operation Development to the Quality and Risk Review Committee is expected on August 30, 2013; the approval of the Draft Loan Proposal by the Operations Policy Committee on September 30, 2013; and the approval by the Board of Executive Directors on November 13, 2013. The Project Team has estimated the need for US$54,434 from the Bank's administrative budget in order to accomplish the preparation of this operation.

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SAFEGUARD POLICY FILTER REPORT

PROJECT DETAILS	**IDB Sector**	AGRICULTURE AND RURAL DEVELOPMENT-SUSTAINABLE AGRICULTURAL DEVELOPMENT
	Type of Operation	Investment Loan
	Additional Operation Details	
	Investment Checklist	Generic Checklist
	Team Leader	Le Pommellec, Marion (MARIONLP@iadb.org)
	Project Title	Water Management Program in the Artibonite Basin
	Project Number	HA-L1087
	Safeguard Screening Assessor(s)	Chennoufi, Leila (LEILAC@iadb.org)
	Assessment Date	2013-05-31
	Additional Comments	

SAFEGUARD POLICY FILTER RESULTS	**Type of Operation**	Loan Operation	
	Safeguard Policy Items Identified (Yes)	Activities to be financed in the project area are located within a geographical area or sector exposed to natural hazards* (Type 1 Disaster Risk Scenario).	(B.01) Disaster Risk Management Policy– OP-704
		The Bank will make available to the public the relevant Project documents.	(B.01) Access to Information Policy– OP-102
		The operation is in compliance with environmental, specific women's rights, gender, and indigenous laws and regulations of the country where the operation is being implemented (including national obligations established under ratified Multilateral Environmental Agreements).	(B.02)
		The operation (including associated facilities) is screened and classified according to their potential environmental impacts.	(B.03)

		The Borrower/Executing Agency exhibits weak institutional capacity for managing environmental and social issues.	(B.04)
		The project is specifically designed to increase the capacity of human and natural systems to adapt to a changing climate.	(B.04)
		The project includes activities to close current “adaptation deficits” or to increase the capacity of human and natural systems to adapt to a changing climate.	(B.04)
		An Environmental Assessment is required.	(B.05)
		Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation of women and men, (b) socio-culturally appropriate participation of indigenous peoples and (c) mechanisms for equitable participation by vulnerable groups.	(B.06)
		The Bank will monitor the executing agency/borrower’s compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.	(B.07)
		Conversion of Natural Habitats in project area of influence (please refer to the Decision Support System for more information).	(B.09)
		The operation has the potential to pollute the environment (e.g. air, soil, water, greenhouse gases...).	(B.11)
		The operation is a repeat or second phase loan.	(B.14)

		Suitable safeguard provisions for procurement of goods and services in Bank financed projects may be incorporated into project-specific loan agreements, operating regulations and bidding documents, as appropriate, to ensure environmentally responsible procurement.	(B.17)
	Potential Safeguard Policy Items(?)	No potential issues identified	
	Recommended Action:	Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR. The project triggered the Disaster Risk Management policy (OP-704). A Disaster Risk Assessment (DRA), is required, as established under Directive A-2 of the DRM Policy OP-704). Please contact a Natural Disaster Specialist in VPS/ESG or INE/RND for guidance. Also: if the project needs to be modified to increase resilience to climate change, consider the (i) possibility of classification as adaptation project and (ii) additional financing options. Please contact a INE/CCS adaptation specialist for guidance. The project triggered the Other Risks policy (B.04): climate risk.Please include sections on how climate risk will be dealt with in the ESS as well as client documents (EIA, EA, etc);Recommend addressing risks from gradual changes in climate for the project in cost/benefit and credit risk analyses as well as TORs for engineering studies.	
	Additional Comments:		

ASSESSOR DETAILS	**Name of person who completed screening:**	Chennoufi, Leila (LEILAC@iadb.org)
	Title:	
	Date:	2013-05-31

SAFEGUARD SCREENING FORM

PROJECT DETAILS	**IDB Sector**	AGRICULTURE AND RURAL DEVELOPMENT-SUSTAINABLE AGRICULTURAL DEVELOPMENT
	Type of Operation	Investment Loan
	Additional Operation Details	
	Country	HAITI
	Project Status	
	Investment Checklist	Generic Checklist
	Team Leader	Le Pommellec, Marion (MARIONLP@iadb.org)
	Project Title	Water Management Program in the Artibonite Basin
	Project Number	HA-L1087
	Safeguard Screening Assessor(s)	Chennoufi, Leila (LEILAC@iadb.org)
	Assessment Date	2013-05-31
	Additional Comments	

PROJECT CLASSIFICATION SUMMARY	**Project Category:** B	**Override Rating:**	**Override Justification:**
			Comments:
	Conditions/ Recommendations	• Category "B" operations require an environmental analysis (see Environment Policy Guideline: Directive B.5 for Environmental Analysis requirements). • The Project Team must send to ESR the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports. • These operations will normally require an environmental and/or social impact analysis, according to, and focusing on, the specific issues identified in the screening process, and an environmental and social management plan (ESMP). However, these operations should also establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.) where	

		necessary.

	Identified Impacts/Risks	**Potential Solutions**
SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS	Minor or moderate conversion or degradation impacts to natural habitats (such as forests, wetlands or grasslands).	**Ensure Proper Management and Monitoring of the Impacts of Natural Habitat Loss:** A Biodiversity Management Plan (BMP) should be prepared that defines how impacts will be mitigated (roles and responsibilities, monitoring, budget, etc.) and could be incorporated in the ESMP. Depending on the financial product, the BMP should be referenced in appropriate legal documentation (covenants, conditions of disbursement, etc.). Confirmation should be obtained from competent experts that they are confident that the plan can mitigate impacts and also that the relevant authorities have approved the BMP.
	Borrower is committed to complying with applicable ILO requirements (including commitment to non-discrimination, equal opportunity, collective bargaining and rights of association) and national employment in relation to working conditions but does not fully address all employment requirements.	**Confirm Labor Practices are Adequate:** The borrower should be required to improve employment and employment rights including (as appropriate): (a) clarification of employment practices and terms; (b) support of collective bargaining; (c) approaches to workers' organizations; (d) non-discrimination and equal opportunity; (e) fair and transparent retrenchment/redundancy amongst workers; and (f) development of appropriate grievance mechanisms. These issues should be defined in a human resources policy. Depending on the financial product, requirements should be referenced in appropriate legal documentation (covenants, conditions of disbursement, etc).
	Potential to negatively impact the right to equality between women and men, or the specific rights of women under applicable law	**Incorporation of gender analysis into its social impact and risk assessments:** Where project impacts affect the rights to equality between women and men, or the specific rights of women under applicable law, project preparation and implementation should include specific analysis and consultation/good faith negotiations regarding these issues and the social impact and risk assessment and associated mitigation framework must address them specifically. The mitigation framework will be referenced in the legal documentation (covenants, conditions of disbursement, etc.), require regular reporting, frequent and independent monitoring, and independent review of implementation.
	Generation of solid waste is	**Solid Waste Management:** The borrower

	moderate in volume, does not include hazardous materials and follows standards recognized by multilateral development banks.	should monitor and report on waste reduction, management and disposal and may also need to develop a Waste Management Plan (which could be included in the ESMP). Effort should be placed on reducing and re-cycling solid wastes. Specifically (if applicable) in the case that national legislations have no provisions for the disposal and destruction of hazardous materials, the applicable procedures established within the Rotterdam Convention, the Stockholm Convention, the Basel Convention, the WHO List on Banned Pesticides, and the Pollution Prevention and Abatement Handbook (PPAH), should be taken into consideration.
	Project construction activities are likely to lead to localized and temporary impacts (such as dust, noise, traffic etc) that will affect local communities and workers but these are minor to moderate in nature.	**Construction:** The borrower should demonstrate how the construction impacts will be mitigated. Appropriate management plans and procedures should be incorporated into the ESMP. Review of implementation as well as reporting on the plan should be part of the legal documentation (covenants, conditions of disbursement, etc).

	Details	**Actions**
DISASTER SUMMARY	The Project should include the necessary measures to reduce disaster risk to acceptable levels as determined by the Bank on the basis of generally accepted standards and practices. Alternative prevention and mitigation measures that decrease vulnerability must be analyzed and included in project design and implementation as applicable. These measures should include safety and contingency planning to protect human health and economic assets. Expert opinion and adherence to international standards should be sought, where reasonably necessary.	A Disaster Risk Assessment (DRA), is required, as established under Directive A-2 of the DRM Policy OP-704). Please contact a Natural Disaster Specialist in VPS/ESG or INE/RND for guidance. Also: if the project needs to be modified to increase resilience to climate change, consider the (i) possibility of classification as adaptation project and (ii) additional financing options. Please contact a INE/CCS adaptation specialist for guidance. The project triggered the Other Risks policy (B.04): climate risk.Please include sections on how climate risk will be dealt with in the ESS as well as client documents (EIA, EA, etc);Recommend addressing risks from gradual changes in climate for the project in cost/benefit and credit risk analyses as well as TORs for engineering studies.

ASSESSOR DETAILS	**Name of person who completed screening:**	Chennoufi, Leila (LEILAC@iadb.org)
	Title:	
	Date:	2013-05-31

ENVIRONMENTAL AND SOCIAL STRATEGY

A. PROJECT DESCRIPTION

The specific objectives of this project are to decrease flooding and erosion, and to improve the availability and effective use of agricultural water in the area. The program is structured in two components: Water management infrastructures and Institutional strengthening. The physical infrastructures that will be financed by this operation are as follows:

- Immediately downstream of the canneau dam, fixing the river embankment to avoid the collapsing of master canals;
- In the command area: building small (secondary and tertiary level) irrigation canals in a pilot area;
- In the command area: dredging drains and placing the dredged material on the embankments, including compacting for strengtening;
- In the command area: installing flow monitoring devices and gates for more efficient use of water resources;
- In the area upstream of peligre dam, installation of a series of micro dams (couple hundred). These micro dams will be concentrated in particular "sub"-watershed(s), which location is still to be identified.

B. INSTITUTIONAL AND REGULATORY CONTEXT

The Haitian constitution has seven articles dedicated to the environment, the rational use of soils and land on slopes, natural sites, vegetation, toxic waste and clean energy. Article 253 of the constitution clarifies that practices that may endanger or tilt the ecological balance of the general environment where people live are formally prohibited. The Haitian government adopted in 2006 the decree on the management of the environment and the regulation of citizen's behavior for sustainable development. Article 56 of chapter IV on environmental assessment stipulates that institutions in charge of implementing policies, plans, programs, projects or activities susceptible to have an impact on the environment shall have an environmental impact assessment prepared. The same decree indicates that the declaration of environmental impact is subject to the non-objection of the ministry of the environment. The institution in charge of environmental protection in Haiti is the Ministry of Environment, created in 1994 through a legislative decree.
This project is not expected to require an EIA under Haitian regulations.

IDB safeguards policies and directives apply to this operations, including: (i) the environmental and safeguards compliance policy (OP-703) and its directives on environmental and social assessment (B5), on public consultation (B6), natural habitats (B9), and pollution prevention (B11) (ii) The disaster risk management policy (OP-704) and (iii) the Gender policy. This operation was classified as B.
An environmental and social assessment will be prepared as part of this operation taking into account the requirements of the policies and directives listed above.

C. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS

In the absence of an environmental and social assessment specific to the project, we are listing potential environmental and social impacts and risks that are generic and can generally be expected from these types of operations. The EA must be completed and disclosed before the ESMR can be completed, and before the POD distribution for QRR.

Natural habitats (B9): the upstream micro dams may have impacts on natural habitats depending on their location and the EA will have to assess this potential impact and identify avoidance, mitigation measures and/or management plans as necessary

Consultation (B6): In addition to at least one consultation with affected parties, key non-governmental stakeholders in the Artibonite basin may be consulted such as:
- Réseau des Associations de Coopératives pour le Commerce et la Production Agricole du Bas Artibonite (RACPABA); gathers over 2,300 farrmers in the irrigation district;
- Fédération des Associations d'Irrigants dans la Vallée de l'Artibonite (FASSIVAL) – gather over 37,000 water users in the irrigation district;
- Mouvman Peyizan Papay (MPP); gather over 3,000 farrmers in the upper watershed;

Pollution Prevention and Abatement (B11): Construction activities will likely generate various waste materials, solid or non-solid, hazardous or not. All these streams will have to be identified to manage and reduce potential risks and impacts.

Other risks (B4): Other risks include (i) occupational health and safety or community health and safety in relation with construction activities, vehicular traffic; (ii) implementation difficulties if proper support is not provided to the executing agency. The Studies and Programming Unit of the Ministry of Agriculture (UEP, for its French acronym) will be responsible for monitoring and evaluation. The UEP encompasses (i) a Monitoring and Evaluation Unit (ii) an Environmental and Gender Unit. The capacity of the UEP will be assessed in order to identify potential gaps and activities that could mitigates such gaps.

Disaster risk management (OP-704): Haiti is prone to various types of natural disasters that may pose risks to the infrastructure to be built. The limited disaster risk assessment will help guide the selection of appropriate risk management and mitigation measures, as required by the policy.

Gender Policy: This operation may both present opportunities and safeguards risks on Gender aspects. The environmental (and social) assessment will explore both opportunities and risks and identify how to maximize the first and minimize the second.

In addition to the safeguards aspects, the team will identify opportunities for activities and outputs that would strengthen the sustainability aspects of the projects and increase the odds of reaching the expected development outcomes. Tentative areas for such opportunities are (i) Gender equity and (ii) impact of watershed protection on flooding and erosion. These will be explored during project preparation and as part of the environmental and social assessment.

D. ENVIRONMENTAL AND SOCIAL DUE DILIGENCE STRATEGY

Taking into account the aspects discussed in the previous sections and the requirements outlined in IDB's OP 703 Environment and Safeguards Compliance Policy, the Team proposes that the Project be classified as a Category B operation.
The Bank will perform an Environmental and Social Due Diligence ("ESDD") in order to confirm that all Project relevant impacts and risks have been, or will be properly and adequately evaluated and mitigated.
The environmental and social due diligence will specifically address the following aspects:

a) An assessment of project compliance status with the applicable national, state, and municipal environmental, social, health and safety and labor regulatory requirements (e.g., laws, regulations, standards, permits, authorizations, etc; and any applicable Bank environmental and social policy or guideline, in particular the OP-703 Environment and Safeguards Compliance Policy, OP-102 on Information Disclosure, and on OP-704 on disaster risk management;
b) An evaluation of the environmental impact assessment reports, once available, and additional environmental studies related to the Project to confirm that the Project's relevant direct, indirect, cumulative and regional environmental and social impacts and risks have been properly identified and evaluated;
c) An assessment of the adequacy and sufficiency of all Project's existing environmental and social plans, programs and procedures developed; An evaluation of the adequacy of contingency plans (i.e. emergency and spill plans), including confirmation that all relevant project-related environmental risks have been identified, proper procedures have been developed, and sufficient resources will be made available to ensure adequate implementation;
d) An evaluation of project-related information disclosure and public consultation activities that have been performed and the proposed future actions to provide adequate ongoing information disclosure and public consultation with the local population, as well as complaint mechanisms;
e) If relevant, an assessment of the construction company's Environmental, Health and Safety Management System, including plans and procedures, to assess their adequacy in terms of responsibilities, training, auditing, reporting, and resources to be made available to ensure adequate implementation, and specifically all the system components necessary to ensure that Project's works that will be implemented will not generate significant negative impacts;
f) An evaluation, and further development as necessary, of Project execution monitoring/supervision procedures to ensure proper implementation of environmental, social, health and safety and labor actions and requirements;

As part of the ESDD process, the Project Team will analyze the environmental and social aspects of the Project and prepare an Environmental and Social Management Report ("ESMR").

INDEX FOR COMPLETED AND PROPOSED SECTOR WORK

Topic	Description	Estimated Dates	References and Electronic Links
Technical options and design aspects	Politique du MARNDR pour l'Irrigation – Direction des Infrastructures Agricoles - Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural – Juin 2012	Completed	IDBDOCS #37042537
	Projet de manuel valorisant le retour d'expérience en aménagement des bassins versants – Charles Lilin/Coopération français, BID, MARNDR, CIAT - 2012	Completed	
	Evaluation de la disponibilité en eau d'irrigation pour le système de l'Artibonite, BID/ Galand, Juillet 2009.	Completed	IDBDOCS #19061731
	Evaluation de la vulnérabilité aux inondations des infrastructures hydro-agricoles dans la Vallée de l'Artibonite, BID/Body, Juin 2009.	Completed	IDBDOCS #19060848
	Programa de rehabilitación electromecánica de la central hidroeléctrica Peligre - Proyecto HA-L1032 - Evaluación ambiental y social. BID, Septiembre 2008.	Completed	IDBDOCS #1778249
	Sedimentation Study Peligre Reservoir, Haiti – GLMorris Engineering – Interamerican Development Bank - 2008	Completed	IDBDOCS #1804863
	Projet binational de réhabilitation du bassin versant du fleuve Artibonite, dans la zone frontalière entre Haïti et la République dominicaine – Rapport de l'étude diagnostique – Agence Canadienne de Développement International/Ministère de l'Environnement d'Haïti/Secretaria de Estado de Medio Ambiente y Recursos Naturales de Republica Dominicana/OXFAM Québec/CRC Sogema, 2006	Completed	www.artibonito.org
	HAITI DEMAIN – Boucle Centre Artibonite - OBJECTIFS ET STRATEGIES TERRITORIALES POUR LA RECONSTRUCTION - HAITI DEMAIN - NOVEMBRE 201 – Comité Interministériel d'Aménagement du Territoire	Completed	http://ciat.gouv.ht/download/cat.php?val=7_haiti+demain
	Agricultural Risk Management in the Caribbean, Lessons and Experiences, 2009-2012 - World Bank	Completed	http://iadb.libguides.com/content.php?pid=372257&sid=3049342
	ENVIRONMENTAL VULNERABILITY IN HAITI - FINDINGS & RECOMMENDATIONS – USAID - 2007	Completed	IDBDOCS #37690480

Topic	Description	Estimated Dates	References and Electronic Links
	Programme de surveillance et de protection de l'aménagement de Péligre - Contrôle technique et instrumentation des barrages de PELIGRE et CANNEAU – 2009 – COYNE ET BELLIER/LGL SA/Electricité d'Haïti	Completed	IDBDOCS #2167809
	Études de Protection de la Vallée de l'Artibonite contre les Inondations – Tecsult – MARNDR – BID - 2007	Completed	IDBDOCS #1170793
	Haiti Strategic Program for Climate Resilience, CIAT, April 2013	Completed	(not public yet)
	New institutional framework for water and infrastructure management in the Artibonite Valley	May 2013	
	Evaluation finale du Programme d'Intensification Agricole (HA0016+HA-L1021) – MARNDR/AECOM, 2013	May 2013	
	Réhabilitation électro-mécanique du barrage de Canneau et instrumentation des barrages de PELIGRE et CANNEAU	June 2013	
	Réhabilitation de la berge gauche en aval du barrage de Péligre pour protéger le canal maître rive gauche contre l'érosion	June 2013	
	Evaluation intégrée des alternatives de développement du Bassin Versant de l'Artibonite, focalisée sur les usages multiples de l'eau. Comité Interministériel d'Aménagement du Territoire / Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural.	Novembre 2013 (1st part : June)	
Cost analysis and economic viability of the Program	Data required to develop economic viability of the program.	July 2013	
	Analyse coûts/bénéfices des micro-retenues maçonnées	May 2013	

Topic	Description	Estimated Dates	References and Electronic Links
	Analyse coûts/bénéfices des lacs collinaires	May 2013	
Financial management and fiduciary issues	Annex 3 of the POD	July 2013	
Data collection and analysis for reporting the results	Identification of proposed indicators to measure impact of program and elaboration of the monitoring and impact evaluation plan	July 2013	
Environmental and Social Saveguard	Assessment of the social, environmental, disaster risks and climate change issues	July 2013	

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