



Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 08-Dec-2017 | Report No: PIDISDSC21361



BASIC INFORMATION

A. Basic Project Data

Country Haiti	Project ID P162908	Project Name Resilient Productive Landscapes in Haiti	Parent Project ID (if any)
Region LATIN AMERICA AND CARIBBEAN	Estimated Appraisal Date 04-Dec-2017	Estimated Board Date 28-Feb-2018	Practice Area (Lead) Agriculture
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Economy and Finance	Implementing Agency Ministry of Agriculture, Natural Resources and Rural Development (MARNDR), Ministry of Environment	

Proposed Development Objective(s)

The Project Development Objectives are: (i) to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds; and (ii) to enable the Government to respond promptly and effectively to an eligible emergency

Components

Strengthening of institutional and organizational capacities for landscape level interventions
Investments to strengthen the establishment of resilient agricultural production and practices
Project Coordination and Monitoring and Evaluation
Emergency Response Mechanism

Financing (in USD Million)

SUMMARY

Total Project Cost	26.21
Total Financing	26.21
Financing Gap	0.00

DETAILS



Total World Bank Group Financing	15.00
World Bank Lending	15.00
Total Non-World Bank Group and Non-Client Government Financing	5.00
Multilateral and Bilateral Financing (Concessional)	5.00

Environmental Assessment Category

B - Partial Assessment

Decision

The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

Baseline and business as usual

- Haiti is a densely populated island state, the third largest nation by area and population (10.4 million) in the Caribbean and benefits from a rich economic endowment.** Assets include proximity and access to major markets, a young labor force, a dynamic diaspora, and substantial geographic, historical, and cultural assets. The country possesses untapped markets and unmet demand for the private sector to explore, including agribusiness, light manufacturing, and tourism. Yet Haiti remains the poorest country in the Western Hemisphere and one of the poorest countries in the world, with a GDP per capita of US\$820. Almost 60 percent of the population lives below the national poverty line with marked differences between urban and rural areas¹, inequality is high, with wealth and economic opportunity concentrated around Port-au-Prince. Access to basic services is limited, particularly in rural areas, which has translated into low human development indicators (Haiti ranks 168th out of 187 countries in the Human Development Index).
- Agriculture continues to play a dominant role in the Haitian economy, contributing over 20 percent of GDP and most rural Haitians rely on agricultural production as their primary livelihood strategy.** The agriculture sector also accounts for around 50 percent of overall employment, 66 percent of employment in rural areas, and 75 percent of employment in low income households. Agriculture is the sole economic activity for 55 percent of the rural households, and involves more

¹ 75% fall below poverty line in rural areas compared to 40% in urban areas



than 70 percent of them. This production is critical for food security², in a context where more than half of the population is affected by undernutrition (2016, FAO); around a third of the production is being used for subsistence³, while the rest of productions is sold generating much needed income.

3. **Climate change is significantly impacting agriculture and will increasingly do so in the future.** Climate change is projected to manifest itself in Haiti the following ways: a) increases in temperatures: it is likely that temperatures will increase by 0.8-1 °C by the year 2030 and by 1.5-1.7 °C by the year 2060, with the highest increases expected in the months of June or July; b) decreases in precipitation: precipitation is expected to decrease by 5.9-20 percent by 2030 and by 10.6-35.8 percent by 2060, with the greatest decreases also expected in the months of June or July⁴. This will affect agriculture in general, and subsistence agriculture in particular, which is primarily rain-fed and therefore highly vulnerable to rainfall patterns. A combination of increasing temperatures and decreasing precipitation, especially in June and July, is likely to impose particularly severe stresses on agricultural systems, especially given the highly-degraded nature of soils and vegetation in the target sub-watersheds.
4. **Haiti's population and territory are extremely vulnerable to natural disasters and exposure is expected to increase as climate change impact intensifies.** Haiti has the highest index of vulnerability to hurricanes (12,9 on a scale of 13) among small Low Income Countries (LIC) Island States and is the third country hardest hit by climatic events in the world⁵. Ninety-six (96) percent of the population is considered at risk. Climate change predictions for 2050 and beyond suggest that more than 50 percent of the total area of Haiti will be in danger of desertification largely due to climate variability and change. Extreme weather events, according to the Intergovernmental Panel on Climate Change (IPCC)⁶, indicate that the Caribbean region is likely to be exposed in the future to more intense and frequent extreme weather events. On average, each disaster costs two percent of GDP per year, and occasionally much more (in 2008, tropical storms' economic impact reached 15 percent of GDP), and significantly affects the agriculture sector⁷. The country is highly mountainous with more than half of Haiti's territory having slopes over 20 degrees, that centuries of deforestation have rendered particularly vulnerable to climatic events. Exposed agricultural fields which are now commonly exploited on slopes⁸ further exacerbates the issues. Deforestation, and inappropriate agricultural practices have produced predictable interlinked environmental and social consequences: the loss of topsoil, decreasing soil fertility, rain water run-off and depletion of aquifers, droughts, agricultural productive capacity decline, farmers' losses of incomes and rural out-migration. In a context of climate change, extreme weather events and their average intensity and frequency are expected to increase, and will further accelerate land and population

² Undernutrition concerns more than half of the population (FAO)

³ Traditionally, rural Haitians take advantage of seasonal, nutrient rich productions, to complement their diet (fruits, vegetables, legumes, small livestock), yet this diversity is at risk due to the deterioration of natural resources that decreases the availability of many of these sources of supplementation.

⁴ <http://unfccc.int/resource/docs/natc/presentations/haitipres.pdf>

⁵ Global index on Climate Change, 2016 : from 1993 to 2012 the country faced 2 droughts, 1 earthquake, 31 floodings and 26 tropical storms/hurricanes.

⁶ <https://www.ipcc.ch/report/ar5/wg2/>

⁷ In the case of tropical storms, almost 50 % of damages and losses in productive sectors have been concentrated in the agriculture sector (PDNA, Feb 2017)

⁸ 63% of agricultural land is on more than 20 degrees' slopes, and 40% of cultivated land in mountains is on slope of more than 50 degrees.



vulnerability trend⁹ : identified climate related hazards in Haiti include flash flooding, salt water intrusion, drought, intense rainfall, landslides, severe soil erosion, and hurricanes¹⁰.

- 5. Addressing intertwined human and ecological vulnerabilities requires a holistic landscape-level “productive” approach.** The above-mentioned context provides a rationale for integrating a landscape approach within watersheds (or sub-watershed) in Haiti to address major soil erosion and water retention capacity, prioritizing interventions helping to reduce downstream impacts. Improving the natural resource base through the promotion of climate-smart productions and practices best adapted to the agro-ecological context¹¹, and, as importantly, the capacity to generate sustainable incomes out of these, is expected to have a significant positive impact on agriculture and the many people who derive their livelihoods and income from, together with the provision of nutritious food, and jobs. It will also contribute to protect in a sustainable way communities at large against the risks of flash flooding and landslides linked to soil erosion and water runoff.

Sectoral and Institutional Context

- 6. Agriculture in Haiti is beset with problems, despite its importance in local food security and contribution to GDP.** Production is highly dependent on rainfall, with around five percent of farmers using irrigation. Most farmers have poor access to tools, machinery, and purchased inputs including improved seeds and fertilizer. Access to credit in rural areas is not a viable option either for poor farmers. In addition, there is little organization among producers and underdeveloped value chains, further compounded by a lack of rural infrastructure to access markets e.g. rural roads for connectivity with buyers, water storage and irrigation for production in dryer seasons and mitigation of drought impacts, food dryers and storage for reduction of vulnerability to prices volatility, reduction of post-harvest losses, , improved quality for better marketability as well as accessibility of nutritious food all year long. The lack of value addition along value chains, reliability and sustainability of sources of incomes for farmers generated from tree-crops and other types of resilient agricultural productions constitutes a major impediment to the maintenance and sustainable expansion of such systems. This also drives their choices towards higher demanded/less perishable productions, often at the expense of the environment (e.g. peanuts production on slopes, trees cutting for land expansion and/or cash generation with fire wood or charcoal production and sales), contributing to the vicious circle of land degradation and increasing population vulnerability. In addition, women play a major role in the post-harvest marketing of products in Haiti, and the improvement of these value chains is a critical factor for women’s economic empowerment, livelihoods and resilience, which offers opportunities for vulnerable population- such as women and youth- to increase rural income and jobs diversification.

- 7. In a country that is already densely populated, steady population growth and land inheritance**

⁹ Based on available projections, major climatic changes expected to occur in Haiti include a reduction in rainfall of 6 to 20 percent by 2030 and 11 to 36 percent by 2060. While annual precipitation is projected to decrease, the more limited rainfall events are expected to become more intense. Temperatures are also expected to increase by 0.8°C to 1.0°C by 2030, and by 1.5°C to 1.7°C by 2060.

¹⁰ Source: Review of Current and Planned Adaptation Action: The Caribbean (Nov, 2011)

¹¹ These would seek to improve the stability and quality of the soil substrate through measures such as agroforestry, live fences, hedgerows intercropping, vegetative wind breaks, soil vegetative cover, conservation tillage, among others.



rules¹² continues to put pressure on land, and drives land use changes. Haiti has 961 inhabitants per square kilometer of arable land, the highest pressure density on arable land in the Western Hemisphere. Farm sizes have shrunk dramatically over time: 85 percent of farms now have less than 1 hectare. The main food crops produced are rice (in lowlands), maize, bananas, yams, cassava, beans, and millet, and main export crops include coffee and mangoes. Diversification has commonly been practiced by farmers as a risk-mitigation strategy (70 percent of farmers produce more than 4 crops and 75 percent raise some livestock) but is becoming harder to implement in increasingly smaller plots. In addition, the traditional practice of creole garden (or “jardin creole”¹³) corresponding to small but highly diversified agro-forestry systems, providing fresh and nutritious food throughout most of the year among other benefits (high biodiversity, higher productivity linked to species associations, soil protection and quality), have tended to decrease to give way to annual crops. Yet these resilient systems are particularly adapted to face harsh topographic and climatic conditions and are now recognized as a typical climate-smart/agro-ecological best practices. Restoring these agro-forestry systems is however not affordable for the vast majority of farmers.

8. **The natural resource base and agriculture are linked by a negative feedback loop.** Unsustainable farming practices such as agriculture on slopes and marginal areas, lack of agriculture conservation technologies, are driven by land pressure, low farmers’ education level, and poor farmers’ economic conditions. These have contributed to the severe degradation of around 85 percent of watersheds¹⁴ with wide ranging impacts, namely on (i) yields -the depletion of the natural resource base and high exposure and vulnerability to extreme weather events have driven an average rate of decline in yields of between .5 to 1.2 percent per annum (World Bank, 2005). Stagnating or shrinking yields in turn further exacerbate land pressure, causing more degradation and deforestation; and (ii) on critical habitats such as mangroves¹⁵ -run off from denuded slopes and gullies leading to soil washed away and settling into valleys, rivers and eventually into the sea. Soil erosion caused by water, either as direct rainfall on the soil surface, or indirectly through gullies and channels, causes an annual loss of land for the whole country estimated at about 37 million metric tons (MT). This corresponds to an average loss of about 15 MT/ha/yr across the country. Without trees’ complex root systems to hold Haiti’s mountainous terrain in place, protect gullies from serious erosion and prevent water resources depletion, vulnerability of landscapes and people living on them is doomed to increase. Reducing poverty and building system resilience will require an integrated management approach that considers the complex interactions between the environment and agriculture and turns the negative- into a positive feedback loop. Climate change is expected to increase these negative feedback loops.
9. **The unique challenge to building resilience in the Haitian Agriculture sector arises from the combination of climate change adding further stress to a system already engaged in a negative feedback loop between the agriculture production and the natural resource base.** As described above, the depleting natural resource base and lack of landscape level management increase the *sensitivity* of agricultural production and ecosystems to weather and climate events. Climate change

¹² All land is inherited bilaterally and equally between siblings, with arable land being usually divided immediately.

¹³ A Creole garden is a multi-storied agro-forestry system including a mix of perennial and annual crops, i.e. woody perennials, tree crops (i.e. bread fruit, mango, avocado, bananas, citrus, coffee), vegetable and staple crops, playing multiple roles, including household’s food security and providing ecosystems benefits

¹⁴ According to Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR), 2016

¹⁵ Mangroves are essential for maintaining fish nursing sites, protecting coasts against storms, and lowland crops from soil salinization (e.g. rice production) which are ultimately important for livelihoods



is expected to further amplify the *exposure* to such events. With both sensitivity and exposure set to increase, *vulnerability* will follow suit. The weather and climate events that today's depleted natural resource base offers much reduced protection against are congruent with priority issues for resilience building in the climate change context: extreme events, drought, extreme rainfall events, etc. In each of these cases, the health of the natural resource base is a key determinant of farmer resilience. For example, the risk of drought is much reduced if the moisture retention capacity of soils is rehabilitated, micro-catchment areas include water storage facilities and water is being retained for longer periods in upstream forests. As a result, any effort to build resilience to climate change in Agriculture will need to take an integrated approach taking into account both *sensitivity* due to a diminished natural resource base and *exposure* due to climate change.

Institutional context

10. Ministry of Environment (MdE) and Ministry of Agriculture Natural Resources and Rural Development (MARNDR) recognize the interdependency between Natural Resources Management and Agriculture Production as well as the added stress imposed by climate change.

In its policy framework 2010-2025, MARNDR identifies watersheds degradation as a major issue, and establishes the reduction of environmental vulnerability as a long-term objective requiring the protection of environment and natural resources. It also establishes the prevention and management of natural disasters as a priority¹⁶. In 2006, the Government submitted their National Adaptation Program of Action (NAPA, 2006) (*Plan d' Action National d' Adaptation* - PANA). In this document, the Government lays out their most urgent risks from climate change and propose a way forward. One of the key risks outlined is that of soil erosion¹⁷ and its relationship with the agriculture sector vulnerability. In a recent update of the National Action Plan against Desertification (2015), MdE establishes as one objective the collaborative development of management plans for the most vulnerable watersheds in the country. However, the operationalization of the Plans has yet to unfold. The need for stronger cross-sectoral collaboration is mutually recognized, but little concrete actions have taken place in a context of institutional weaknesses, absence of joint planning and insufficient budget to operationalize actions plans.

11. In response to the country's vulnerability to current climate variability and to climate change, there is a baseline of investments in this area:

- World Bank (WB) financed *Strengthening Hydro-Meteorological Services* project (2015-2020, US\$ 5 million), which aims to strengthen Haiti's institutional capacity to provide hydro-meteorological and climate information services customized to the needs of the civil protection and agriculture sectors, contributing to increasing disaster and climate resilience. The main counterpart agency is the Ministry of Agriculture, Natural Resources and Rural Development

¹⁶ The MARNDR Triennial Plan for Relaunching Agriculture 2013-2016 also identifies as a strategic pillar the watershed integrated approach (ridge to reef).

¹⁷ "Haiti is a mountainous country whose peaks reach up to 2684 meters over altitude. Poor farming practices weaken the soil capital and weaken the productive capacity as they lead the arable land towards the sea Land erosion, under the effects of some natural factors. Drought, wind, rain and some anthropogenic factors: excessive deforestation and uncontrolled construction in urban areas leads to a country's land desertification processes. **The vulnerability of the agricultural sector is closely linked to that of water and soil.** Climate change by acting on water resources also influence agricultural production. On the other hand, **winds, floods, droughts have direct impacts on agriculture given the level of soil erosion leading to their aridity.** In addition, a study conducted by the MOE (2000) argues that early in the second half of the 21st century, more than half of the area of land of Haiti will be at desertification risk due to climatic conditions."



(MARNDR).

- WB financed *Relaunching Agriculture: Strengthening Agriculture Public Services Project Phase II - RESEPAG II* (2012-2019, US\$ 85 million) which aims to (a) reinforce the capacity of the Ministry of Agriculture, Natural Resources and Rural Development to provide or facilitate access to services in the agricultural sector; (b) increase market access to small producers and food security in Selected Areas; (c) improve livelihood in areas affected by Hurricane Matthew; and (d) enable the Government to respond promptly and effectively to an eligible emergency. The project finances interventions in the North/North East, Centre, and South departments. It supports in particular a Farmer Subsidy scheme using various technical packages and implemented through individual vouchers to improve the adoption of improved agriculture inputs/technologies (with a particular emphasis on climate resilient production and practices) ; finances Farmer Field Schools as a vehicle to promote best practices (extension services mechanism) ; and a Market Support Facility, using matching grants to allow group of producers to add value to their productions (value chain development).
- Inter-American Development Bank (IDB) financed *Natural Disaster Mitigation Program II* (2016-2020, US\$ 42 million), which aims to reduce rural economic losses through the improvement of climate risk management in selected watersheds. Some specific objectives include to: (i) increase capacities for adaptation to climate change and disaster risk management (DRM) in the agriculture sector; (ii) improve water and sediment conservation in selected gullies of priority watersheds; and (iii) reduce the risk of rural economic losses due to floods in targeted watersheds.
- United States Agency for International Development (USAID) *Reforestation Project* (2017-2021, US\$ 40 million), which aim is to reduce the threat of deforestation, improve resilience to economic and natural shocks, increase tree cover in targeted areas, and improve environmental governance and coordination. It will be implemented in northern departments.
- International Fund for Agricultural Development (IFAD) financed *Projet Small Irrigation and Market Access Development Project in the Nippes and Goaviennne Region (PPI-3)* (2012-2017, US\$ 13.2 million), which aims to achieve a sustainable improvement in the livelihoods and incomes of rural poor households, especially those belonging to the most vulnerable groups. Its specific objectives include: (i) increasing agricultural production sustainably through efficient water management and the consolidation of both collective and individual irrigated agriculture; (ii) improving the value of irrigated agriculture production and increasing farmers' access to markets and financial services in order to raise the incomes of the poorest families; and (iii) strengthening the planning, organizational and management capacities of grass-roots organizations in order to facilitate their access to markets and financial services.
- Food and Agriculture Organization (FAO) implemented with LDCF co-financing of the *Strengthening Climate Resilience and Reducing Disaster Risk in Agriculture to Improve Food Security in Haiti Post Earthquake project* (2012-2017, US\$ 12 million), which aims to increase the resilience of vulnerable farmers including their livelihoods and agro-ecosystems against the impacts of climate variability and in the post-earthquake crises through integration of disaster risk management and adaptation practices in the agricultural sector and replication of more hazard resilient crop varieties and cultivation technologies.
- UNEP implemented with GEF co-financing Program *Ecosystem approach on the South Coast of Haiti* (2015-2020, US\$ 6.2 million), aims to strengthen the resilience of ecosystems in communities vulnerable to the impacts of climate change. This program advocates an integrated strategy encompassing all ecosystems and agricultural production areas from the mountains to



the sea. The various components of the project will also try to address the whole issue of the destruction of the ecosystems of the Great South in a perspective of recovery and the fight against poverty.

- French Development Agency (AFD) and European Union co-financed *Project for Food Security (SECAL)* (2013-2017, 15 million euros), which objective is to support agricultural sectors with high potential in southern Haiti, contribute to improving the food security of people in the South Department and generate additional revenue in the rural areas.

12. **Collaborative efforts are underway to boost the implementation of watershed approaches to strengthen the management of natural resources (wood, water, soil).** In the context of the COP21 process and resulting Paris Agreement, and in order to relieve the agriculture and population pressure on forests and landscapes, as well as adapt to the effects of climate change, a Haiti-based NGO, the J/P Haitian Relief Organization (J/P HRO), together with MdE and MARNDR, developed in 2015 a proposal for a broad initiative – Haiti Takes Roots (HTR) – focused on watershed management and reforestation in key areas of Haiti¹⁸. Its objective is to facilitate engagement, coordination, learning, monitoring and synergies in a programmatic approach. This platform would be a conduit to operationalize Ministries’ plans, helping to bring key actors together around the issue, and establish long term strategies and mechanisms to sustain and implement its objectives. Supported by seed funding from J/P HRO and the French government, HTR has shaped its governance mechanisms¹⁹. The IDB and the WB participate in this initiative and more partners are expected to join. Two studies have been financed under the HTR umbrella by the WB together with J/P HRO to develop a participatory watershed management planning methodology and a post-hurricane Charcoal and Arboreal Assessments²⁰, contributing to the development of a body of knowledge and resources. The proposed Resilient Productive Landscapes Project (RPLP) is envisaged as a proof of concept under HTR aimed at being scaled-up in other (sub)watersheds of the country. For this reason, and in order to also benefit from the WB project management experience, J/P HRO has committed to provide a parallel financing of US\$5 million to RPLP, which will be fully blended with IDA and the Global Environment Facility/Least Developed Countries Fund (GEF/LDCF) co-financing. In this context, LDCF will leverage IDA and parallel financing resources to more systematically integrate the climate adaptation lens into productive-oriented interventions.

13. **RPLP builds on solid analytical work, as well as the lessons learned from other Global Environment Facility (GEF) funded and donor-funded project, including the World Bank’s own projects.** Key lessons learned emphasize in particular the need for collaborative efforts including strong communities’ participatory engagement throughout a project process and continuous institutional commitment and support, as well as the necessary generation of revenues for farmers out of the supported investments. Since the 2010 Earthquake, the WB’s portfolio in Agriculture expanded with RESEPAG I and RESEPAG II,²¹ supporting MARNDR’s capacity to deliver public goods and piloting

¹⁸ The mission of HTR is to contribute to a more rational management of Haiti’s natural, renewable through the management of watersheds, the restoration of soils, increasing forest cover, and the promotion of agroforestry – most notably in vulnerable watersheds – therefore breaking the vicious cycle of poverty and deforestation.

¹⁹ HTR shall be governed by a Steering committee chaired by the Prime Minister and supported by a Secretariat, a technical platform, a Monitoring and Evaluation Committee, a Geographical Platform, and a virtual Resource Centre; it will include members from concerned ministries, institutional partners, international organizations, civil society and private sector.

²⁰ PROFOR-funded works to develop (i) a Resilient Productive Landscape Planning Methodology (P162352), and (ii) Haiti Arboreal Assessments - post- hurricane tree counting and charcoal assessment (P164024).

²¹ Relaunching Agriculture: Strengthening Agriculture Public Services Project – Phase II (P126744) is ongoing and will close on



incentives schemes to support farmers' improved productions through vouchers mechanisms and the strengthening of agricultural value chains through matching grants. RPLP would take advantage of the experience gained and use the same approaches, adjusted to the specificities of RPLP. On the environment side, the GEF co-funded several projects in Haiti and in the Caribbean, that focused on increasing the resilience of agriculture and ecosystems, and boosting food security through climate change adaptation. Several of these projects have also focused specifically on the Grand Sud (greater south area), given its increased vulnerability to climate shocks. While many of these projects were financially supported for the duration of the project, there was little effort to ensure that this financing was sustainable.

14. **In the context of Climate Change, sustainable financing over time is an important tool to address environmental and social vulnerability, and to support Climate adaptation and mitigate Climate Change impact.** Ministries and other institutions in Haiti face significant financial resources constraints. Sustainability of short term programs have consistently been challenging. To address a similar problem faced by five other Caribbean islands, a GEF financed project, *Sustainable financing and management of Eastern Caribbean Marine Ecosystem Project (P103470)* (closed June 2016), set up and endowed a Caribbean Biodiversity Fund (CBF) mechanism to ensure sustainable financing over time to combat threats to biodiversity that arise through human, climate or other sources. Under the proposed Project, Haiti, which is an observer and has taken steps to become a full member of the CBF, would use LDCF financing (and co-financing from other donors) to join the CBF by contributing to the endowment, and establish a National Trust, which will enable Haiti to access long term sustainable financing for climate adaptation and biodiversity conservation into perpetuity. While the CBF has for various reasons retained this name, it will create a climate change adaptation window under RPLP to address climate change adaptation priority needs. This National Trust shall use the interests raised by the CBF from the LDCF funding to continue to fund sub-projects that would support primarily the sustainability of interventions financed under RPLP, and other future climate change adaptation related investments. The interest raised, however, will be off the total amount in the CBF (over US\$34 million currently) to allow all the CBF countries to benefit from economies of scale. This longer-term source of predictable financing will mean that when a disaster strikes Haiti, the current practice of diverting government funding to address that crisis will not impact this fund. As such it presents a key long term stabilizing mechanism for addressing adaptation.
15. **The Project is consistent with the climate change action plan submitted to the UN Framework Convention on Climate Change (UNFCCC),** in the context of the Paris meetings in 2015 (Intended Nationally Determined Contribution – INDC)²². The Action Plan specifically names natural resource management within watersheds, use of agricultural technologies adapted to climate change, use of drought-resistant crops, soil conservation, reducing disaster risk in areas most vulnerable to drought, reforestation of upstream areas, as priorities for adaptation within the plan.
16. **It responds directly to strategic objectives laid out in the GEF Programming Strategy on Adaptation to Climate Change: Least Developed Countries Fund Special Climate Change Fund (June 11, 2014) and Haiti's National Adaptation Program of Action (NAPA, 2006)** by helping the country reduce its vulnerability to soil erosion, which are exacerbated through increasing volatile

December 31, 2019.

²² http://www4.unfccc.int/submissions/INDC/Published%20Documents/Haiti/1/CPDN_Republique%20d'Haiti.pdf



climatic events (floods, cyclones, hurricanes) and human (agriculture) activity. The project will contribute to the LDCF strategy Objective 1 (Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change); Objective 2 (Strengthen institutional and technical capacities for effective climate change adaptation) ; and Objective 3 (Integrate climate change adaptation into relevant policies, plans and associated processes)²³. The Project, using LDCF funds jointly with IDA financing and J/P HRO parallel financing, will (i) contribute towards building an increased awareness of climate change impacts, vulnerability and adaptation, and directly reducing the vulnerability of farmers to climate change through investment in more resilient agricultural practices. These will occur in (sub)watersheds areas by financing climate-smart agricultural production practices (agroforestry, conservation agriculture, slope management, etc.) ; the project will also finance improvement of the product value chains to generate higher and more sustainable income, and reinforcement of climate resilient infrastructure assets ; (ii) support the enabling environment by strengthening institutional capacities to develop and implement sound cross-sectoral policies and action plans integrating climate change adaptation considerations in national and local level strategies ; access to and analyze geo-spatial and other climate related data to better address climate risks and inform decision processes ; and support a mechanism aimed at sustaining long term financing of adaptation technologies and practices; and (iii) it will provide extensive trainings programs to increase skills and knowledge tailored to the key stakeholders and audiences. RPLP will support the achievement of objectives set forth under the NAPA, which served as the basis for the plan submitted to the UNFCCC in 2015. The document weighted adaptation options based on their impact on vulnerable natural resources and groups, and ranked “watershed management and soil conservation” at the top (5 on a 1 to 5 scale).

17. **RPLP is consistent with the World Bank Group’s Haiti Country Partnerships Framework (CPF) 2016-2019.** Objective 1 of the CPF aims to enhance economic activities and income-generation opportunities, including in the agricultural sector through improving agricultural productivity by reinforcing the ability of farmer’s groups to bring quality products to market. RPLP will support value chains to access to new and better markets and reduce production risks while decreasing vulnerability to the effects of prices and climate shocks. The CPF’s Objective 2 targets improving disaster prevention and strengthening climate resilience through a number of avenues, including the analysis of land management practices and definition of entry points for investment in the promotion of resilient productive landscapes. RPLP will directly tackle the issue of improving disaster prevention, reducing the vulnerability to the adverse impacts of climate change, increase adaptive capacity to respond to the impacts of climate change, and strengthening climate resilience. It will target four sub-watersheds within hydrological zones hard-hit by Hurricane Matthew in the Department of Nippes, and help mitigate the impact of future extreme weather events.

18. **RPLP will work closely and coordinate actions with other development partners, especially through the HTR platform.** Given the challenges with fragmented donor contributions to all sectors in Haiti as identified by the CPF, the HTR platform will be important for the sector to bring all partners around critical development themes, and coordinate efforts for broader impact. In addition to ongoing projects mentioned above (see point 11) new projects with similar objectives are under development that RPLP will coordinate with. These include projects to be financed through IDB, AFD, and IFAD.

²³ Updated Results-Based Management Framework For Adaptation To Climate Change Under The Least Developed Countries Fund And The Special Climate Change Fund”, GEF/LDCF.SCCF.17/05/Rev.01 October 15, 2014



C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

19. The Project Development Objectives are: (i) to improve the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds; and (ii) to enable the Government to respond promptly and effectively to an eligible emergency.
20. The crisis or emergency referred to in the PDO reflects a legal requirement that relates to the Contingency Emergency Response Component (component 4 of the Project).
21. Selected areas for intervention. While Component 1 addressing institutional and organizational capacity would have a nationwide coverage, Component 2 would be implemented in selected sub-watershed. In the process of selection of these sub-watersheds, specific aspects were considered: (i) Agro-ecological criteria; (ii) Socio-economic criteria; (iii) Environmental vulnerability criteria; and (iv) Institutional criteria. Using a ranking scale of 1 to 5 for each of these criteria to prioritize areas, and based on available funding from the Project, four sub-watersheds were selected. These are: (i) Rivière Froide watershed; (ii) Petite Rivière de Nippes watershed; (iii) Piémont area and Baconnois Plain; and (iv) Bondeau sub-watershed and its mangrove. They offer a diversity of agro-ecological conditions, yet geographically close, within the department of Nippes, under two municipalities.
22. In the context of RPLP, resilience is defined as the ability of people, assets, and systems to resist, absorb, accommodate, and recover in a timely and efficient manner from climatic hazards without undermining its welfare, value, structure, and functioning, while also maintaining the capacity for adaptation, learning, and transformation in the long term. Resilience-enhancing agriculture and landscape management practices correspond to the group of technologies, practices and systemic approaches under the climate smart agriculture and landscapes framework of the Global Alliance for Climate Smart Agriculture. In the context of the RPLP, these include interlinked actions at diverse levels: at farm level; along food value chains; and, at landscape level.
23. Landscape is defined as “an area large enough to produce vital ecosystem services, but small enough to be managed by the people using the land which produces those services” (FAO 2013). A landscape can contain various ecosystems, and human activities and institutions are viewed as an integral part of landscapes. Ecosystems services include soil health, essential for sustainable and productive agriculture; water retention; biodiversity conservation; carbon sequestration; renewable energy sources; among others.

Project Beneficiaries

24. **Primary beneficiaries** of RPLP will be smallholder farmers and communities living in the selected sub-watersheds targeted by the Project that depend on agricultural production for their livelihoods. In a context of high poverty prevalence, extensive land use for agricultural production including on steep slopes including gullies, very small size plots, degraded or at risk for degradation, all farmers and communities can be considered vulnerable. They will benefit individually from improved agricultural



production practices adapted to the agro-ecological context, improving soil conditions and becoming more resilient to extreme weather events, as well as from improved marketing conditions; and collectively from reduced soil erosion, improved water retention capacity, enhanced field level productivity linked to ecosystems services generated collectively and synergies created between differed production systems at the watershed level.

25. Interventions will also benefit key actors along the agriculture value chains, including service and input providers, buyers, processors, and retailers. Lastly, it will benefit the national, regional and local institutions in providing with essential tools, knowledge, and management capacity of landscape level interventions. Direct beneficiaries would include: (i) producers who have benefited from the voucher mechanism (3,000 of which minimum 30% are female); (ii) Service Providers (100 of which minimum 10% are female); (iii) members of producers' groups that benefit from co-financing in selected value chains (800 of which minimum 50% are female); and, (iv) persons trained in Ministries and local / regional authorities (100). The total percentage of women is estimated on the basis of a weighted average. In order to strengthen the role of women, they will receive preferential support to benefit from the Project's interventions.
26. **Private sector.** Investments of RPLP look at poor to extremely poor segments of the population. Access to rural credit is not an option for an already vulnerable population. In addition, changing practices, even if expected to provide longer term gains and reduction of vulnerability, involves an important level of risk in a context of frequent natural disasters, occurrence of pests, and markets uncertainties. No insurance mechanism exists either to cover for such types of high frequency, high impact types of risks. RPLP would therefore provide technical packages to producers (including knowledge/services and inputs on a one-off basis) required for them to move towards a less vulnerable category, and doing so in a concentrated manner in a determined area to produce the expected broader ecosystems benefits. The Project would strengthen the private sector actors related to agricultural production valorization, critical to develop economically viable and sustainable businesses as well as job opportunities; the voucher mechanism involves systematically private sector beneficiaries, which supply such inputs and services at market price. Matching grants for groups of producers or other actors along the value chains will also aim at filling access to finance gaps to increase agricultural production valorization. The Project will also work with the Ministries to strengthen their capacity to deliver on their public good mandates, and establish the enabling environment for supporting resilient landscapes management.
27. **Gender and Nutrition.** RPLP acknowledges that women and men are not given the same opportunities towards climate adaption and raising of incomes. Women face supplementary constraints -such as less access to information, to assets, to credit, to inputs- that have to be taken into account. Mainstreaming gender and nutrition into the different investments and monitoring and evaluation (M&E) mechanisms will ensure that the Project will contribute to reduce gender gaps when building resilience and contribute toward improving food security. The Project will build on experience and knowledge developed through RESEPAG II Project, which will be facilitated by the fact that RPLP core actions to support climate smart practices adoption and value chains improvement will use similar instruments as RESEPAG II. Namely the design of selection mechanisms of beneficiaries and co-financing rules for matching grants, the tailoring of participatory and training activities, including related to nutrition, and gender-disaggregated data collection in M&E and grievances, will be embedded into RPLP. In order to address any possible outstanding gender gaps in the areas of



interventions, further analysis and gender planning will be conducted prior to Project implementation by the RESEPAG II gender specialist.

28. **Food Security co-benefits.** Food insecurity is an important problem in Haiti particularly in rural areas that the Project will tackle at different levels. First, the promotion of activities contributing to the restoration of degraded areas and improvement of current practices in the different watersheds will have a positive impact on overall agricultural productivity as well as on the production of food of high nutritional value (mostly fruits and vegetables). Second, the Project will contribute to improve food security through the promotion of crop quality and diversity induced with agroforestry investments, named traditionally “jardins creoles” in Haiti. The project expects to promote several types of fruit trees, such as breadfruit, coconut, mango, guava, banana, citrus, as well as vegetables and yam. In addition, the combination of such investments combined with small infrastructure and support to commercialization (through groups of producers, intermediaries, or small enterprises) within the entire value chain will therefore contribute to their greater accessibility, availability and thus affordability of food, creating more resilience of households toward food insecurity. Investments could be related not only to private but also institutional markets. The government has already been discussing with school feeding program in the area of intervention. Such intervention would seek to help increase the accessibility of nutritious local food to Haitian students and guarantee a stable market access to institutional markets for producers and groups.

29. **Climate change adaptation co-benefits.** RPLP activities are expected to yield significant adaptation co-benefits (as well as mitigation co-benefits described below). An initial assessment at concept note stage indicated that >80 percent of RPLP financing would achieve climate co-benefits. The below table summarizes expected adaptation co-benefits:

Table1 Climate change adaptation co-benefits

Current situation	Project interventions (selection)	Adaptation co-benefits
<p>Increasing vulnerability to climate change driven by:</p> <ul style="list-style-type: none"> - Increased exposure to climate change impacts such as: droughts, extreme heat, flash floods etc. - Increasing sensitivity of production to climatic phenomena due to reduced resilience driven by a degrading natural resource base - Increased sensitivity due to a lack of adaptive planning capacity at the micro-catchment level - Increased sensitivity due to lack of cross-sectoral adaptive institutional capacity to take informed decisions, guide, report, and monitor interventions on the ground in function of a changing climate 	<p>Capacity building:</p> <ul style="list-style-type: none"> - Development of Master Plan for Resilient Landscapes Development - Intensive technical trainings within key line Ministries, at national and local level and other relevant stakeholders - Capacity building in cartography, satellite imaging data collection and analysis for climate modeling, , development and application of spatial decision support tools, forecasting and early-warning systems <p>Investments:</p> <ul style="list-style-type: none"> - Development of “technical packages” (including inputs, such as tree seedlings, seeds, stakes, fences; and services, such as grafting, and technical assistance)” adapted to specific agro-ecological zones - Development of participatory investments plans identifying priority investments and their geographical 	<p>Strengthening of resilience through fortification of natural resource base at landscape level:</p> <ul style="list-style-type: none"> - Soil quality improvement in areas with high risks of erosion - Increased water retention capacity <p>Reduced sensitivity of agricultural production & livelihoods to climate impacts:</p> <ul style="list-style-type: none"> - Increased coverage of resilient agricultural practices, adapted to the topography and agro-ecological context - Improved adaptation capacity of agricultural production through increased diversification of productions practices to increase resilience - Improved livelihoods with additional and more diversified incomes



- locations;
- Development of participatory business plans based on specific vulnerability criteria (including ecosystems and livelihoods) to allow the implementation of climate smart productions and practices ; and
- Set-up of Farmer-Field-Schools (FFS) for producers focusing on transferring knowledge and know-how on Climate resilient production systems and practices.

Improved adaptive capacity:

- Improved capacity for planning, implementing, monitoring, watershed-level interventions towards improved natural resources management and livelihoods.

30. In terms of mitigation co-benefits, it is estimated that RPLP activities will lead to significant benefits compared to the baseline. A quantification of the Green House Gas (GHG) mitigation potential using the EX-ACT tool estimated that over a duration of 40 years (4 years for actual project implementation and 16 years for capitalization of its effects), the Project’s carbon emission reduction is estimated at 572,397 tons of CO₂ equivalent (tCO₂-eq), or 28,620 tCO₂-eq per year. These benefits will principally be achieved through improved landscape management, in particular through the promotion of afforestation, agroforestry systems and perennial agriculture cultivars.

Key Results

31. The following **PDO level results indicators** have been identified:

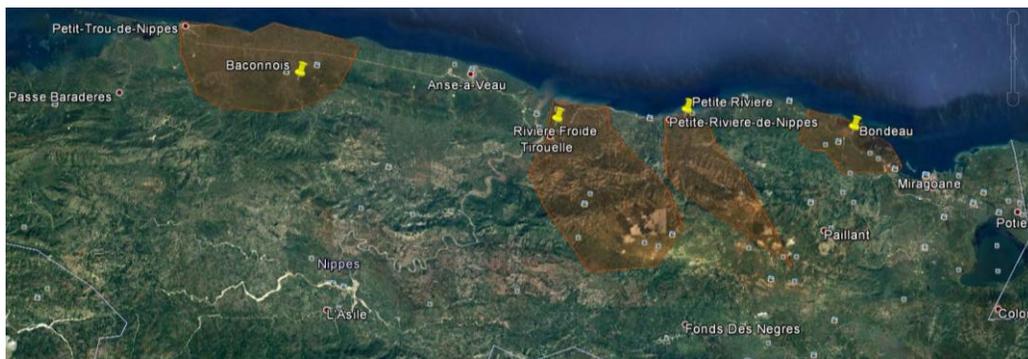
- Land area under sustainable landscape management practices (Ha) – Corporate Indicator - (target of 2,000 Ha)
- Farmers adopting improved agricultural technology (number), of which female (in percentage) – Corporate Indicator - (target of 3,000 farmers)
- Share of targeted farmers with improved market access (%) – (target of 40%)



D. Project Description

32. RPLP is designed to restore ecosystem services at sub-watershed level to safeguard and enhance agricultural production, reduce vulnerability of economic and ecological systems to external shocks, and to strengthen capacities for the long-term sustainable management of those landscapes. The investment will result in the provision of environmental services, private and public goods, including enhanced watershed services encompassing soil conservation, hydrological services, and biomass supply.

Maps 1 and 2 : Project area



Project Alternative

33. The approach used by RPLP builds on a rich set of lessons learned from past projects and evidence from analytical work. The Project will take a landscape approach and operate at sub-watershed level, combining a socio-



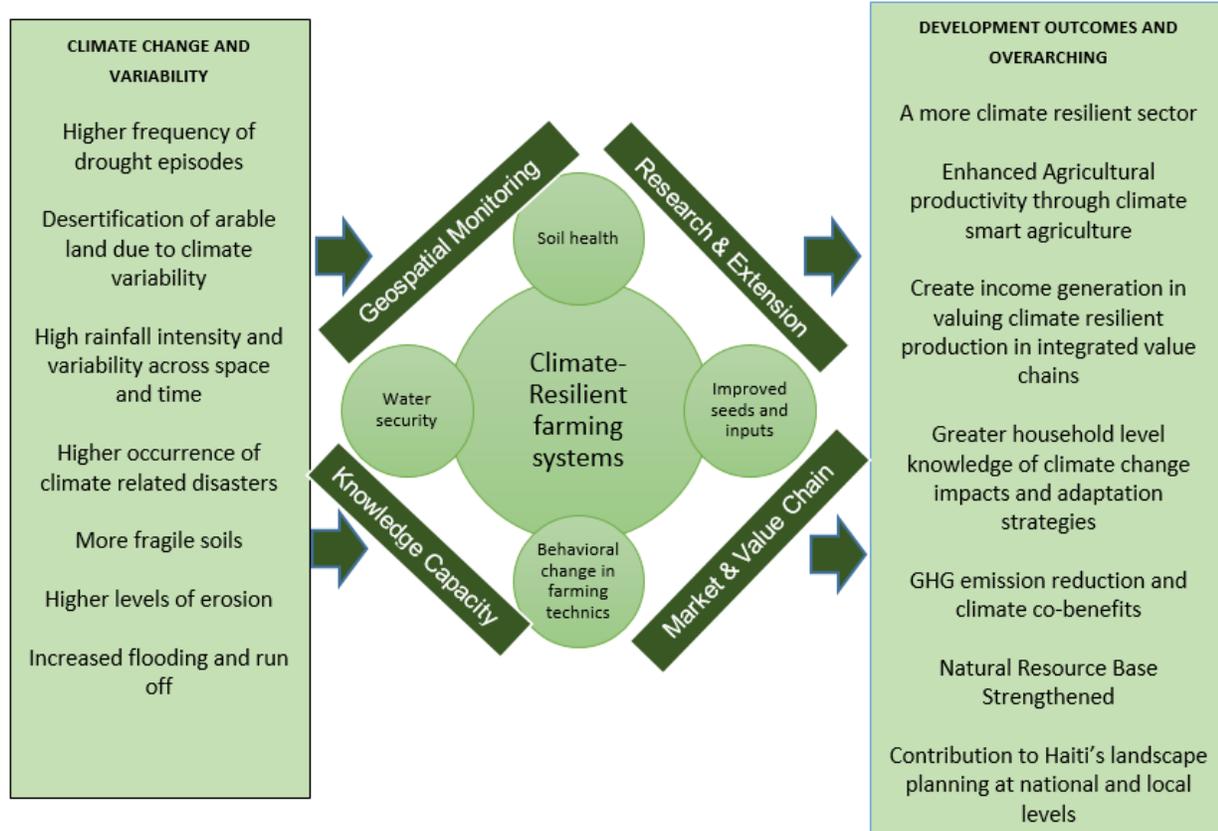
economic and an ecological approach to landscape management.²⁴ The Project's interventions in the selected sub-watersheds will build on the results of two watershed management participatory planning exercises piloted within one of the selected sub-watersheds during Project preparation (Rivière Froide) that will be implemented in the entire area of the Project by effectiveness with the support of J/P HRO. The operationalization of these plans will consist in the development of sub-watersheds' investments plans, that will be providing more detailed information related to each category of intervention offered by the Project with the volume of activities, types of instruments pre-identified during project preparation based on lessons learned and pilot participatory planning exercises (see Component 2), location and corresponding estimated budget.

34. Resilience-enhancement from RPLP in the selected sub-watersheds will result from actions to decrease the vulnerability of: (i) farmers linked to increasing soil degradation and subsequent continuous reduction of production capacity, and insufficient capacity to sell productions in a profitable and sustainable manner, including due to poor infrastructure condition; and (ii) landscapes, linked to the lack of holistic, participatory planning capacity, required to establish a common understanding of problems, propose solutions, prioritize actions expected to have the larger positive impact on ecosystems and populations in a defined sub-watershed, including interventions aimed at reducing soil erosion and enhancing water retention capacities in gullies as well as around natural springs, mostly through intensification of vegetative and tree cover, as well as small water harvesting infrastructure reducing water run-off.
35. RPLP is designed to contribute to break the natural resources degradation/increasing populations' vulnerability cycle in the selected sub-watersheds by taking an integrated approach. Based on geographic concentration, the Project will work at both farm- and community level to simultaneously raise production and productivity using more resilient, adapted agriculture practices to the hydro-geological context, which will directly contribute to rebuild the natural resource base; by protecting and restoring top soil cover in particular, the Project will improve water retention capacity, reduce erosion, enhance soil quality, which are required to counter the soil quality loss/productivity loss/increasing vulnerability cycle. The Project will also work along the entire value chain from inputs via production to processing and marketing to ensure that the changes introduced result in income gains for farmers that are essential for Project sustainability. It will also support the construction or rehabilitation of small infrastructures considered critical to enhance landscape's resilience (e.g. related to water management or improved access to markets), taking care of their quality to ensure the best possible resistance to adverse climatic conditions.
36. It will also strengthen the institutional enabling environment and build capacity for landscape level governance and management at both national and local levels as well as delivering a proof of concept of the approach by investing into selected watersheds, to create the enabling conditions for subsequent scale-up.
37. RPLP will include four components: (i) Strengthening of institutional and organizational capacity for landscape level resilience; (ii) Investments to strengthen the establishment of resilient agricultural production and practices; (iii) Project coordination, monitoring and evaluation; and (iv) Emergency Response Mechanism. The core of the investments and expected impact from RPLP shall be seen under Component 2 that will finance agricultural, value chains and infrastructure related activities to reduce land and farmers' vulnerability in the four selected sub-watersheds; while Component 1 shall establish the enabling environment for Component 2 to achieve its objectives and contribute to longer term implementation of sustainable productive landscapes approach by key institutions, in particular through the CBF mechanism to provide financing for climate adaptation into perpetuity.

²⁴ Landscape-level Land Management Efforts in Haiti. Lessons Learned from Case Studies Spanning Eight Decades. World Bank, 2016



Fig. 1: Theory of Change/Strategic Overview, Thematic Linkages and expected Achievements of RPLP



Component 1: Strengthening of institutional and organizational capacities for landscape level interventions (US\$ 5.6 M total -US\$ 1.4 M IDA and US\$ 4.2 M LDCF- ; parallel financing of US\$ 1.4 M from J/P HRO).

38. This component will support national efforts to : create Agriculture/Environment joint landscapes policy and action plan towards resilient agriculture and ecosystems; fill skills and knowledge gaps required to implement respective mandates; foster partnerships and communication; strengthen institutional capacity to analyze climate related data for improved planning and climate related disaster risk prevention; fund the set-up of a National Trust Fund that will provide financing for climate adaptation into perpetuity through the CBF; and will also pave the way for Component 2 interventions that will rely on communities’ participatory planning exercises in all selected sub-watersheds. Specifically, the component will support:

39. *Sub-component 1.1. Institutional capacity building (US\$ 2.6 M total -US\$ 1.4 M IDA and US\$ 0.8 M LDCF- ; parallel financing of US\$ 0.4 M from J/P HRO).* This sub-component would finance: (i) the development of a joint MdE/MARNDR Master Plan for Resilient Landscapes Development, building on respective policies and action plans²⁵ and recent international commitments under Climate Change/Climate Adaptation global agendas (including NAPA and INDC implementation), establishing areas of synergies, joint action plan and related M&E, that will be field-tested under Component 2, and serve as a reference under HTR ; ii) intensive technical trainings

²⁵ Relation to policies and mandates from other relevant institutions shall be included as well, e.g. CIAT (Comité Interministériel d’Aménagement du Territoire).



within key line Ministries, including MARNDR and MdE, at national and at local level with the branches of line ministries, as well as local governments and other relevant stakeholders (in the selected sub-watersheds), to carry out their mandate towards sustainable landscapes management; exchange visits in-country and abroad to share landscapes restoration and management experiences ; and students sponsorships for Masters degrees related to landscape /ecosystems /environmental fields ; iii) capacity building in cartography, satellite imaging data collection and analysis for climate modeling, , development and application of spatial decision support tools, forecasting and early-warning systems ; and establishing linkages with global networks of expertise in this field offering options to get high resolution Agro-Meteorological data. Informed by a background study supported by the WB, a set of dynamic decision support tools driven by geospatial and hydro-meteorological data were selected that would be supported by RPLP: soil health & erosion risk monitor; drought risk monitor. The creation of these tools would (a) help establish a baseline in project areas on critical variables and 2) inform project implementation at farm and landscape level.

40. *Sub-component 1.2. Support to national level sustainable landscape management approach to agriculture and watershed management (US\$ 0.0 M total -US\$ 0.0 M IDA and US\$ 0.0 M LDCF- ; parallel financing of US\$ 1.0 M from J/P HRO).* Activities under this sub-component would be financed entirely through parallel financing from J/P HRO. They will aim at supporting (i) HTR, to develop/update its strategic and action plans, and operate its secretariat; (ii) the establishment, and operation of the National Committee for Climate Change in charge of steering, monitoring and reporting on activities to be implemented under the INDC; and (iii) the development of detailed participatory sub-watersheds management plans in the four selected sub-watersheds and their update. The development of these plans will follow the methodology piloted by J/P HRO, in close collaboration with MARNDR and MdE through the PROFOR study referred to in section I.B. They will serve as a basis for the development of detailed participatory business plans focused on RPLP interventions out of which the selection of investments financed under Component 2 will be made. The participatory sub-watersheds management plans will be completed by effectiveness of IDA and LDCF financing.

41. *Sub-component 1.3. Sustainable Financing of Resilient Productive Landscapes and Environmental Investments (US\$ 3.4 M total - US\$ 0.0 M IDA and US\$ 3.4 M LDCF-).* As indicated in section I.B, it would support the participation of Haiti in the CBF to benefit from financial resources towards climate adaptation and biodiversity conservation objectives into perpetuity. In the context of RPLP, it would specifically contribute to ensuring the long-term sustainability of interventions financed under Component 2. This sub-component would finance (i) remaining activities required to set up the National level Trust Fund to receive funds from the CBF on a yearly basis, complementing other donor's contributions and (ii) an initial endowment of US\$3 million to the CBF, earmarked for climate adaptation related interventions, complemented by a US\$7 million endowment for biodiversity to be provided through the German Development Bank (KfW). It is estimated that the fund will take up to 3 years to establish and disburse funds. In the interim the other sources of project financing (IDA and J/P HRO parallel financing) will be used to support adaptation activities. Therefore, the establishment of the Trust Fund does not present delays to overall project implementation.

Component 2: Investments to strengthen the establishment of resilient agricultural production and practices (US\$ 12.1 M total -US\$ 10.1 M IDA, US\$ 2.0 M LDCF- and parallel financing of US\$ 3.6 M from J/P HRO).

42. This component will support individual farmers and communities within selected sub-watersheds to establish more resilient agricultural productions and practices, adapted to the agro-ecological contexts, and prioritized according to participatory planning exercises (under sub-component 1.2 and business plans under 2.2), supported



by scientific expertise, in order to provide individual, and, to the maximum extent possible, landscape-level collective co-benefits from increased soil quality, water retention capacity and biodiversity. It will also support actions aimed at improving the revenues and livelihoods from better market access and improved food availability and nutritional quality, required to reduce people and, consequently, ecosystems' vulnerability; and support the establishment or rehabilitation of small infrastructures supporting (i) and (ii) for increased farmers and landscape level resilience.

43. *Sub-component 2.1. Investments in resilient, sustainable agriculture and ecosystems (US\$ 8.55 M total -US\$ 6.55 M IDA and US\$ 2.0 M LDCF).* This sub-component will support investments at individual and community levels that focus on increasing climate resilience of agricultural production systems in the selected sub-watershed. Specifically, the sub-component will finance (i) the development of a limited menu of “technical packages” (including inputs, such as tree seedlings, seeds, stakes, fences; and services, such as grafting, and technical assistance)” adapted to specific agro-ecological zones, and priority issues to be addressed, building on participatory planning documents, and experts inputs; (ii) the development of participatory investments plans identifying priority investments and their geographical locations, and costs to be financed out of RPLP under Component 2; (iii) the selection of beneficiaries according to participatory business plans based on specific vulnerability criteria (including ecosystems and livelihoods) and their access to one of these technical package over the course of the Project to allow the implementation of climate smart productions and practices ; and (iv) the set-up of Farmer-Field-Schools (FFS) for producers focusing on transferring knowledge and know-how on Climate resilient productions and practices (such as planting following contour lines, improved tillage, boundary/live fences planting for wind and water erosion protection, soil coverage, inter-cropping, agroforestry systems management, soil and water conservation and so on)²⁶, as well as organizational and marketing approaches to add value to these productions (related to sub-component 2.2). This sub-component will use RESEPAG II experience with its farmer’s incentive scheme using a voucher mechanism, and be implemented with the support of an operator (consulting firm). It will also benefit from the registry of farmers being developed with the support of RESEPAG II.
44. *Sub-component 2.2. Intensification, diversification and commercial agriculture (US\$ 2.85 M total -US\$ 2.85 M IDA and US\$ 0.0 M LDCF- ; parallel financing of US\$ 1.1 M from J/P HRO).* This sub-component will improve access to inputs and services from farmers, as well as marketing capacities and options, considered essential to ensure the profitability of investments, improve livelihoods and thereby contribute to sustain resilient landscapes. Under this sub-component, the Project will also seek to facilitate the mobilization of commercial credit both during and after project implementation. Before RPLP effectiveness, a market/value chains analysis for productions likely to be supported under sub-component 2.1, as well as an analysis of relevant inputs and services suppliers, would be carried out through J/P HRO financing. J/P HRO would also contribute to support these latter in order to meet expected quality and quantity of such inputs and services. This sub-component will both support (i) groups of producers within the selected watersheds to develop basic business plans identifying key inputs (equipment/services) to be financed under RPLP aimed at improving the quality and quantity of products sold to intermediaries or directly placed on markets ; and (ii) more advanced constituted groups of producers or small enterprises to increase their capacity to generate additional value to climate smart productions produced in the selected sub-watersheds (e.g. addressing logistics, agro-processing, reduction of food losses aspects), through improved business/marketing skills, as well as improved infrastructures and equipment to be financed through a matching grant mechanism. For this activity, the experience of the “Market Support Facility (MSF)” implemented

²⁶ The Farmer-Field-Schools will also be a vehicle to promote food diet-nutrition education which will be built from (i) the material being compiled in the context of J/P HRO arboretum, where a women repertoire of traditional plants used for medicine and diets is being created, and (ii) also re-use the food practice diet training developed under RESEPAG II.



under RESEPAG II.

45. The sub-component will also finance trainings that will provide more capacity in technical, financial as well as management and strategy, to improve market access -for inputs suppliers' and services providers' organizations, as well as producers and other actors along the value chains. The same operator as sub-component 2.1 would support the implementation of this sub-component to facilitate coordination between these complementary activities.
46. *Sub-component 2.3. Protection of infrastructure and watersheds (US\$ 0.7 M total - US\$ 0.7 M IDA and US\$ 0.0 M LDCF- ; parallel financing of US\$ 2.5 M from J/P HRO).* This sub-component will finance works to: (i) protect /rehabilitate small public infrastructures (e.g. rural and access roads or tracks, river crossing structures) (ii) enhance water management in the selected areas (building small water harvesting infrastructures in gullies or slopes, rehabilitating small water catchments or small irrigation systems in plains). The activities to be carried out under this sub-component will be based on the investments plans developed in each of the selected areas. This stage would be followed by technical studies to inform the detailed scope and nature of works to be supported under the Project.
47. Most of the works are expected to be simple, hence a community-based approach would be promoted using a labor-intensive workforce. This approach has been used various times by MARNDR successfully (including through RESEPAG II in response to Hurricane Matthew's to restore some damaged infrastructures. A specific manual exists that would serve as a basis for RPLP.

Component 3: Project Coordination and Monitoring and Evaluation (M&E) (US\$ 3.5 M total – 100% IDA).

48. The objective of this component is to support Project coordination and M&E as well as all aspects of management (including fiduciary matters, knowledge management, communication, gender and citizen engagement as well as monitoring mitigation measures related to safeguards). It will finance staff costs, goods, equipment and vehicles, incremental operating costs, assessments and studies (including technical and financial audits), construction and/or rehabilitation of Project Implementation Unit offices and in general eligible expenses associated with the overall management of the Project implementation. It will also provide resources to monitor progress and evaluate results and impact. For this purpose, an impact evaluation baseline will be established by no later than year one of Project implementation.

Component 4: Emergency Response Component (US\$0 - only IDA if activated).

49. A Contingency Emergency Response Component (CERC) with zero allocation will be created to allow the Government to respond quickly in case of an eligible emergency. If an eligible emergency occurs, the inclusion of this component would provide a conduit for the use of uncommitted funds from the unallocated expenditure category and/or allow the government to request the Bank to re-categorize and reallocate financing from other project components to partially cover emergency response via implementation of key activities by the appropriate agencies to respond to the emergency. The CERC could also be used to channel additional funds should they become available as a result of an eligible emergency. An Emergency Response Operational Manual, acceptable to the WB, will be prepared and adopted during the first year of project implementation and clearly outline the triggers, eligible expenditures and procedures for tapping into the CERC.



E. Implementation

Institutional and Implementation Arrangements

50. Joint Implementation, Project Duration and Geographic Coverage. The Project will be implemented jointly by the MARNDR and the MdE, with an expected duration of five years. This proposed duration (expected over calendar years 2018-2023) is set to allow a realistic timeframe for implementation. In terms of geographic coverage, four (4) specific zones have been selected based on detailed criteria (environmental, socio-economic, vulnerability, institutional, budget availability as well as relevance in view of proposed interventions).
51. MARNDR and MdE Experiences. The MARNDR began implementing the US\$5M RESEPAG I project in 2009. Within MARNDR, the Project will leverage the existing capacity – specifically on safeguards and fiduciary aspects – of the coordination unit currently supporting RESEPAG II and other donor projects. Conversely, MdE has no experience in the implementation of Bank-funded projects, and would develop its capacity building on MARNDR experience. The Project will collaborate closely with other development partners and receive parallel financing from the NGO J/P HRO.
52. Implementation arrangements. It was agreed that the Project will be jointly implemented by MARNDR/MdE through one Project Implementation Unit; this latter would report to both Ministries through focal points nominated by the respective Ministers. The PIU will be split in two locations: at the Central Level (PIU-C or *Unité de Gestion de Projet Centrale*) based at Port-Au-Prince and at the local level (PIU-L or *Unité de Gestion de Projet Locale*) based at the Agricultural Communal Office (*Bureau Agricole Communal – BAC*) Anse-à-Veau, close to the areas of intervention. The two units will be staffed as needed (i.e. staff hired and paid for by Project resources and appointed civil servants by MARNDR/MdE paid for by the Government) with appropriate skills, taking into account existing human resources and arrangements as well as existing staff from active World Bank operations when relevant (i.e. RESEPAG II). All staff paid using Project resources will be hired on a competitive basis under terms of reference and qualifications acceptable by the World Bank.
53. The PIU-C and PIU-L will ensure timely and effective coordination of activities in order to monitor progress towards PDO. The implementation arrangements will allow a joint technical coordination by MARNDR/MdE as well as capitalizing on the MARNDR's existing capacity and experience with World Bank projects' management, especially on the fiduciary aspects. In addition, the PIU-L will allow to coordinate with the local offices of MARNDR and MdE at Departmental and Communal levels, as well with the other local stakeholders. The PIU-C will be responsible for: (i) managing the project at national level, including financial management, procurement in accordance with World Bank guidelines and procedures, and M&E; (ii) finalizing the Project Implementation Manuel (PIM) before effectiveness; (iii) producing project progress reports; and (iv) project communication.
54. Staffing. The PIU-C will be located at Port-Au-Prince and headed by one (1) General Coordinator. He/She will also coordinate aspects related to Component 1. Other members of the PIU-C will include the fiduciary staff: one (1) principal accountant and one (1) procurement specialist, receiving support from existing fiduciary staff from RESEPAG II. All PIU-C staff, including the General Coordinator, will be hired on a competitive basis and paid for by Project resources. Support Staff will also be hired. All other staff will be based in the field at the PIU-L in the BAC Anse-à-Veau and hired on a competitive basis and paid for by Project resources. Staff will include one (1) Coordinator in charge of Component 2 as well as one (1) communication & grievance redress mechanism specialist,



one (1) environmental safeguards specialist, one (1) social safeguard/gender/citizen engagement specialist, one (1) M&E specialist. Support Staff will also be hired. In order not to delay the start of the Project, the recruitment processes of these specialists will be launched during the preparation phase with the preparation of Terms of References (TORs), and selection, using the existing RESEPAG II fiduciary team to manage the recruitment process according to WB rules. Under the LDCF Project Preparation Grant, a core team of two persons (technical and admin) should also be in place not later than February 2018 to support the MARNDR and MdE RPLP focal points carry out these tasks among others contributing to swift implementation post declaration of effectiveness.

55. In terms of governance mechanisms, a Project Steering Committee – PSC will be created at national level and serve as a guidance and exchange body (Meeting Frequency: once a year) and endorse Annual Work Plan & Budget. The PSC will be co-chaired by MARDNR and MdE, and comprised of high level representatives of MARNDR, MdE, Ministry of Economy and Finance, Ministry of Interior, as well as co-financiers, Audubon Society, HTR, other key stakeholders including donors (with observer status). The detailed composition and mandate of the PSC will be provided in the PIM. PIU-C General Coordinator will assure the role of PSC Secretariat. In addition, a Technical Committee – TC will be established and ensure regular follow-up on the implementation of RPL activities (Meeting Frequency: quarterly, in Nippes Department). The TC will be chaired by the General Coordinator of the PIU-C and comprised of local stakeholders and authorities (DDA, DDE, other relevant Directorates, Civil Protection Committees, Municipalities, CASEC, ASEC), selected sub-watersheds communities’ representatives, private sector representatives, etc.).

56. A detailed PIM will be adopted before Project effectiveness, which will incorporate all operational details at the national and local levels, including the implementation of technical activities, M&E, safeguard implementation and administrative and fiduciary procedures. It will include detailed TORs for key RPLP/PIU-C/PIU-L staff. A harmonized IRM Operational Manual for the management of the CERC will be prepared and validated no later than three months after the Project effectiveness. Detailed Project implementation arrangements are found in the PAD.

Figure 2: Project risk mitigation matrix

Risk	Level	Mitigation measure
<i>Environmental and Social risks:</i> The project has substantial positive environmental benefits. Negative impacts are likely to be small and highly localized, and are largely related to the commune level infrastructure activities that will be financed under the project	Moderate	The ESMF contains a screening tool to screen out works that will have a significant impact on the environment as well as a table of potential environmental impacts and associated mitigation measures. Robust technical and monitoring team will be in place.
<i>Climate and Disaster Risk:</i> Haiti is highly vulnerable to the negative impact of climate change.	Highly vulnerable country	Project is designed to address these risks including through an unallocated component to reallocate IDA in event of a



		specific disaster/emergency.
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F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

RPLP will be implemented in four sub-watersheds offering a diversity of agro-ecological conditions, yet geographically close, within the department of Nippes, under two municipalities : (i) Rivière Froide watershed; (ii) Petite Rivière de Nippes watershed; (iii) Piémont area and Baconnois Plain; and (iv) Bondeau sub-watershed and its mangrove.

G. Environmental and Social Safeguards Specialists on the Team

- Nicolas Kotschoubey, Environmental Safeguards Specialist
- Asli Gurkan, Social Safeguards Specialist
- Felipe Jacome, Social Safeguards Specialist
- Robert H. Montgomery, Environmental Safeguards Specialist

SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The project will have an overall positive impact on the environment. It will promote conservation agriculture, agroforestry, soil and water conservation, water harvesting, water stewardship, re-afforestation and sustainable livestock grazing. The negative environmental impacts will be small and highly localized. Such impacts may be associated with the construction works that communes will be able to finance under the project (rural roads, small bridges, etc) and impacts may include noise, waste management, worker health and safety issues and so on. Other negative impacts may be related to improper technology transfer (e.g. inadvertent propagation of exotic species, expansion of plantations in natural forests, water harvesting that impacts the water table) and so on. For these reasons, the project is a category B and all activities, including those that seem environmentally harmless



would need to be screened. The completed ESMF provides a screening tool as well as a table of possible impacts and mitigation measures. Proper and timely supervision from the Bank will also ensure that these activities are adequately monitored by the Environmental specialist in the PIU.

For the sub component on planning and policy development, the intention is for the project to promote sustainability; however, the risk that a well-intentioned plan or policy has negative impacts is possible, and therefore the ESMF that will be prepared, and the Operations Manual, will include measures to ensure that all plans and strategies prepared under the project are sustainable; support the preservation, maintenance and rehabilitation of the environment; are publicly consulted during their drafting process; take into account cumulative effects; and include measures to strengthen environmental management.

For the CBF, for which activities are not yet clearly defined, and to ensure that the project does not indirectly finance activities with negative environmental impacts, the project ESMF will also apply. The Operation Manual will include a measure to ensure that the CBF adopts the ESMF as part of its screening mechanism.

On the social side, no major safeguards risks are expected. A potential risk may include delays in compensation related to land acquisition. The project will avoid or minimize land acquisition based on the lessons learned. RPF will include measures to deal with such potential delays in payments should land acquisition be necessary. Another potential social risk may be perceived inequities in the selection of beneficiaries. The Project will mitigate this risk by focusing on citizen engagement measures and robust grievance redress measures.

Risks linked to labor influx are expected to be limited. They will be mitigated by prioritizing local labor and ensuring clarity on where laborers coming



		from outside will be hosted through their stay in the host community and ensuring that contracts are consistent with ESMF and RPF provisions.
Natural Habitats OP/BP 4.04	Yes	This project will improve and support natural or critical habitat by increasing tree and ground cover with appropriate natural vegetation. It will operate in mangroves, forests, wetlands and other natural habitats and therefore the policy is triggered. Where infrastructure is being built, the project will ensure that it does not denude natural areas or remove cover that can expose the soil to erosional forces. The project will have an overall positive impact on natural habitats, but will ensure through applying the ESMF that negative impacts such as improper technology transfer, introduction of alien invasive species, etc., is not financed.
Forests OP/BP 4.36	Yes	The project will finance activities related to forestry and improve, rather than cause destruction to forest cover. Activities that involve conversion of natural forests or degradation of critical areas will not be financed.
Pest Management OP 4.09	Yes	Given that the project involves significant interventions in agriculture, and that the improvement of crop production is an ultimate objective, it is likely that pesticides will be used. The types of activities that may require pesticides include dissemination of technologies for sustainable agricultural intensification; forestry; agricultural storage programs; and livestock health programs. All pesticides that are disseminated or used under the project will comply with WHO's list/standards for acceptable pesticide use. An integrated pesticide management plan has been prepared by the project and the document will be disclosed prior to appraisal.
Physical Cultural Resources OP/BP 4.11	Yes	The project will not operate within or near known cultural or historical heritage sites. However, as a precaution, this OP is triggered in the event of chance finds of historical or cultural relics, which are numerous in Haiti, during works, soil sub-surface drilling or excavation. Chance finds language has been reflected in the ESMF.
Indigenous Peoples OP/BP 4.10	No	The policy is not triggered because there are no groups in Haiti who meet the definition of IPs of OP 4.10.
Involuntary Resettlement OP/BP 4.12	Yes	The policy is triggered given that the project will be



funding the rehabilitation of existing rural roads/tracks, possibly new small infrastructures for water harvesting/storage which are usually placed along the roads or in gullies, as well as potential expansion of local offices of the Ministry of Agriculture. These construction works may require land acquisition leading to involuntary resettlement, including the loss of income sources and means of livelihood, such as the loss of fruit trees and crops. Resettlement Policy Framework (RPF) will be prepared by the GOH with guidance from the Bank to address the triggering of OP 4.12. RPF will be consulted and disclosed by appraisal. Upon the identification of cases of involuntary resettlement, Resettlement Action Plans (RAPs) or Abbreviated Resettlement Action Plans (Abbrev. RAPs) will be prepared, consulted and disclosed in accordance with the policy.

Any activity that may potentially lead to changes in land-tenure agreements, result in the establishment of protected areas, or may cause restriction of access to natural resources will be excluded from the project. The environmental screening form, which will be part of the ESMF will also include questions on social risks and impacts. The PIU responsible staff received a training by the Bank on October 18 on how to screen OP 4.12 impacts.

The project will not finance any activities related to dams or the operation of dams. The ESMF will screen out any dam-related activity.

The project will not be on international waters as defined under this policy.

The project does not take place in any Disputed Area.

Safety of Dams OP/BP 4.37

No

Projects on International Waterways OP/BP 7.50

No

Projects in Disputed Areas OP/BP 7.60

No

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

On the environmental side, there are no large scale, significant or irreversible impacts. The interventions are largely soil conservation, tillage, tree planting and other soil enhancing activities. Where there may be investments in infrastructure, these will be restricted to low impact public infrastructures such as rural and access roads, small



bridges for crossing rivers and water harvesting infrastructure. Impacts will therefore be small and highly localized. Other negative impacts may be related to improper technology transfer (e.g. inadvertent propagation of exotic species, expansion of plantations in natural forests, water harvesting that impacts the water table) and so on. These can be effectively screened out and monitored, reducing the risk associated with these activities. On the social side, there are no large scale, significant and irreversible impacts expected.

The promotion of policy and plans under the project will promote sustainable development; however, the ESMF prepared for the project includes measures to ensure that policies and plans developed under the project do not have long term negative impacts.

Also, activities undertaken by the Caribbean Biodiversity Fund, which will be capitalized by the project, will be subject to a screening mechanism derived from the Project ESMF in order to screen out any activities with considerable negative environmental impacts, or mitigate impacts to an acceptable level.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area: No potential indirect or long term environmental or social impacts are expected. The environmental impacts will be small scale and limited in scope. The potential social impacts are described under OP 4.01 and OP 4.12.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts. In terms of the environment, the project focuses on improving the stability of slopes and enhancing the fertility of soils in Haiti by introducing trees, stabilizing vegetation and so on. The types of vegetation to be considered will be carefully matched with the particular environment/climate related problem that is evident in a region. For example, one would plant deep rooted vegetation in some cases where slopes need to be stabilized. These are the types of alternatives that have been discussed and will continue to be discussed throughout preparation. In terms of financing infrastructure, the project focused on key infrastructure that would support climate resilience- for example, bridges to allow river crossings when the river level is high and so on. The chosen infrastructure (by the commune) will be screened to ensure that the type of infrastructure chosen does not have significant adverse impacts on the environment.

On the social side, any activity that may potentially lead to changes in land-tenure agreements, result in the establishment of protected areas, or may cause restriction access to natural resources will be excluded from the project.

Civil works to be financed under the project are expected to be mostly of small size, and efforts will be placed on minimizing any possible negative effect through solid preliminary studies and screenings allowing to clearly identify areas of interventions, and ensuring the adequate design, use of appropriate construction materials, and construction techniques etc.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

The project team has prepared an ESMF, an IPMP and an RPF, which will be consulted and disclosed by appraisal. The Ministry of Agriculture, MARNDR, the primary agency responsible for the implementation of the project, has managed other Bank-funded projects in the past and they have experience with Bank safeguards policies and instruments, especially on the environment side. MARNDR will be hiring a second safeguards specialist to monitor social risks and impacts under this project. The second ministry that will be involved in this project's implementation, the Ministry of



Environment, does not have familiarity or capacity to implement social safeguards policies. However, they have been closely involved in the preparation of the ESMF, IPMP and RPF. The safeguards implementation will be the responsibility of MARNDR, which will house the safeguards specialists.

In the event that involuntary resettlement cannot be avoided by the necessary works, the Bank team will support the PIU to develop and implement Resettlement Action Plans. The project will develop a citizen engagement plan and a Grievance Redress Mechanism. The GRM ensures that complaints received are promptly reviewed in order to address project-related concerns. Additionally, communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to project-level grievance redress mechanism or the WB's Grievance Redress Service (GRS).

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

The primary stakeholders of this project are smallholder farmers and families living in the selected watersheds targeted by the project, that depend on agricultural production for their livelihoods. Other key stakeholders along the agriculture value chains are service and input providers, buyers, and retailers. The national, regional and local institutions that play a role in the landscape management and agriculture services are also important stakeholders for this project.

The Project team will conduct consultations with a group of these stakeholders at the regions, that are tentatively identified at this stage. The ESMF and RPF will be consulted by appraisal. with key local actors (such as local government staff, farmers' organizations, regional representatives of Ministry of Agriculture and Environment) in the tentatively identified municipalities. Once the sites are identified, further detailed consultations that will take place with direct beneficiaries during project implementation. People affected by involuntary resettlement will be consulted on compensation and resettlement policies in accordance with OP4.12.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other

Date of receipt by the Bank	Date of submission for disclosure	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors
06-Nov-2017	09-Nov-2017	

"In country" Disclosure

Haiti
13-Nov-2017

Comments

Resettlement Action Plan/Framework/Policy Process

Date of receipt by the Bank	Date of submission for disclosure
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06-Nov-2017

09-Nov-2017

"In country" Disclosure

Haiti

13-Nov-2017

Comments

Pest Management Plan

Was the document disclosed prior to appraisal?

Yes

Date of receipt by the Bank

06-Nov-2017

Date of submission for disclosure

09-Nov-2017

"In country" Disclosure

Haiti

13-Nov-2017

Comments

If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.

If in-country disclosure of any of the above documents is not expected, please explain why:

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report?

Yes

If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?

Yes

Are the cost and the accountabilities for the EMP incorporated in the credit/loan?

Yes

OP/BP 4.04 - Natural Habitats



Would the project result in any significant conversion or degradation of critical natural habitats?

No

If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?

NA

OP 4.09 - Pest Management

Does the EA adequately address the pest management issues?

Yes

Is a separate PMP required?

Yes

If yes, has the PMP been reviewed and approved by a safeguards specialist or PM? Are PMP requirements included in project design? If yes, does the project team include a Pest Management Specialist?

Yes

OP/BP 4.11 - Physical Cultural Resources

Does the EA include adequate measures related to cultural property?

Yes

Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?

NA

OP/BP 4.12 - Involuntary Resettlement

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?

Yes

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?

Yes

OP/BP 4.36 - Forests

Has the sector-wide analysis of policy and institutional issues and constraints been carried out?

NA

Does the project design include satisfactory measures to overcome these constraints?

NA

Does the project finance commercial harvesting, and if so, does it include provisions for certification system?

No

The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank for disclosure?

Yes



Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?

Yes

All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?

Yes

Have costs related to safeguard policy measures been included in the project cost?

Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?

Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?

Yes

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APPROVAL

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