Document of the Inter-American Development Bank

**Haiti**

**Water Management Program**

**in the Artibonite Basin**

**(HA-L1087)**

**Environmental and social management report**

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1. INTRODUCTION
2. Summary Table

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| Country | Haiti |
| Sector | Agriculture |
| Project Name | Water Management Program in the Artibonite Basin |
| Borrower and / or Sponsor | Republic of Haiti |
| Executing Agency | Ministry of Agriculture, Natural Resources and Rural Development (MARNDR) |
| Transaction Type | Grant Facility |
| Total Project Cost (in US Dollars) | 25,000,000 |
| Environmental Category | B |
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Executive summary – if necessary

1. Background
	1. The Artibonite basin is the largest watershed in Haiti and is key to hydro-electric generation (30% of electrical production at full capacity) and agricultural production (80% of the national rice production in the irrigation district/command area).
	2. A number of issues currently hinder the capacity of the Artibonite basin and river to optimally deliver on a number of fronts, from irrigation, to flood control, to electricity production to mention a few. Many of these issues are listed in the POD and this operation attempts to address some of them through piloting new water management infrastructures and institutional strengthening for the management of water rights.
2. PROJECT DESCRIPTION
3. Project Components
	1. 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: (i) Water management infrastructures both upstream in the upper watershed and downstream in the command area (CA) as well as (ii) Institutional strengthening.
	2. The physical infrastructures that will be financed by this operation are as follows:
* CA: repairing the river embankment downstream of the Canneau dam to avoid collapsing of master canals;
* CA: building new secondary and tertiary level irrigation canals, thereby augmenting by 25% the total surface of the command area;
* CA: dredging critical primary drains;
* CA: installing flow monitoring devices and gates for more efficient use of water resources;
* In the micro-basin of Thomonde, in the upper watershed upstream of the Peligre dam, installation of about 1000 soil and water retaining infrastructures (check-dams, rainwater harvesting tanks).
1. Environmental and Social Setting
	1. The Artibonite Valley is one of the most populated areas in Haiti with a density above 500 inhabitants/km2. The command area covers about 30,000 ha where 50,000 rural families cultivate rice mainly. The area has been highly intervened and fully developed to maximize the use of available arable land for agricultural purposes.
	2. The Thomonde micro-basin is located about 15 km north of the Peligre dam, on the way to Hinche along route 3. It covers an area of 15 km2 and was selected for its proximity to transportation, ease of access and potential for intensification, favored by the relatively gentle slopes of the area. About 500 farmers are active in this micro-basin and would be benefit from this pilot.
	3. Based on the baseline provided in the EA, 98% of the vegetation in the project areas result from agricultural production. Some wetland areas along the coastal area are used by migratory birds. None of the intervention will be infringing on them.
	4. Like most of Haiti, the area is prone to natural disasters, particularly floods from hurricanes, tropical storms, droughts and earthquakes. The impacts of these events are worsened due to deforestation, sediment run off and climate change. The command area in particular is often heavily affected by floods, sedimentation of the canals and failure of River and canal embankments as well as droughts during the dry season, particularly since the storage capacity of the Peligre dam was reduced by 50% as a result of sedimentation. The upper watershed chronically suffers from loss of sediment resulting from the combination of deforestation and heavy rain events.
2. Alternative Analysis
	1. Options were analyzed for this potential pilot in the both areas. The options were analyzed mainly on non-safeguards related merits: (i) capacity to pilot the efficiency of the newly created water users associations, which necessitated an area with operational irrigation network that needed limited water flow regulating equipment and (iii) capacity to easily pilot micro water management structures which required easy access and proximity to farmers.
3. COMPLIANCE STATUS AND PROJECT STANDARDS
4. Local and IDB Requirements
	1. 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.
	2. This project does not require an EIA under Haitian regulations.
	3. 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.
	4. An environmental and social analysis (EA) is being prepared as part of this operation taking into account the requirements of the policies and directives listed above. Only a draft EA for this project is available prior to IDB’s approval. The final EA and environmental and social management plans are required prior to construction, and given the limited scope of the project, this delay is not expected to present a high risk in terms of environmental and social safeguards.
	5. **Public Consultation**
	6. Potentially affected famers were consulted in both the downstream command area and the upstream Thomonde area. The concerns of the various groups are summarized as follows:
	7. Command area: Consulted farmers’ main concerns were related to (i) potential lack of access to water during construction works and related potential crop and economic losses, (ii) compensation for the loss of portions of land for those affected by the dredging of new secondary or tertiary canals, (iii) potential for security issues as dredging material piles create hiding space for potential harmful activities and (iv) potential for conflict between the ODVA and Water Users Associations.
	8. Thomonde area: Consulted farmers’ main concerns were related to potential loss of farmland taken-up by some of the planned infrastructure.
5. ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS
6. Summary of Key Impacts and Risks and Mitigation Measures
7. Key Environmental Impacts and Risks
	1. In the absence of a final EA to the project, some the potential environmental and social impacts and risks are generic and can generally be expected from these types of operations.
	2. Natural habitats (B9): Based on the environmental analysis report, no impacts on natural habitats are expected given that the projects are occurring in highly intervened and currently active farmland.
	3. Pollution Prevention and Abatement (B11): Construction activities will likely generate limited waste materials, given that most of the works will be conducted manually with locally procured material. If applicable, The EA will include a solid waste management framework/plan that details how the waste streams should be managed (mainly in relation to the reparation of embankments near the Canneaux dam).
	4. Other risks (B4): Occupational health and safety or community health and safety in relation with construction activities, vehicular traffic. The EA will include a health and safety management framework/plan that details how H&S risks will be managed, including risks to communities. In particular, the issue of security mentioned by the farmers during the consultation process.
	5. 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.
	6. Disaster risk management (OP-704): Haiti is prone to various types of natural disasters that may pose risks to the infrastructure to be built. Most of the project activities are actually related to disaster risk abatement.
	7. 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.
	8. 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
8. MANAGEMENT AND MONITORING OF ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY AND LABOR IMPACTS AND RISKS
9. Management Systems and Plans
	1. The environmental and social management plans will be prepared and attached to the operating regulation before construction begins.
10. Monitoring and Supervision
	1. The IDB will conduct supervision activities to ensure environmental and social management plans are properly implemented.
11. REQUIREMENTS TO BE INCLUDED IN THE LEGAL AGREEMENTS
	1. The requirements to be included in the grant agreement for this operation are as follows:
	2. Completion of the EA and Environmental and Social Management Plans (ESMP) to the satisfaction of the IDB for adequate mitigation of environmental and social impacts and risks before construction begins [including review of the performance of processes and mechanisms used in prior grants to identify potential improvements]
	3. The ESMPs must be included in the operating regulation before construction may begin.