Concept Note

Programme Ak-Klima-Tansyon (AKT)

Haiti | Agence Française de Développement (AFD)

24 December 2016
Concept Note

The Green Climate Fund (GCF) is seeking high-quality projects or programmes.

Accredited entities may choose to submit a concept note, in consultation with the relevant national designated authority, to present the proposed project or programme idea in order to receive early feedback and recommendation.

Project/Programme Title: Programme Ak-Klima-Tansyon (AKT)

Country/Region: Haiti

Accredited Entity: Agence Française de Développement (AFD)

National Designated Authority: Ministry of Environment
# A. Project/Programme Information

<table>
<thead>
<tr>
<th>A.1. Project/programme title</th>
<th>Programme Ak-Klima-Tansyon (AKT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.2. Project or programme</td>
<td>Programme</td>
</tr>
<tr>
<td>A.3. Country(ies) / region</td>
<td>Haiti</td>
</tr>
<tr>
<td>A.5. Accredited entity</td>
<td>Agence Française de Développement (AFD)</td>
</tr>
<tr>
<td>A.6. Executing entity / beneficiary</td>
<td>Executing Entity: Ministry of Agriculture, Natural Resources and Rural Development (MARNDR)</td>
</tr>
<tr>
<td></td>
<td>Beneficiary:</td>
</tr>
<tr>
<td>A.7. Access modality</td>
<td>Direct ☐ International ☒</td>
</tr>
<tr>
<td>A.8. Project size category (total investment, million USD)</td>
<td>Micro (≤10) ☒ Small (10&lt;x≤50) ☐ Medium (50&lt;x≤250) ☐ Large (&gt;250) ☐</td>
</tr>
<tr>
<td>A.9. Mitigation / adaptation focus</td>
<td>Mitigation ☐ Adaptation ☐ Cross-cutting ☒</td>
</tr>
<tr>
<td>A.10. Public or private</td>
<td>public</td>
</tr>
</tbody>
</table>

## A.11. Results areas (mark all that apply)

- **Reduced emissions from:**
  - ☐ Energy access and power generation
    (E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)
  - ☐ Low emission transport
    (E.g. high-speed rail, rapid bus system, etc.)
  - ☐ Buildings, cities, industries and appliances
    (E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)
  - ☒ Forestry and land use
    (E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)

- **Increased resilience of:**
  - ☒ Most vulnerable people and communities
    (E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)
  - ☒ Health and well-being, and food and water security
    (E.g. climate-resilient crops, efficient irrigation systems, etc.)
  - ☐ Infrastructure and built environment
    (E.g. sea walls, resilient road networks, etc.)
  - ☒ Ecosystems and ecosystem services
    (E.g. ecosystem conservation and management, ecotourism, etc.)

<table>
<thead>
<tr>
<th>A.12. Project / programmeme life span</th>
<th>6 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.13. Estimated implementation start and end date</td>
<td>Start: 2017 – 2018</td>
</tr>
<tr>
<td></td>
<td>End: 2022 – 2023</td>
</tr>
</tbody>
</table>

---

1 Please use the following naming convention for the file name: 
"[CN]-[Agency short name]-[Date]-[Serial number]" (e.g. CN-ABC-20150101-1).
## B. Project/Programme Details

The Fund requires the following preliminary information in order to promptly assess the eligibility of project/programme investment. These requirements may vary depending on the nature of the project/programme.

<table>
<thead>
<tr>
<th><strong>Country context</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Republic of Haiti is located on the island of Hispaniola, shared with the Dominican Republic. With an estimated 10.6 million people living over 27,750 km², Haiti has the highest population density in the Caribbean Community. Sixty per cent of the population lives in rural areas and over half of the population is younger than 21 years old. Haiti is the Least Developed Country (LDC) in the Americas.</td>
</tr>
</tbody>
</table>

As a small island developing states (SIDS), Haiti is considered to be one of the most vulnerable countries to the impacts of climate change. The country has been severely affected by natural disasters, which have aggravated the poverty level and food insecurity situation, with the most recent example being Hurricane Matthews in September 2016, which destroyed land and infrastructure in the country’s south-western regions. In 2014, Haiti had the highest poverty level among the SIDS, with 58.7% of the population living in poverty and 50% suffering from hunger.

The estimated annual GDP per capita is 824.3 USD, while 24% of Haitians live on less than 1.23 USD a day and 59% on less than 2.42 USD a day. In 2014, UNDP estimated the human development index at 0.483, placing Haiti 163rd of 188 countries. The Haitian population is also marked by high-income inequality, reflected by a high Gini index, estimated at 0.61.

The service sector (industry trade, restaurant and hotel industry and market services and non-market) was, in 2015, the first economic sector of the country, accounting for 51% of the GDP in 2015. It is followed by the primary sector, including agriculture, forestry, animal husbandry and hunting, which remains one of the major sectors of the Haitian economy contributing about 20% of the GDP. The sector employs about 50% of the workforce, representing the first employment sector and an essential focus of Haiti’s development.

Haiti’s subtropical climate is marked by a dry season from November to March and a rainy season from May to November, with an average temperature ranging between 24°C and 27°C and average precipitation of 1,400 mm of rain. However, temperature and rainfall vary locally due to the irregular relief and altitude, which characterize 75% of the Haitian territory. For instance, precipitation can reach up to 6,000 mm per year on top of Pic Macaya in the south, while most arid zones receive less than 500 mm per year.

The country is suffering from widespread environmental degradation, deforestation and soil erosion. The native forest cover, which includes the remaining natural forests, mainly pine forest, amounts to only 1 to 2% of the territory. However, 15% of the territory is covered with natural forest areas and agroforestry, including fruit, cocoa, coffee, wood, and other food crops. In 2005, Haiti rated 141st out of 146 nations on the environmental sustainability index.

<table>
<thead>
<tr>
<th><strong>Land tenure</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural land tenure in Haiti is characterized by fragmentation of farmland, with approximately 1 million of small farms averaging less than 1.5 ha per household and very few large farms of 50 or 100 ha. Farm size has decreased in the last years, due to the division between children following inheritance. Due to growing demographic pressure and food demand, farmers also</td>
</tr>
</tbody>
</table>

---

2IMF population estimates, 2015
4 World Bank, 2014
5 World Bank, 2012
6 World Bank, 2012
7 2014-2015 ISHI
8 source; ISHI
9National Communication on Climate Change, 2013
cultivate marginal lands, inadequate for agriculture. Seven different types of land tenure exist in Haiti, according to the last general agricultural census. Currently land tenure types are distributed as follows: 82% of the agricultural land areas are used by their owners, 11% is rented and about 6% is used without previous agreement. A salient feature of land tenure in Haiti is the existence of significant areas of legally undivided family land where rights are transmitted through customary arrangements over several generations. Constraints to increasing investment and improving agricultural productivity also arise from the structural weakness of the institutions in charge of land registration, cadastre and titling, as well as vague definition and delimitation of Government Land.

**Gender**

Women make up more than half of the population of the country (52% IHSI, 2009). At the household level, they play a central role in providing food as well as monitoring survival of their family. While land tenure is provided through heritage, women who inherit from their family tend to lose their privilege once they get married. Women represent a vulnerable group of the population. This vulnerability is linked to their limited access to land, credit services, inputs and education in particular, compared to men. Rural women participate in several agricultural activities, but mainly carry out trade of goods between local villages and towns.

The 1987 Haitian Constitution promotes equality between women and men in terms of human rights, free speech and access to education, however in general, women suffer from discrimination over salary and from the lack of representatives at local and national institutional levels, including within farmers’ organizations. In many rural areas, there are women’s organizations; however they have limited economic capacity and sustainability. Regarding access to natural resources, women and youth are the first to suffer from low access to water and energy resources, with several daily walks to collect water for the family, in some cases. Out-migration of men to cities or Dominical Republic in search of income also places an additional burden on women and creates a class of female-headed households without real power or influence over their productive assets.

**Vulnerability to climate change**

Haiti is inherently vulnerability due to its location and exposure to severe climate events. For example, every year, Haiti is exposed to tropical disturbances, which bring strong winds and significant rainfall. Haiti is struck by tropical storms or cyclones every two to three years. The country is also exposed to a high seismic risk, as direly evidenced by the severe losses incurred during the 2010 earthquake (more than 230,000 dead, 300,000 injured, 1.5 million homeless). Severe hydro-meteorological events increase the risk of floods, landslides, and in some cases epidemics during rainy seasons. The risk of tidal waves represents a constant threat to both coastal towns and agricultural production areas, both in terms of destruction of production but also of soil salinization.

In recent years, the impacts of climate change have become increasingly visible. This includes increasing hydro-meteorological natural disasters, causing major losses and damages. Climate change has already significantly increased the risk of drought in certain areas, resulting in prolonged dry periods of more than three consecutive months, and caused higher annual fluctuations in rainfall with delays and overall reduction in seasonal rainfall regimes, significantly affecting crop cultivation. Between 1980 and 2016, Haiti has recorded 96 natural disasters, including 53 flooding events, 29 hurricanes, and six prolonged droughts, with an average of 308 deaths, an annual loss of USD 212 million, a decrease of 1.7% of GDP. According to German Watch, in 2016, Haiti is the third country to be most impacted by disasters, with a climate risk index of 17.83, behind Honduras (11.33 CRI) and Myanmar (14.17 CRI).

Vulnerability to climate change impacts is also determined by the capacity to adapt or by the resilience of the ecosystems. In Haiti, this capacity is severely reduced by environmental degradation, and low levels of policy and technical capacity. Natural buffers and protective ecosystem services (e.g. forests, upper watersheds, beaches, coral reefs, or mangroves), have been severely degraded through improper use. For example, the erosion risk index shows that

---

11 [http://www.emdat.be], 2016 (database accessed on October 3rd, 2016)
Haiti’s 30 watersheds are considered very fragile ecosystems and in critical state: 25 of the 30 watersheds are severely deforested, while 6% soils are currently at the stage of irreversible erosion. The MARNDR estimated, in 2010, a loss of 12 000 ha per year to erosion, caused by the following factors:

- Inadequate land management and land use planning,
- Natural fragility of the physical environment (steep slopes, nature of materials),
- High population pressure,
- Unsustainable agricultural practices,
- Severity of climate change and extreme weather events,
- Intensive wood harvesting for energy needs and for construction.

Climate change has affected the agriculture sector through the following effects:

- Increases in mean annual temperature affects flowering and photosynthesis for all crops;
- Storms, hurricanes and strong winds destroy harvest and plantations, damage rural infrastructure and market access, and cause further damage to degraded forests and watersheds.
- Precipitation regime changes (increasingly unreliable rainfall, flooding events and prolonged droughts) also impact crop, with some decreases of yields comprised between 6% (e.g yam) and 32% (banana) by 2050 depending on corps (ECLAC, 2013; GIEC 2014), at strategic times during the production cycle, as well as encourage the appearance of diseases and pests.

A common feature of the three selected sites (Dondon in Grand Nord, Baptiste in Centre and Thiotte in sud-est) is their high inherent ecological vulnerability, which is the result of inadequate management of ecosystems by loss of soil capacities after continuous loss of biomass, affecting ecosystemic services of the environment (soil and water conservation, and biodiversity). Upland humid areas have been increasingly deforested for agriculture and food production. This deforestation was accelerated by the collapse of coffee prices in the 1970s, but also by the development of the timber industry (pines, oak, mahogany...) dedicated for the construction and more accessible thanks to the development of the road network. Areas previously under perennial cropping, such as major coffee-growing areas, have also been degraded, sometimes abandoned, due to low prices, pests, and lack of access to capital for adequate management and marketing. Decreased vegetation cover and the uneven topography combined with climate change impacts have led to an accelerated degradation of agricultural fields and reduced water resources downstream, gradually decreasing agricultural productivity across all major commodities and crops.

These impacts are also likely to become more severe, as climate change scenarios project the average annual temperature increase in Haiti will range from 1.5 to 1.7 °C by 2060, while annual rainfall will likely decrease from 6% to 20% by 2030.

The local scenarios in the priority areas in terms of temperature give the +1,48-1,50°C in Baptiste en Thiotte by 2050, and +1,46-1,48°C in Dondon. And in terms of precipitations in the priority areas, the following decreases are expected: 0.4-0.6 mm by day in Baptiste, 0.6-0.8 mm by day in Dondon, and 0.8-1.0 mm by day in Thiotte.

**Baseline investments by the government**

It is against this context of fragile ecosystems, low adaptive capacity and predicted increased impacts that the AKT Programme is designed. Its aim is to contribute to reducing vulnerability in the agricultural sector as well as to contribute to implementing Haiti’s INDC. The AKT programme takes into account agricultural and environmental policies adopted by Haiti, especially the National Strategy for Poverty reduction and growth (DSNCRP), which provides a reference framework for all development interventions to take place in Haiti and aims to:

- Improve environmental governance at all decision making levels;
- Reduce environmental vulnerability of the poor and adapt to climate change;
- Improve city planning in terms of environmental issues;
- Establish integrated water resources management at the watershed level and in coastal zones;

---

13 MDE / PAGE / INESA, 2008 in CIAT, 2012
- Reforest the country’s degraded land and deforested areas and seek a balance between the supply and demand for wood energy in the long-term at the national level;
- Combat land degradation and enhance sustainable management of biodiversity;
- Fight against all forms of pollution;
- Monitor and evaluate the state of environment;
- Make the environment the centre of attraction for investment and business opportunities.

Amidst ongoing reconstruction efforts following both the 2010 earthquake and the 2016 Hurricane Matthews, the Government of Haiti has set forth a number of policy priorities for the rural sector, such as the “Document d’orientation 2010-2025” which aims to increase food self-sufficiency, create employment in rural areas to slow rural out-migration, to increase the agricultural sector’s contribution to currency and to reduce environmental vulnerability. In support to this policy statement, the National Agricultural Investment Plan (PNIA) foresees the following objectives:
- increase the availability of agricultural products and ensure food security;
- increase the income of agricultural producers;
- increase currency reserves;
- Enhance the state of health and nutrition of the population, in particular the most vulnerable;
- Reduce the vulnerability of populations to natural disasters.

The government is also implementing the 2013-2016 agricultural revival plan, which includes a sub-program on institutional strengthening and agricultural governance (PRIGSA), a program of support to smallholder agriculture (PAAF), a program to strengthen commercial agriculture (PRAC), and a sub-program on developing rural agriculture and watershed management (DIRAB). For the period 2016-2021, the government intends to implement the following programs in the agriculture and environment sectors:

The government, along with development partners, is also working to implement an ambitious program called Haiti Takes Root (Haiti Prend Racine), which was launched in 2015 by the Government of Haiti, the J/P HRO NGO and the French Government, and whose objective is to “restore the productivity and ecological services of the land by re-establishing tree cover, ultimately improving the economy, livelihood and natural habit of Haiti, as well as making it more resilient to damaging effects of climate change.” The HTR initiative is first funded by the J/P HRO foundation to the tune of a first 5M US$, launching the dynamic to gather other financers around the initiative.

This project intends to complement current initiatives and to leverage Green Climate Fund support in order to address some remaining gaps and needs in terms of achieving resilience in the agriculture sector, with a particular focus on the economically promising value chains of coffee and cacao and its joined agroforestry productions, which can both offer relatively rapid economic and ecological gains for the country.

The other ongoing or planned initiatives, with which active coordination will be sought, include:
- **The Technology Transfer Project for Agricultural producers (PTTA)**, supported by IADB and whose objective is to support a sustainable increase in agricultural incomes and food security among smallholders. The project provides grants for small plot owners to support the implementation or rehabilitation of creole gardens, based on agroforestry. The project provides direct financial support to producers in the form of vouchers that allow them to acquire productive assets and to implement a set of technologies designed to improve production in particular in agroforestry, with different agroforestry models financing, according to local agro ecological conditions and main productions. The project is financed by a grant of 40 million USD and is anticipated to be implemented in South, North and north East Departments including in Dondon commune, starting in 2017.
- USAID is supporting, until 2019, the AVANSE project (support to value addition in the agriculture sector in the North, and to economic and environmental security). The 60
A thorough list of ongoing projects and programs is included in the Pre-Feasibility study.

Gaps, obstacles and barriers that this project will seek to remove

Despite these ongoing programmes and initiatives, the following barriers remain to be addressed in order to achieve greater resilience in the agricultural sector in the project selected areas.

Lack of institutional capacity on Integrated Watershed Management (IWM), land use planning and environmental management: As indicated in Haiti’s 2009 National Capacity Self-Assessment (NCSA), there are general weaknesses in the legislative apparatus, as well as in the institutional framework and the enforcement capacities of the state to apply environmental law and policies. The regulations that do exist are weak and poorly understood at the local level. Among the different government stakeholders who would be called upon to participate in integrated watershed management, many of them exhibit weak institutional capacity. For example, the Ministry of Environment (MDE) has a reasonable budget and staff assigned to
each “Department,” though many are actually based in Port-au-Prince. The National Protected Areas Agency (ANAP) has only a handful of staff, which is inadequate to manage the old and new protected areas (PAs). The fragmentation of different institutions with responsibilities in environmental management and IWM has somewhat abated with the creation of the CIAT, but remains a barrier to effective planning. The CIAT, which is also a key actor in land use planning and watershed management, has benefitted from more external support, and has worked to develop watershed management plans in some areas, but has had difficulties asserting its influence, being a para-statal organization that reports to the prime minister. MARNDR capacity for watershed management is also limited, and there is a need for reinserting IWM within the context of productive landscapes. Among municipal authorities and decentralized governments, there is very limited technical capacity to understand and undertake IWM, including the participatory planning processes required to develop comprehensive land use plans. There is also limited knowledge on the state and evolution of different watersheds, which needs to be addressed in order to design land use plans that promote resilience.

Low access to financial capital / to credit among producers: land fragmentation and land tenure uncertainties, combined with political instability and extreme poverty in many parts of the country have contributed to create a situation whereby smallholder producers cannot access financing for their own development, outside of external aid grants. The rural finance system in Haiti remains rudimentary, with very few viable rural finance institutions. In 2010, a census of micro-finance industry counted approximately 175 Savings and Loans organizations (Caisse d’Epargne et Crédit), around 20 NGOs and 4 commercial banks. Even with these, the rate of access to microcredit does not exceed 10%, even in urban areas, where they are currently concentrated14. In addition, women and youth, because they have less access to collateral resources, also have less access to credit.

Mechanisms and financial institutions for productive rural enterprises are weak and insufficiently endowed. Traditional mechanisms put in place and organized by rural populations themselves exhibit weak capacity that does not assure sufficient financing in the best of conditions. There are a number of unique risks of rural and agricultural markets that constrain both the supply and demand for finance in these areas. These challenges include:
- dispersed populations and poor transportation and communication infrastructure resulting in high transaction costs for both borrowers and lenders to design and follow the credits
- high risks faced by potential borrowers and lenders due to low productivity conditions and lack of stable incomes of the rural families in Haiti
- high risks faced by potential borrowers and lenders due to external shocks (high climate vulnerability; high pests incidence and low national capacity response) and global price volatility as Haiti is a net food importer and free trade country (very limited customs tax)
- exaggerated perceived risks resulting from poorly designed prior programming (directed credit, subsidized interest rates, poor loan recovery practices)15
- previous failure in some case of credits programs resulting of a limited confidence between financial institutions, producers and theirs organisations

Lack of technical capacity on climate smart practices. Climate smart practices are understood as land use practices that consider the evolution of climate change and choose adapted responses to climate change, as resistant crop species to droughts for example, or actions preventing soil degradation and preserving water. In the same time these practices prevent climate change by actions low in carbon emissions, as annual crops associated to tree for carbon sequestration and, thus, climate change attenuation. At the local level, while there is growing awareness of the linkages between healthy ecosystems and productivity, there is a lack of access to best management practices for climate smart agriculture. This can be attributed to various factors, including the high costs of providing extension services due to remoteness and lack of core funding among the MARDNR services; low investment in local agricultural research, due to the focus on recovery and rehabilitation efforts; and low levels of technical capacity among cooperatives, producers and food processors. The concentration of agro-food industry in the hands of a few key private actors doesn’t permit smallholder farmers accessing to strategic productive information, and leads to continued dependency on limited numbers of buyers. Low productivity and low prices also prevents farmers from investing into their productive assets, leading to an ongoing cycle of degradation in the main agricultural landscapes.

14https://www.microfinancegateway.org/fr/pays/ha%C3%A9ti
Lack of environmental awareness & information – There is a broad lack of environmental awareness, which has led to severe environmental problems in Haiti, including: deforestation (only 3% of natural forest remaining), soil erosion, waste pollution, overfishing and biodiversity loss, poor waste management (5% of the rural population concerned) among others. Without adequate environmental awareness, people are unable to see the links between their day-to-day activities and impacts on the environment. Similarly, many decision-makers may arrive to their positions of power without being aware of the far-reaching consequences their decisions can have on the environment. There is also a lack of knowledge on how environmental degradation will in turn negatively impact individual households. The lack of environmental awareness means that communities are unaware of the type of individual behaviours that can be pursued to enhance both their livelihoods and environment. Some good practices exist in Haiti as sustainable agroforestry systems, living fences, cropping on vegetal cover, but these examples are neither sufficiently democratized widely in the country, through exchanges between producers or media information, nor presented sufficiently as practices leading to multiple direct and indirect advantages for producers and their neighbours (vegetal cover and live fences profit to producers down on slopes, the same for local dams that profit also to future generation through soil reconstruction)

GCF ALTERNATIVE

Theory of Change

1. The project’s overall objective is to contribute to the operationalization of adaptation priorities and mitigation of climate change in Haiti by promoting socio-ecosystem-based management and resilience of populations in priority territories. Specifically the AKT program seeks to:
   i. Strengthen smallholders’ resilience to climate change and increase food security through the promotion of productive and sustainable agroforestry systems
   ii. Promote integrated water resources management activities and sound watershed management activities as a mean to counter climate change impacts (both existing and anticipated)
   iii. Contribute to Haiti’s efforts and policy priorities in terms of climate change mitigation in the agriculture, forestry, land use change and energy sectors
   iv. Strengthen Haiti’s institutional capacity to implement and manage climate change adaptation and mitigation programmes.

The project is based on the premise that in order to achieve resilience, by promoting sustainable agricultures practices low in carbon emissions and even mitigating practices, key causes of natural resources degradation must be addressed and the targeted communities’ capacity to resist climate and economic shocks must be strengthened. This requires restoring productivity and increasing incomes from sustainable agricultural practices, while maintaining the natural resource base that provides productive and protective ecological services. This entails a multi-pronged approach: increasing the productivity and efficiency of existing agricultural value chains through the introduction of integrated watershed management, climate smart agricultural practices, and the promotion of agroforestry-based integrated systems; reducing dependency on single commodities or livelihood sources; restoring the natural productivity and protective ecosystem services in the broader landscape around agricultural lands; and strengthening natural resources governance and management.

Figure 1 presents the Theory of Change for this project. The red boxes at the bottom show the current barriers preventing vulnerable farmers from achieving sustainable ecosystems, food security and resilience to climate change. The blue arrows show how the goal and objective (top level green and blue boxes) are generated from the outputs (orange boxes) of the programme’s activities.

Figure 1: Theory of Change of the AKT Programme
Targeting

The following are the three selected sites for the programme:

a. Nord Department: Commune de Dondon
b. Centre Department: Commune de Baptiste
c. Sud-est Department: Commune de Thiotte

The programme’s sites were selected according to the following criteria:

Climate change vulnerability: All three areas are exhibiting significant levels of climate vulnerability. This includes exposure to rainfall pattern changes (less regular rainfall leading to more hydric stress in dry season), increases in temperatures of 0.45°C degrees over the past few years, and the increasing frequency of droughts (3 important droughts in the last decade). The three zones are also showing increase in pests and diseases, especially rust, that are affecting key crops, such as coffee, banana, rice, plantain, and which have been directly attributed to the change in overall climate conditions, especially temperature increase. Local populations high economic vulnerability in these areas, with monetary incomes less than 400$/year for 88%, unemployment rates of 35%, and access to water and sanitation rates of 2.5%, all factors severely impacting the ability of communities to withstand climate shocks.

Value chains with good potential but with current limited productive conditions: The three targeted areas are areas with existing value chains related to coffee production, a main crop in the Haitian and local economy. Coffee is considered by local landowners as the central cash crop, and, despite ageing of coffee plants, and decreasing productivity, remains the mainstay of the local economy in these departments. Since climate change is already having impacts on coffee production, and will have growing impact in the medium-term, the programme elected to intervene in sites where existing value chains could be strengthened and made more resilient, rather than to work with farmers and producers to transition to new commodities, with the inherent risks this carries. The selected areas
present potential spin-off effects at a larger level on agroforestry and resilient production system development.

**Evidence of environmental degradation, watershed degradation and deforestation:** All three sites are exhibiting serious environmental degradation, which impacts production of the main crops. Since healthy ecosystems can help support agricultural production and provide protection against climate shocks by acting as buffers, the project has elected to intervene in areas where it is possible to restore these environmental services through integrated agro-ecosystems.

**Existence of farmers organizations.** The availability of organized production was another key criteria for targeting this project. Because of the need to demonstrate rapid gains from a productivity and economic standpoint, it was elected to intervene in the revitalization of available systems. This allows the project to build on existing supply networks, buyers and bulker networks, and to work within existing market structures.

The anticipated beneficiaries of the project are among the following groups, and were selected according to the following criteria:

- Smallholder producers cultivating coffee, cacao or other crops on X ha of land or less.
- Cooperatives providing services to producers
- Poor households with low access to land and productive assets practicing subsistence agriculture in household gardens.

The program is delineated into three main outputs or components. Output 1 focuses on the revitalization of the agroforestry systems and products, with a particular focus on coffee and cacao value chains so that they become more productive, lead to increased profitability for farmers, allowing them to withstand economic fluctuations and climate shocks. The approach taken to achieve this output is the re-introduction of agroforestry-based systems of production into the two value chains, allowing for environmental co-benefits and reduced vulnerability through livelihoods diversification. Output 2 seeks to restore the ecological services in the broader landscape around productive lands, through integrated watershed management and the rehabilitation of key ecological and other infrastructure. Output 3 seeks to support the other two outputs, by strengthening institutional capacity among farmer organizations, local and central government institutions, to conduct and maintain integrated planning, watershed management and to create knowledge management systems that allow for broader upscaling of program results in the long-term.

**Output 1: Improved coffee and cacao chain based on agroforestry systems increase households resilience to climate change and increase agro-ecological services and income**

Under this output, the programme will aim to strengthen resilience of smallholder farmers by adapting existing agroforestry systems to climate change, hence also contributing to mitigating carbon emissions.

**Activity 1.1: Promote, consolidate and disseminate resilient agro-sylvo-pastoral practices and other sustainable soil and water management practices**

This activity will begin with an analysis of agricultural systems in order to understand current status in terms of species diversification and resilience, techniques used, and to better understand the system's productivity and challenges. Emphasis will be placed on farmers’ priorities as well as their short-, mid- and long-term visions in terms of what they want to improve on their land, including new plantations of different species and cultivation techniques. The analysis will also provide an understanding of how existing coffee and cacao plants can be improved to resist to climate change impacts, such as modification in precipitation regimes, changes in humidity and evapotranspiration, increased runoff, or increased temperatures and their impacts (diseases, pests). Collaboration with agricultural research institutes active in the region and dedicated to tropical crops and agroforestry systems like CIRAD or CATIE, will be

---

16 Including a variety of fruits like banana, citrus fruit, avocado
pursued in order to base planting decisions on the best available knowledge and most up to date climate scenarios. Based on this analysis, the project will conduct training on identified best practices in order to reintroduce agro-sylvo-pastoral systems into the productive landscape. Best practices will include, for example, using compost as fertilizer, introducing disease and climate resistant crop varieties (coffee leaf rust, root rot, and berry borers), but also maintenance techniques, shade management and replanting in agroforestry plots.

The activity will be conducted with the support of six networks and farmer cooperatives that are already active in the project sites. Given that networks and cooperatives all have different levels of capacity, technical support will be adapted to each organization. The cooperatives will serve as relays for providing technical knowledge and dissemination of best practices to producers. Each organization will distribute notebooks to its member farming households, which will be used to record production costs and methods for each plot but also to record the amount and time left to pay back credits, as well as productivity information. Thanks to technical support from each organization, these notebooks will be used to build a technical and economic reference database on agroforestry systems, useful for decision making on the farm, credit management and will also feed the monitoring and evaluation program system. In addition, an expert from Latin America will be recruited to advise on coffee and cacao production systems.

In order to further strengthen and encourage knowledge sharing among farmers, a farmer-to-farmer extension system will be introduced through the Farmer Field School approach. This approach is based on learning-by-doing activities on several farmer plots to experiment new farming practices and exchange technical knowledge at the community level. As a participatory and community-based approach, the themes and techniques to be learned will be selected by farmers and supported by technical facilitators who will be trained by the program, and supported by the farmer cooperatives. Technologies and approaches piloted through the FFS approach will focus on climate resilience in the specific value chains, including for example conservation agriculture, water management and water use efficiency, soil fertility enhancement and organic fertilization, or integrated pest management.

In addition to training received through the FFS approach, 1,000 youth coffee farmers and about 80 technicians and extension workers will also benefit from exchange visits and specialized trainings with other projects in the fields of agroforestry and natural resources management. The program will support training on the technical and financial aspects of coffee production for 20 extension workers at the University of ISA in Dominican Republic. These 20 trained technicians will then train extension workers hired by the farmers’ organizations partners of the AKT programme, with technical support from ISA University. Trainings will include aspects related to climate risk management, early warning systems for coffee production, and resilience in the coffee value chain.

Within the overall agro-forestry approach, the project will support diversification endeavours, using citrus, yam, banana and avocado. Technical support will provide different options based on local agro-ecological conditions, climate risks and phytosanitary issues to take into account for each system. Economic opportunities will be considered including the ones with potential to export to Dominican Republic. New varieties of fruit trees, such as longan, carambola, tamarillo, as well as macadamia nut, already cultivated on Baptiste’s state farm will be introduced for further diversification of farmers’ portfolio, following an analysis of their resilience to climate change.

In addition, to allow producers to recover from coffee leaf rust infection on coffee agroforestry systems, cacao agroforestry systems will be introduced at altitudes below 500 m, further contributing to the diversification of income-generating activities for 1,000 households. Lessons learned from neighbouring countries in Latin America demonstrate that coffee and cacao complement each other well within the same agroforestry system, as cacao generates incomes continuously during the year, while coffee is from October to February. In addition, post-harvest processing requires the same quality standards and stakeholders share relations along both value chains especially in accessing markets.

The program will explore opportunities for introducing horticulture (market gardening, linked with the water retention systems implemented within the output 2). Livestock potential for agroforestry plots fertilisation and reduction of land conflict between animals and crops will be
addressed as success conditions of the agroforestry proposal. Horticulture and livestock also represent means to increase access to food and nutrition, and to increase incomes. These activities will be piloted among women and youth income from coffee and cacao usually benefits men. The program will give small economic incentives to these activities. Increasing household portfolio and income sources will also facilitate access to credit, thanks to better and more diversified guarantees.

**Activity 1.2: Facilitate farmers’ access to credit and subsidies for agroforestry plots regeneration**

The program proposal is to bring subsidies to farmers doing effort in regenerating at medium term their agroforestry plots (adopting climate smart practices), articulated to loans offered by local financial institutions, giving more sustainability to financial resource access for the farmers. Furthermore, since the regeneration of agroforestry systems with coffee will show visible production improvements only after two to three years, it is necessary to create a system whereby risks to farmers are reduced during the first few years, until financial incentives begin to appear. Among the six farmers organisations, main of them have already dealt with credit management with financial institutions and directly managed exports. Regarding individual farmers credit history, only three of the six farmers organizations have directly managed farmers’ credits, namely Coopcab, Ucocab, Apcab, through the Korejaden 1 & 2. The other organizations do not have experience in managing credit operations beyond local community saving funds. In light of these capacity differences, at the beginning of the project, an analysis of financial services will be conducted in each of the selected sites in order to understand the level of skills, experience and motivation to manage different modalities including systems combining credit and subsidies. This analysis will be conducted in consultation with farmer organizations and networks, financial institutions as and lead by the agriculture finance program in Haiti SYFAAH, which will provide support and determine eligibility criteria for farmers to access financial credit. Information collected in farmers’ notebooks (1.1) will be analysed and used to assess the needs of farmers.

Based on this analysis, the program will support the establishment of a multi-year credit system. Credit design and global management will be ensured by SYFAAH support which role will be to articulate and monitor the credit development and recovery in each territory, ensuring a good coordination between financial institutions and producers organizations.

The credit proposal will be articulated to a 2 million euros loan currently in discussion between AFD and the financial institution network Le Levier, in order to ensure capital availability to finance at long term the agroforestry of regeneration (credit design for 5 years).

The regeneration will be financed at three levels: subsidy given by the project mainly cofinancing plants and inputs required, credit, cofinancing other requirement, in particular hired labour force, and finally cofinancing from the producer itself. The cost for a complete regeneration (implemented during 2 successive years) is estimated to 4000 USD/ha, including labour force. The project will support the producer efforts, with the mix credit-subsidy, in a range from 50 to 60% of the costs.

This will be provided to 5,000 households engaged in agroforestry systems on about half a hectare needing regeneration (4000 for coffee and 1000 for cocoa).

**Activity 1.3: Strengthen professional capacities of stakeholders for sustainable value chains**

For this activity AKT programme will hire the service of dedicated personal to organizational and management support, with a specialist in each area of intervention (3 in total).

The proposal of the programme is to design a high quality oriented value chain approach, as in particular coffee and cocoa quality is yet quite appreciated on external markets. The programme will support the organizations with advice but also complementary post-harvest investments. The support will include in particular support to pluriannual strategic development plans of the cooperatives. These plans will be monitored and supported during the programme implementation. Productive, organizational, commercial and financial management will be included in the support given at the cooperative level, and facilitate decision making.

---

17SYFAAH : Système de Financement et d’Assurances Agricoles en Haïti
The programme will assess current organizational capacity in terms of administration, accountability, partner management, audits and trade relations with private sector organizations (including product buyers, national and international and financial institutions with which organizations will collaborate).

An initial assessment shows that the existing infrastructures have suffered due to natural disasters, and lack of maintenance caused by activities disruption and poor harvests. The AKT programme will therefore contribute to the reconstruction/improvement of these existing infrastructures to improve coffee and cacao postharvest, transformation and marketing. All construction and rehabilitation will be undertaken based on the most stringent disaster risk reduction and climate shocks standards available.

As a quality oriented and global sustainability proposal, the programme will support social and environmental certification for agroforestry systems, based on existing label at international level.

For fair trade label, there is yet some experience in Haiti, but the very limited exports in the last years didn’t permit to maintain them. The program will encourage the organizations to recover these labels, also as a tool to improve their own practices and to boost relation with external buyers.

In order to recognize farmers’ efforts to maintain ecosystems resilience, the development of an organic certification will be encouraged by the programme. This will include the development of internal guidelines at the organizational and farm levels, following international standards requirements, hence increasing trust between farmers and potential partners to access markets. The organic certification could also include a low-carbon certification for certain products.

Finally, the program will give support to the farmers organizations networks and national entities in charge of coffee and cocoa like INCAH in particular, through a range of activities ensuring knowledge share between institutions, better design of national program and policies dedicated to agroforestry products, and events stimulating and promoting quality efforts on cocoa and coffee products.

Output 2: Implement integrated water resources and watershed management for climate change adaptation in the programme’s prioritized sites

Output 2 includes three main activities aimed at implementing integrated water, soil and forest resources management at the watershed level in order to manage and preserve shared resources to increase biodiversity and ecosystems services.

Activity 2.1: Water resources management for vulnerable smallholder farmers

Water scarcity and soil erosion are some of the major challenges in some communities, that are likely to increase due to climate change. The program will invest in landscaping methods that allow for both combating erosion and help mobilize or retain water. The program will implement anti-erosion measures in X ha in project sites. These will include the following biological and mechanical anti-erosion structures.

- **Hedgerows** planted at regular intervals. Perennial species such as pineapple, bananas or sugar cane will be used as structural elements, but annual crops such as yams and sweet potatoes will also be planted; some practices known in Haiti but not widely democratized. These hedgerows will be enhanced, through agriculture local technical assistance based on technological packages and support to producers to acquire seeds (subsidies for a part of seeds price), with fruit and forest trees planted in contour to a minimum of 10 m between trees. Biomass produced from hedgerows will be used to feed livestock.

- **Micro-reservoirs** will be placed across selected gullies to increase agricultural productivity but also control water flows. The program plans to build at least 200 micro-reservoirs in the watersheds of the Programme area. Their location and the type of structure per site will be determined during the preliminary study conducted in 2.1.1.

- **Rural roads** are an essential part of regional planning, as they contribute to the local economy by facilitating access to markets for farmers. They also retain surface water runoff for the benefit of farming systems and link different ecosystems, enhancing resilience of farms. The AKT programme plans to build 150 km of rural roads in selected sites.
The program will also support the construction of 400 household-type tanks of 12 m³ each and 200 impluviums for both domestic drinking purposes and agriculture. The programme will aim to promote access to domestic water but also access to water to irrigate household gardens. A significant increase in water availability during dry seasons or drought is expected. Finally, the programme support communities on the maintenance and management of water infrastructure (reservoirs, ponds, earth dams) to ensure the sustainability of structures. Training will be provided on protocols for maintenance of different types of structures with clearly established responsibilities and the procedure to ensure sustainable maintenance. Municipalities and cooperatives, as members of watershed committees will play an important role in the sensitization and implementation of these protocols; municipalities to centralize information on the state infrastructures and priorization of maintenance, and cooperatives in support to maintenance of infrastructures.

**Activity 2.2: Plan and conduct integrated watershed management (IWM)**

Integrated water resources management at the watershed level is an ongoing process based on consultation of all decision makers, users and civil society. The aim is to plan and harmonize the protection and use of water resources in a sustainable manner. The AKT programme will support watershed committees, through reinforcement of municipalities which are members of watershed committees, to raise awareness of vulnerable populations on resource conservation, sustainable land management, conservation and water quality improvement, mostly to key entities, the municipalities. The reinforced municipalities, with support of thematic specialists (BAC, representatives of environment) will be leading actors on their territory and within watershed committees. In the medium to long term, the project will propose that the committees’ operating budget be incorporated in the municipal or inter-municipal budget.

The benefits produced by through agroforestry systems are still poorly understood in Haiti. The program aims to strengthen the human and logistical capabilities of CIAT and MDE to serve as coordinator and executive entity for an observatory (coordination research, centralization of information, and communication) of adaptation to climate change and watershed management on this purpose..

Furthermore, the results of the programme’s interventions as well as lessons learned from other ongoing initiatives, contributing to the federative initiative Haiti Takes Roots, will be collected at the watershed level and consolidated through the MDE (participating to the reinforcement of the national MRV system) and the CIAT, and used to produce technical guidelines on best agro-ecological practices for water resources management and soil conservation. The Research and Innovation Directorate of the Ministry of Agriculture will be strengthened and will work with universities to lead this process of capitalization. The technical guidelines developed will be used to prepare training modules on climate-smart agro-ecological practices (trees, terraces, agroforestry, hedges…) which will be disseminated through FFS and extension services.

In order to strengthen water governance, the programme will support municipal governments in becoming leading entities in watershed committees, since they are the centre for communities to express their concerns. Therefore the municipal authorities will be trained and provided with sufficient resources and capacity, through technical assistance, training and acquisition of basic operating materials, to promote a participatory process in watershed management. Inter-watershed cooperation will also be promoted, as a means of harmonizing management and governance across the broader landscape.

**Activity 2.3. Implement reforestation within targeted watersheds**

Beyond reforestation activities of component 1, which are tree enrichment or regeneration of existing coffee-based or cocoa-based agroforestry systems, and based on the technical knowledge and standards generated under activity 2.2, the program will support new reforestation activities to restore degraded watersheds. This will begin by undertaking a preliminary land use and land tenure analysis, in order to conduct participatory land use planning and to conduct siting of reforestation areas. The program will support reforestation on 3000 ha (2500 ha of fruit-based agroforestry systems and 500 ha of energetic plantations within parcels...
of landowners), using multi-purpose trees and resilient or improved varieties. In order to ensure optimal performance and productivity of the plantations, the supply of quality vegetal material will be crucial; this will be ensured through activity 1.4, where local producers will be supported in their efforts to produce and maintain a production base for each of the species used in the project. In addition, reforestation plans will be developed during the inception phase of the project, which will take into account the nature and sequencing of reforestation initiatives, the type of trees planted, the cycle of plantations and period of tree growth. Plans will include specifications for soil preparation, spatial planning for plantation, post plantation maintenance and management, and plans for final exploitation of plots. It is anticipated that plantations will create significant carbon sinks, provide anti-erosive services, help regulate water in the watershed, provide nutrition and income (in the case of fruit tree species) and provide reservoirs – under appropriate management – for fuelwood.

Output 3. Strengthened institutional capacities for addressing climate change and environmental degradation among project stakeholders

Under this output, the program will work with stakeholders to strengthen technical, scientific, and institutional capacities for addressing climate change within agricultural landscapes at all levels. This output, which will act as a cross-cutting enabling output, will allow for the development of specific data, studies and information that will inform both the implementation of project activities and a future up scaling and replication plan. In terms of addressing key environmental problems affecting the agricultural landscapes, the program will partner with universities to develop monitoring and analysis of runoff and soil erosion in project watersheds. This will help conduct preliminary studies and design numerical models of topographical evolution in relation to precipitation and to rainfall regime changes. This data will be useful in designing watershed management plans, water retention infrastructure, and soil erosion control methods that take into consideration current and future anticipated rainfall conditions, in a no-regrets approach. The program will also partner with research institutions to undertake targeted research on key elements of the agro-forestry system within a climate change perspective. This will include the development of resilience studies for specific value chains or varieties, or socio-economic analyses. Furthermore, the program will support the establishment of an observatory function within CIAT focused on agro-ecological practices used in watershed planning and management. This will include the development of a database of technical data as well as a forum of discussion among stakeholders involved in climate adaptation. This will also include the setting up of a national platform of dialogue on climate resilient watershed management. Around the CIAT, multisectoral by definition, the actors of the development and watershed management (including donors) will be gathered, through their respective initiatives to manage watersheds, to contribute to the wide initiative Haiti Takes Roots, based on technical information provided by the observatory with the support of the MDE.

In support of broader knowledge dissemination and to support replication in other sites, the program will support exchanges and coordination among the stakeholders within the value chains at local and national levels through the PNPCH, INCAH and Inter-Profession Cacao. A website for broad information dissemination will also be created.

In terms of strengthening cross-cutting capacities of the program stakeholders in order to enable them to deliver services beyond the duration of the program, the program will provide technical support and training to MARDNR, MDE and CIAT on the implementation of social and environmental safeguards within watershed management and land use planning, the integration and monitoring of mitigation measures in environmental management plans, linking adaptation to mitigation and participating in relevant climate negotiations. This will also include more specific support towards the development of a Monitoring, reporting and verification system (under the UNFCCC), for which the program will provide materials, technical support and training, which will allow key program actors to monitor program results at watershed and national levels, taking into consideration adaptation and mitigation indicators to complete more relevant National Communications under the UNFCCC.

This output will also include activities related to program management, including the program coordination team, technical support at local level, the program steering committee and a technical advisory panel on adaptation to climate change to provide guidelines on program activities to decrease vulnerability of populations and watershed management on this purpose. The output also includes activities dedicated to the monitoring and evaluation of environmental
and social risks, stakeholder coordination and engagement, and the implementation of a gender-sensitive approach. The programme will set up and implement a comprehensive system for Monitoring evaluation and reporting of program results, including monitoring of climate and environment benefits. This will also include a knowledge management system, through which all program results will be documented and shared in order to inform policy and upscaling. Financial and procedure management will be established according to national regulation and AFD/GCF standards. They will be integrated and differentiated between stakeholders (Haitian public institutions, international operators, local organizations).

Over the period 2005-2014, the share of the state’s budget devoted to the agricultural sector has increased but remained below 5%. It has reached the level of 6% in 2015, representing an investment amounting to 1 to 1.5% of the agricultural GDP. While the Ministry of Environment’s budget represented 1% of the state budget for fiscal year 2014-15 (approximately US $ 25 million). In Haiti, foreign donors have a dominant place in public funding in environmental sustainability and agriculture. Their total contribution to the agricultural sector is more than seven times higher than those provided by the public funds of the Haitian government.

The French development agency (AFD) has a long-standing cooperation with Haiti in the areas of agriculture sector resilience, land and forest management and food and nutrition security. AFD has been financing the Republic of Haiti and NGOs for the past 30 years in carrying innovative approaches to implement pilot projects on climate change adaptation and development intended to be disseminated and replicated. AFD supports the funding and insurance programme for farmers (SYFAAH) of the Ministry of Agriculture, but also promotes watershed management, agro-ecological practices and agroforestry systems to increase soil quality and reduce erosion.

The Haitian coffee industry is currently in a state of historical decline, with national production approaching 350,000 pounds in 2010, now estimated less than 200,000 pounds, with imports recorded for the first time in 2015. This decline was attributed to significant price decreases experienced in 1990’s, which led producers to step away from the commodity. This led to a gradual lack of maintenance of coffee plants, whose ageing has led to decreased productivity, gradually leading to the abandonment of coffee plantations. This abandonment is not only related to a set of structural factors, namely aging of farmers and plantations, lack of research and dedicated credit, low capacities of cooperatives, lack of policies and resources, but also to cyclical factors, such as the prolonged drought of 2014 and 2015, as well as leaf rust and berry borer infections undermining yields and plants. The fragility of the situation has led farming households to favour short cycle crops or temporary off-farm employment to earn a sustainable income.

However, the coffee value chain remains historically strategic for Haitian farmers and the country’s development; with about 75,000 has currently cultivated, yielding 250 kg/ha on average, under current unimproved conditions. In recent years, prices have become interesting for coffee farmers, especially at the local level, with prices close to 2 USD per pound at the producer level.

On the domestic market, some key players are processing and selling the coffee to the Haitian consumers, with two main private actors, Rebo and Wiener. In the different coffee production areas, about 20 to 25,000 farmers are organized in cooperatives, ensuring links with the buyers and developing a quality coffee segment on external markets. Informal exports to Dominican Republic can represent about 1/3 of the national production. In 2016, the country started to import Vietnamese or Brazilian coffee from Dominican Republic, demonstrating that there remains high local demand for the product, which could be satisfied from national sources.

---

18Mogues et al., 2012
Nevertheless Haitian coffee quality is appreciated on the international market and the country as potential conditions for coffee exports if production is relaunched.

The government has established a dedicated institute for coffee called INCAH, whose purpose is to support the coffee value chain, but there is a need for reinvestment into production. This would require not only investment into the physical plantation, but also on technical and scientific services to producers to ensure productivity, while augmenting producer’s resilience to price fluctuations as well as climate risks. The chain is not regulated in terms of price control, and no export tax is applied. A 5 years relaunch plan for the coffee value chain, with estimated costs of about 46 million USD, has been adopted by the Haitian government for the 2016-2020 period, in order to develop new plantations on benefit of about 10 000 coffee growers, and support to the chain on its main productive, commercial, financial and organizational issues.

**Cacao chain:**

The cacao value chain in Haiti represents about 5000 tons of production spread in 18 000 hectares, and is cultivated by 20 000 producers, mainly very small farmers. Cocoa is located in two principal areas, the North and the Grande Anse departments. There is currently an important interest in Haiti for cocoa, seen as a complementary production to coffee and at the same time an agroforestry production, essential to ensure water and soil conservation in mountain and slope grounds. The country as at the same time a high potential for quality cocoa, recognized in special international markets, but bad post-harvest treatment in the last decades have not permitted to make effective this quality. However, cacao is now one of the main agricultural export products for Haiti, with 8 million USD per year, despite low yields, currently measured at less than 300 kilos per hectare.

At the production and organizational levels, one of the most advanced organizations is Feccano (Federation of cocoa cooperatives for the North). Feccano federates seven cooperatives with nearly 3,500 member producers. Today, the Feccano offers between 100 and 150 tons of fermented cocoa per year, organic and fair trade certified and exported to several European importers. With less strong variations than for coffee, cacao prices have been particularly interesting for several years with an upward trend towards prices close to 3,000 USD per ton. However, as the Feccano cocoa is certified and sold to special markets, contracts are negotiated with importers at higher prices, ranging between 3,500 and 4,000 USD per ton.19

At the commercial level, as for coffee, two key actors dominate on the market. Collecting about 50% of national production, Novella is the 1st cocoa buyer in Haiti, and operates mainly in the north. Geo Wiener society is the second more important buyer, collecting about 40% of national production, mainly in Grande Anse department. Some new operators are now entering Haitian the value chain with a fair trade approach.

International prices for cacao have been high for about 10 years, and have shown relative stability. Demand for fine quality cacao is growing faster than offer, and different importers of Haitian cacao complain of obtaining less than their requirements.

<table>
<thead>
<tr>
<th>B.4. Regulation, taxation and insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide details of government licenses, or permits required for implementing and operating the project/programme, the issuing authority, and the date of issue or expected date of issue.</td>
</tr>
<tr>
<td>Describe applicable taxes and foreign exchange regulations.</td>
</tr>
<tr>
<td>There will be no taxes applied on the grants.</td>
</tr>
<tr>
<td>Provide details on insurance policies related to project/programme.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B.5. Implementation arrangements</th>
</tr>
</thead>
<tbody>
<tr>
<td>The executing partner for this program will be the Ministry of Environment. The MARNDR will be accountable to AFD and GCF for managing the project, including monitoring and evaluation of project interventions, achieving project outcomes and outputs.</td>
</tr>
</tbody>
</table>

19see Annex: Feasibility study, 2016
Thanks to its extensive experience in executing and coordinating this type of projects, the Ministry of Agriculture, Natural Resources and Rural Development (MARNDR) will take a large part in program activities and coordination.

Contracting authority: MDE
Implementation: DPV and DFRS of the MARNDR, and MDE
Management unit: MARNDR

The Programme implementation will begin with the establishment of a Programme Steering Committee (PSC) to ensure the validation of the annual work plan and program monitoring.

Four directorates as well as one independent organization of MARNDR will be responsible for the programme's steering and implementation, namely:

- The General Directorate of MARNDR, acting as Co-President of the PSC.
- The General Directorate of MDE, acting as Co-President of the PSC.
- The MARNDR Forest and Soil resources Directorate (DRFS), responsible for the programme's execution, including Outputs 2 and 3.
- CIAT
- INCAH
- Cooperatives
- AFD
- BID
- Swiss Cooperation

Project Management Unit
(local and national level)
- A programme manager
- An international assistant
- An administrative officer
- An accountant, based in Port-au-Prince
- Three accountants, 1 per region

Project Management
- Output 1 = Direction Vegetal Production MAR INCAH
- Output 2 = Direction DFRS- / MDE
- Output 3 = MDE

Programme Steering Committee
- Prime Ministry
- General Directorate MARNDR
- General Directorate MDE
- CIAT
- INCAH
- Cooperatives
- AFD
- BID
- Swiss Cooperation

Funding
- AFD (6 million euros)
- Green Climate Fund (24 million euros)

Service Project
Output 1: NGOs, university, research institute, Municip committees, other local actors
Output 2: Operations (private sector), Research (University and research institute), Municip committees, other local actors

Figure 2: Project Management Structure

The Programme implementation will begin with the establishment of a Programme Steering Committee (PSC) to ensure the validation of the annual work plan and program monitoring. Four directorates as well as one independent organization of MARNDR will be responsible for the programme’s steering and implementation, namely:

- The General Directorate of MARNDR, acting as Co-President of the PSC.
- The General Directorate of MDE, acting as Co-President of the PSC.
- The MARNDR Forest and Soil resources Directorate (DFRS), responsible for the programme’s execution, including Outputs 2 and 3.
• The MARNDR Crop production Directorate (DPV), co-responsible for the programme’s execution, including Output 1. The directorate will be supported by consultants specialized in coffee and cacao production.

• The MARNDR Innovation and Research Directorate, member of the Science Committee will be responsible for the preparation of research protocols related to agriculture and watershed land use planning activities.

• The National Institute for Haiti’s Coffee (INCAH), will be responsible for monitoring the executing of Output 1.

• The Interministerial Committee of territory planning (CIAT)

The PSC, with co-chair of the MDE and MARNDR, will be composed of representatives of the:
- Prime ministry,
- Ministry of Agriculture (MARNDR) including 3 directorates
- Ministry of Environment (MDE),
- Interministerial committee for land use planning (CIAT),
- INCAH
- Farmers cooperatives
- International agencies (AFD, IDB, World Bank, Swiss Cooperation),
- J/P HRO
- Local Authorities

To form the Steering Committee, the Program coordinator will organize Program presentation sessions for various stakeholders at central and local levels to help them in identifying their representatives to be on the PSC.
A baseline study of the programme will be conducted at this stage for stakeholders to understand the baseline situation before the programme starts, in order to monitor and evaluate the impacts of the programme’s interventions later on.

In addition to the PSC’s management and monitoring of the programme’s interventions at the national level, a **Programme Monitoring Committee (PMC)** will be created at the local level. This committee will be composed of representatives from:
- Regional Directorates (MARND, MDE),
- Town Councils,
- Farmers’ organizations.

Locally, in each municipality, the PMC will be reinforced through a technical assistant operationalizing the program activities prepared by the PMU and validated by the PSC. The committee will meet every three months to assess the progress of the program and find solutions to operational constraints. A monitoring report will be prepared at each meeting and a summary report will be produced and broadcast on the local radio stations to share the programme’s progress with the local population. Committee members will have access to monitoring reports and external audits to make adjustments to the implementation of the Programme.

Under the supervision of the PSC, a **Programme Management Unit (PMU)** will be formed for the duration of the programme implementation and will be composed of the following full time staff:
- A programme coordinator
- An international technical assistant who will coordinate technical activities of the 3 outputs
- An administrative officer
- A monitoring and assessment specialist
- A gender and social impacts specialist
- An accountant, based in Port-au-Prince
- Three accountants, 1 per region

**Preliminary programme timetable:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>Set up of PMU Baseline study Activities under Output 3</td>
<td>Preparation Implementation</td>
</tr>
<tr>
<td>Year 2</td>
<td>Additional analysis Activities under Output 1 and Output 2 Activities under Output 3. Activities under Output 4</td>
<td>Implementation</td>
</tr>
<tr>
<td>Year 3</td>
<td>Activities under Output 1 and Output 2 Activities under Output 3. Activities under Output 4</td>
<td>Implementation Mid-term evaluation</td>
</tr>
<tr>
<td>Year 4</td>
<td>Activities under Output 1 and Output 2 Activities under Output 3. Activities under Output 4</td>
<td>Implementation</td>
</tr>
<tr>
<td>Year 5</td>
<td>Activities under Output 1 and Output 2 Activities under Output 3. Activities under Output 4</td>
<td>Implementation</td>
</tr>
<tr>
<td>Year 6</td>
<td>Activities under Output 1 and Output 2 Activities under Output 3. Activities under Output 4 Monitoring and evaluation</td>
<td>Implementation Evaluation Programme capitalization</td>
</tr>
</tbody>
</table>
C. Financing / Cost Information

### C.1. Description of financial elements of the project / programme

<table>
<thead>
<tr>
<th>Activities</th>
<th>budget (M€)</th>
<th>budget year 1</th>
<th>budget year 2</th>
<th>budget year 3</th>
<th>budget year 4</th>
<th>budget année 5</th>
<th>budget année 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comp. 1</td>
<td>10,3</td>
<td>1,3</td>
<td>1,8</td>
<td>2,0</td>
<td>1,8</td>
<td>1,9</td>
<td>1,5</td>
</tr>
<tr>
<td>Comp. 2</td>
<td>9,7</td>
<td>0,2</td>
<td>2,5</td>
<td>2,6</td>
<td>2,5</td>
<td>1,7</td>
<td>0,2</td>
</tr>
<tr>
<td>Comp. 3</td>
<td>1,7</td>
<td>0,2</td>
<td>0,2</td>
<td>0,4</td>
<td>0,4</td>
<td>0,2</td>
<td>0,2</td>
</tr>
<tr>
<td>Manage.</td>
<td>8,3</td>
<td>1,5</td>
<td>1,4</td>
<td>1,4</td>
<td>1,5</td>
<td>1,3</td>
<td>1,3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>30,0</strong></td>
<td><strong>3,2</strong></td>
<td><strong>5,9</strong></td>
<td><strong>6,4</strong></td>
<td><strong>6,2</strong></td>
<td><strong>5,1</strong></td>
<td><strong>3,2</strong></td>
</tr>
</tbody>
</table>

Most of the costs of the program are dedicated to the promotion of sustainable agroforestry systems and anti-erosive infrastructures to maintain soil fertility for agriculture.

The economic analysis of the program shows that the leverage of the AKT program may lead to generate economic activities related to agroforestry system enhanced with the program support and the infrastructures developed. If the global program Internal rate of return is about 6% including all activities, the IRR, once the leverage of the program executed may reach about 10% (and increasing beyond project duration) that can be considered satisfactory to sustain economic activities, and even attract private sector.

### C.2. Project financing information

<table>
<thead>
<tr>
<th>Financial Instrument</th>
<th>Amount</th>
<th>Currency</th>
<th>Tenor</th>
<th>Pricing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total project financing</strong> (a) = (b) + (c)</td>
<td>30,000,000&lt;sup&gt;20&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Senior Loans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Subordinated Loans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) Equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iv) Guarantees</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(v) Reimbursable grants *</td>
<td></td>
<td>million euro (€)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(vi) Grants *</td>
<td>24,000,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Please provide detailed economic and financial justification in the case of grants.

| Total Requested (i+ii+iii+iv+v+vi) | | | | |

<table>
<thead>
<tr>
<th>(c) Co-financing</th>
<th>Financial Instrument</th>
<th>Amount</th>
<th>Currency</th>
<th>Name of Institution</th>
<th>Seniority</th>
</tr>
</thead>
</table>

<sup>20</sup>Further consultations are needed with government counterparts to calculate and confirm co-financing amounts. Additional co-financing is expected, particularly related to long term sustainability of project results.
D. Expected Performance against Investment Criteria

Please explain the potential of the Project/Programme to achieve the Fund’s six investment criteria as listed below.

D.1. Climate impact potential

Specify the climate mitigation and/or adaptation impact. Provide specific values for the below indicators and any other relevant indicators and values, including those from the Fund’s Performance Measurement Frameworks.

The project expects to achieve the following adaptation and mitigation impacts:

**Adaptation impacts**

- **Total number of direct and indirect beneficiaries; number of beneficiaries relative to total population (fund-level impacts)**
  
  The programme will reach directly 10,000 households (5000 for the 1st output, and 5000 additional for the 2nd output), representing about 44,000 people\(^{21}\), of which at least 30% are women\(^{22}\), 20% are youth and 20% are elders. Direct beneficiaries can be defined as those who will participate directly in the project, while the indirect beneficiaries are those living within the zone of influence of the project (which can range from 5km to 30km radius, depending on the type of intervention).

- **Number of individuals and percentage of population (disaggregated of women and men) adopting climate-resilient livelihood options (including fisheries, agriculture, tourism…)** (A1.2)
  
  The programme’s interventions will directly reduce vulnerability to climate change for at least 10,000 farming households (44,000 people), by investing in agroforestry systems and investing in water, soil and forest sustainable management for watershed management. 30% of beneficiaries, it means more than 12,000 people, are women. The programme expects to increase household income by at least 25%, thanks to the introduction of income diversification with fruit trees.

- **Number of food-secure households (in areas/periods at risk of climate change impacts)** (A2.2)
  
  Economic and physical access to food produced within agroforestry systems is enhanced by 30% by the end of the project.

- **Extent of ecosystems strengthened, restored and protected from climate variability and change (A4.1)**
  
  Investments in water reservoirs will strengthen access to water resources for irrigation and domestic use: 400 household-type tanks, 200 impluvium. Anti-erosion structures including 300,000 metres of hedgerows, micro-reservoirs and 15km of rural roads will be built to

---

\(^{21}\)Average household size in Haiti in 2012 : 4.4 people according to Enquête Mortalité, Morbidité et Utilisation des Services (EMMUS -V 2012)

\(^{22}\)The amended Article 17.1 of the 1987 Constitution states that a quota of at least 30% of women should be applied at all levels of society in Haiti, including public services.
increase water availability, strengthening ecosystems services and protecting farms and newly reforested areas from extreme weather events, such as floods, hurricanes and sea-level rise. An estimated 8000 ha will be reforested through the duration of the project.

**Mitigation impacts**

- **Number of technologies and innovative solutions transferred or licensed to support low-emission development (including gender-friendly technologies and solutions) (cross cutting: MCrC2)**

  The AKT programme will support low-emission development through the following interventions:
  - The promotion of agroforestry techniques at the farm level will contribute to sequestering 50 tons of CO2-eq per hectare, benefit crop yields and will encourage farmers to diversify their income sources;
  - Sustainable forest management will be introduced through reforestation of 2,500 ha of creole gardens in the uplands, as well as 5,000 ha of large and micro-plots with woody species will create carbon stocks of 500 tons CO2eq per hectare.

- **Total tonnes of CO2eq to be avoided or reduced per annum**

  Project interventions are expected to result in carbon sequestration co-benefits. These will be quantified during proposal development, with support from the FAO team implemented their exact tool.

---

**Innovation**

The project will disseminate an innovative financing mechanism, mix a mix credit-subsidy to support households to invest in agroforestry systems with coffee, cacao and other fruit trees. A system of multi-year credit (over five years) will be combined with a subsidy representing about 1200 USD/ha, while credit will be of about 1000 USD/ha. The credit will be offered to producers at a commercial rate (24% interest per year), avoiding distortion with others types of credits that could be offered to the local population by the financial institutions This rate is quite high but accorded to Haitian reality. Farmers benefiting from this multi-year credit mechanism will be required to comply with the full implementation of the agroforestry regeneration plan and plots organization, and their progress will be closely monitored, allowing for a more rigorous and more responsible income-generating activity. The experience of credit and subsidy mix shows more results than direct subsidy offered directly, because farmers shows a better responsibility of the fund management and of a pluriannual management of their agroforestry plots.

The introduction of agro-forestry into the previously single-commodity coffee and cacao value chains also represents a local innovation that will support both environmental and economic benefits for local producers. The program will also seek to determine the optimal crop-livestock-forest combination, so that tree species interact and provide added ecological services in terms of pest management and soil fertility.

Another innovation will be the introduction of municipal governments into the governance system for watersheds and water, which will provide more proximity for management systems and allow for a more participatory approach to natural resources management.

Finally the project will contribute to the construction of a national agroforestry strategy for Haiti with a coalition of actors under the umbrella initiative Haiti Takes Roots.

**Potential for scaling-up and replication**

The programme expects to catalyze significant impacts beyond a one-off programme through the following activities:

- Strengthening of farmers networks and organizations extension services capacity, including the establishment of farmer field schools
- Encouraging knowledge sharing among farmers, promoting a farmer-to-farmer extension that will spread across sites with an upscaling potential
- Creating a space to coordinate and exchange lessons learned on agroforestry value chains between stakeholders
The setting up of research partnerships that will allow for identification of best practices and for the dissemination of knowledge to all stakeholders.

The active involvement of governments at the municipal, departmental and central level will also help inform future policy making and will help consolidate the use of integrated ecosystem management approaches within land use and territorial planning. It is expected that the significant increases in economic benefits, leading to reduced vulnerability to climate and economic shocks, will help generate a paradigm shift within the productive landscapes targeted by this project, and later on more broadly throughout the country.

Potential for knowledge and learning
The programme will promote knowledge and learning of stakeholders through the following activities:
- Support training on
  - Best practices on agroforestry systems on coffee production, cacao as well as yam, citrus, banana and avocado for more income generation
  - Through Farmer Field School approach for youth
  - New and supplementary activities such as small livestock and horticulture, especially for women and youth to access more financial resources
- Creation of a website
- Knowledge exchange between watershed committees
- Implement organic certification in order to obtain higher selling prices
- Set up partnerships to research technical, environmental and socio-economic mid-term implications of agroforestry systems in the selected regions of the programme

The programme will not only generate knowledge share at the local and national level, but also generate direct synergies with Dominican republic through the ISA training proposal (output 1) and trough international exchange with Latin-American cooperatives and agroforestry systems, and international researchers from CATIE and CIRAD.

Contribution to the creation of an enabling environment
The programme will provide an enabling environment for climate change adaptation and mitigation. Institutional capacity will be strengthened on climate change for key ministries including MARNDR, MDE and CIAT to ensure they are aware of the best practices and how to promote them. Training will be provided on how to monitor and evaluate the programme’s interventions as well as resources will be invested in equipment to treat data M&E system. Skills and means of the CIAT and MDE will be strengthened to serve as a research platform, documentation and dissemination on agroforestry practices. In addition, under Output 2, municipalities will build their capacity to promote a participatory process within watershed committees and watershed management.

The programme also contributes to creating an enabling environment by creating mechanisms for participatory land use planning, as well as structures through which producers can access markets more sustainably and on a more equitable basis. The program also creates an enabling and risk reducing environment through the promotion of rural credits and access to rural finance, which will help mobilize continuous inputs into the agricultural value chains.
### D.3. Sustainable development potential [Potential to provide wider development co-benefits]

The program expects to create the following benefits:

**Socio-economic co-benefits**

For all targeted households, the program will generate increased income of at least 25%. This increase will provide communities with the ability to engage in savings and to invest in productive activities. This will promote both reduced vulnerability as well as local economic growth (SDG 8). By strengthening access to productive assets (natural assets and infrastructure), as well as by promoting access to markets and better prices, the program expects to create conditions for lasting growth among targeted beneficiaries. It is also expected that the combined results of program interventions will lead to a 30% increase in quantity and quality of food available, including diversification of household diets through the production of vegetables, fruit trees and small livestock within the broader agro-forestry landscape. This will help reduce male out-migration, while creating rewarding local employment opportunities for young men and women, through the professionalization of the agricultural profession. It is also expected that at least 10,000 households will see their access to water increased, including during droughts, and that vulnerability to floods, flash floods, landslides will dramatically decrease thanks to the implementation of anti-erosion and water management measures.

This reduced vulnerability will allow communities to begin reinvesting in their productive assets, including acquisition and development of professional agri-food processing at local level, which will create additional economic value locally. Reduced vulnerability also allows for households to attend to other needs, including sanitation, education, and improved health and safety. Better nutrition will help reduce the disease burden for communities, in particular for women and children.

**Gender-sensitive development impact**

The programme will target at least 30% of women to participate and benefit from all interventions. In particular it will increase their participation in credit allocation for agroforestry production, in horticulture and livestock activities managed more generally by women. Women will also benefit from a better access to water and wood thanks to the different infrastructure and forestry plantations developed by the programme. The programme will not only ensure a direct impact on socio-economic benefits for rural women in particular, but also at the empowerment level. Women will be trained and accompanied by a gender specialist hired by the programme, to ensure their stronger participation at all level in the different organizations and institutions linked with the program (as farmers leaders, technicians, elected...)

### D.4. Needs of recipient [Vulnerability to climate change and financing needs of the recipients]

Examples of the issues include the following:

- Level of exposure to climate change

The level of exposure to climate risks is extreme in Haiti, the most extreme in Latin America with the lowest indices (CAF, 2014) associated with none capacity of response. The agricultural sector’s vulnerability to climate change can be observed through the following factors:

- The temperature increase (around +1.5°C in priority areas by 2050) affects flowering and photosynthesis
- Storms, hurricanes and strong winds affect harvest and plantations
- Water regime and precipitation changes (increasingly unreliable rainfall, flooding events and prolonged droughts) impact flowering but also diseases and infections on coffee plantation include root rot, berry borers and coffee leaf rust for instance.

All three selected sites exhibit high ecological vulnerability, which is the result of inadequate management of mountain ecosystems. Upland humid areas have been increasingly deforested for agriculture and food production. This deforestation was accelerated by the collapse of coffee prices in the 1970s, but also by the development of the timber industry (pines, oak, mahogany...) dedicated for the construction and more accessible thanks to the development of the road network. Soil erosion of mountains appeared quickly after deforestation due to the uneven relief combined with heavy rainfall and created formed into channels that turned into gullies providing an outlet for

---

23 The amended Article 17.1 of the 1987 Constitution states that a quota of at least 30% of women should be applied at all levels of society in Haiti, including public services.
floodwaters to flow. This is the case for the Baptiste Plateau in the central Plateau, as well as for the buffer slopes in the Forêt des Pins in Thiotte.

The low vegetation cover remaining and the uneven relief combined with climate change impacts have led to an accelerated degradation of agricultural fields and reduced water resources, gradually decreasing agricultural productivity garden plots.

Haiti is considered among the most vulnerable countries to climate change. Its vulnerability arises both from high exposure to climate and weather extremes, such as hurricanes, cyclones, storms, and from topography (severe runoff, high evapotranspiration, altitudes and sloping terrain). One of the root causes of vulnerability is also the extreme poverty in which much of the Haiti population continues to live, particularly in some rural areas, with low access to productive assets and the decline of agricultural livelihoods. The focus on short-term basic needs among poor populations leads to unsustainable natural resource use practices, mainly deforestation and slash-and-burn agriculture, which aggravates the fragility of the ecosystem and creates conditions for severe vulnerability of both natural systems and populations.

Political instability has also undermined the ability of local communities, governments and farmer organizations to engage in sound governance of natural resources. Lack of human capacity, low levels of available financial resources for governments, in particular in the environment sector, and outdated technical skills among technical staff also means that local communities do not have access to adequate knowledge for agriculture. Weak governance systems and lack of access to capital also prevent the private sector from investing into commercial activities, which leads to an under-professionalized agricultural sector that systematically under-performs and does not provide adequate prices and livelihoods to those who engage in it.

- Needs for strengthening institutions and implementation capacity
  - Low human resource and material at institutional national level and local level (inexistent in some areas), especially for ministry of environment, and more drastically at local level (arrondissement and municipalities)
  - Low infrastructures, especially after the earthquake of 2010
- Does the country have a fiscal or balance of payment gap that prevents from addressing the needs?
  Yes, as 50% of the budget of State comes from international aid (IABD, 2014) and in particular for the agricultural sector, the MARNDR and CIRAD estimate that 75% of the investments are provided by international aid.

The proposed project is fully aligned with national priorities for development, as well as climate and adaptation and mitigation objectives. The project is aligned with the National Strategy for Poverty reduction and growth (DSNCRP), which includes objectives to:
- Improve environmental governance at all decision making levels;
- Reduce environmental vulnerability of the poor and adapt to climate change;
- Improve city planning in terms of environmental issues;
- Establish integrated water resources management at the watershed level and in coastal zones;
- Reforest the country’s degraded land and deforested areas and seek a balance between the supply and demand for wood energy in the long-term at the national level;
- Combat land degradation and enhance sustainable management of biodiversity;
- Fight against all forms of pollution;
- Monitoring and evaluation of environment;
- Make the environment the centre of attraction for investment and business opportunities.

In January 2006, the GoH promulgated a framework decree on the management of the environment. It included many innovations including the identification of 9 national environmental priority issues around which policies, institutional mechanisms and social and economic measures were to be defined. This ordinance also proposed a National System for Environment Management for improved environmental management; however, these proposals have yet to be implemented.

The program is also consistent with priorities listed under the 2006 National Adaptation Program of Action (NAPA) and the National Adaptation Plan (currently under development), which identify mechanisms to adapt to climate change impacts and risks and includes a number of prioritized projects. In terms of land degradation, this program also supports the achievement of the...
objectives of the UNCCD, as embodied through the 2009 National Action Plan to Combat Desertification and the National Risk Disaster Reduction Plan.

The programme is consistent with Haiti’s NDC.

**Brief description of executing entities (e.g. local developers, partners and service providers) along with the roles they will play**

- MDE will be the lead executing partner, with a program team dispatched between MARNDR and MDE.
- Local authorities (municipalities) will be local coordinators, supported by technical assistance of specific local institutions (MARNDR), and recognized field operators as international aid and NGOs.
- Private sector and NGOs will be service providers for local activities related to construction of infrastructure and continuous support to direct beneficiaries.

**Stakeholder engagement process and feedback received from civil society organizations and other relevant stakeholders**

This program has been developed through a comprehensive program of consultations with local authorities. The MDE, envisaged as executive partner was included since first steps of the program design. Moreover, the envisaged co-manager of the program, the MARNDR focal point for this program participated in all consultations, which took place in all three project sites and involved the following stakeholders:

See section G below for further detail.

<table>
<thead>
<tr>
<th>D.6. Effectiveness and efficiency</th>
<th>Provide details of the below and specify other relevant factors (i.e. debt service coverage ratio), if available.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic and financial soundness and effectiveness of the proposed activities</strong></td>
<td>• The program expects to lead to 10 MCo2 in lifetime emissions reduction (calculated using IPCC guidelines). Based on current costings, this represents an estimated 3$ per CO2 eq (total investment cost/expected lifetime emission reductions).</td>
</tr>
<tr>
<td></td>
<td>• The program is leveraging 6 million Euros in co-financing, or 20%.</td>
</tr>
</tbody>
</table>

A thorough economic and financial analysis will be completed upon submission of the feasibility study, including analysis of the economic and financial rates of return with and without the Fund’s support.

**E. Brief Rationale for GCF Involvement and Exit Strategy**

**Rationale for GCF involvement**

The GCF’s support to adaptation and mitigation in Haiti is crucial for various reasons. First, the extreme vulnerability exhibited by the country has been aggravated recently by Hurricane Matthews, and climate change projections provide a dire picture of future conditions. Haiti being one of the poorest countries in the Americas, its economic situation, combined with long-term political uncertainties, prevent the government from acting efficiently to create the enabling conditions for addressing climate change. There is a severe shortage of funds for reinvesting in agricultural value chains that have been damaged by climate extremes and neglect, and many development partners have opted to focus their aid financing on immediate recovery efforts. However, the sustainable revitalization of the most economically promising agricultural value chains can provide a strong springboard for long-term resilience building, and investing in restoring the productive potential of Haitian ecosystems will provide multiplied adaptation and economic benefits in the long term.

As mentioned before, the economic analysis of the program shows that the leverage of the GCF involvement to the AKT program may lead to generate economic activities related to agroforestry system enhanced with the program support and the infrastructures developed. If the global program Internal rate of return is about 6% including all activities, the IRR, once the leverage of the program executed may reach about 10% (and increasing beyond project duration) that can be considered satisfactory to sustain economic activities, and even attract private sector.

The GCF involvement, indeed allows to extend the AFD involvement to integrated activities including agriculture, forestry and territory planning (“from the parcel to the region”), allowing multiplication of positive economic, social and environmental impacts.
Please explain how the project/programme sustainability will be ensured in the long run, after the project/programme is implemented with support from the GCF and other sources.

**Sustainability**

The sustainability of the program will be ensured thanks to the development of consolidated economic activities related to land use: production of wood, non timber forest products, etc.. The support of the program brought to the local economy should ensure a consolidation of supply chains and further extension of activities. Moreover, all these economic activities are environment friendly, contributing to preserve soils, and mitigate climate change through CO2 removal from atmosphere.

**Exit strategy**

This program builds on existing networks, supply systems, and most importantly on existing demand for sustainable agricultural products in order to alleviate poverty and create conditions for lasting resilience among vulnerable communities. The exit strategy is in-built in the programme’s components, which foresees the following:

- responsibilities for managing and governing natural resources will gradually be transferred back into municipal authorities responsibilities;
- Technical and institutional capacities within the key governmental stakeholders will increase to address climate challenges
- Technical support to producers and producer groups will also create local capacity to engage in productive activities, value addition and trade.
- Basic infrastructure will be rehabilitated and maintained so as to ensure continued access to markets and production sites
- The environmental resource base will also be restored, allowing for a gradual rebuilding of productivity.
- Knowledge and information will be disseminated through both official channels and through farmer-based extension networks, allowing for more spontaneous adoption of best practices.

**F. Risk Analysis**

Please describe the financial and operational risks and discuss mitigating measures.

Please briefly specify the substantial environmental and social risks that the project/programme may face and the proposed risk mitigating measures.

<table>
<thead>
<tr>
<th>Risk</th>
<th>Probability and Impact</th>
<th>Mitigation strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial Risks</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. There is a risk that credits and rural finance provided to local farmers may not be sufficient to allow communities to rebuild assets. There is also a risk of low repayment rates.</td>
<td>The program will support through FFS and other technical capacity building, financial literacy education, as well as the management of credit structures by local organizations. The notebooks distributed to producers, as well as the Cooperatives’ role in backstopping rural finance instruments, will assist in reducing the risk of low repayment rates.</td>
<td></td>
</tr>
</tbody>
</table>

| **Operational Risks** | | |
| 1. There is a risk that municipal governments may not have the resources to continue to maintain the governance approaches promoted by the project. | The program will work with the government at all levels to ensure that, by the end of the project, budgets are allocated with public resources for watershed management. The program will also assess the long-term recurring costs of governance systems for IWM so as to better inform policies for decentralization. | |
| 2. There is a risk that coffee and cacao prices will fluctuate, creating possible incentives or disincentives for production. | The program will work with the MARNDIR to institute a system for price watching, and will work with cooperatives to assess prices on the national, regional and global markets, in order to better target |
production, to manage demand where feasible, and to provide producers with timely information on prices. The program will also work with cooperatives to create production cost savings through bulking and supply management, and to access niche markets, such as for organic, low carbon or fair trade products.

Environmental Risks

1. There is a risk of severe climate events, with associated damages to productive landscapes.

   The program is embarking on an ambitious plan to restore environmental protection services as provided by forests, healthy watersheds, and anti-erosive measures. These are expected to generate significant benefits in terms of protection of local communities. However, until restoration is complete, communities will continue to be at risk. During this time, the program will work with disaster risk management authorities to reduce risks and to mitigate any possible disasters.

Socio-economic Risks

1. There is a risk that land tenure uncertainty can create obstacles to program implementation or conflict around land uses.

   The program will undertake preliminary studies and participatory watershed planning exercises to ensure that all land owners are clearly identified and participate in the definition of interventions. Cultivation of a plot of at least 1/6 ha. (1,600 m²) in perennial crops Plots must have property titles or, in the case of legally undivided land, have been cultivated for at least the previous 10 years by the occupant Beneficiary plots cannot be located within core zones of protected areas.

G. Multi-Stakeholder Engagement

Please specify the plan for multi-stakeholder engagement, and what has been done so far in this regard.

The activities to engage with stakeholders were conducted as part of the feasibility study in July and August 2016, to provide an opportunity for stakeholders to express their views and concerns about the programme. Different stakeholders have been engaged to, not only inform the preparation of the AKT programme, but also to take into account their experiences and comments, and discuss their possible participation in the implementation. Another mission at the end of September 2016 was organized to review progress and present a preliminary logical framework to AFD during a one-day workshop with local line ministries, other donors and NGOs.

In order to integrate a gender-sensitive approach, two focus groups per zone and in-depth semi-structured interviews were conducted between August 12 and 31st, 2016, with members from the coffee value chain, members of women organizations, youth groups, local elected officials and landowners.

The following table presents the stakeholder engagement activities that have been conducted to date.

Meetings held with various stakeholders in Haiti in July, August and September 2016:

- **Central administration**

<table>
<thead>
<tr>
<th>Date</th>
<th>Institutions</th>
<th>Sujets</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 juillet 2016</td>
<td>MDE, MARNDR, FAMV</td>
<td>Mission de cadrage</td>
</tr>
<tr>
<td>09 août 2016</td>
<td>SYFAAH</td>
<td>Problématique du Crédit agricole</td>
</tr>
<tr>
<td>17 août 2016</td>
<td>Cabinet MDE</td>
<td>Présentation du Programme AKT,</td>
</tr>
</tbody>
</table>
18 août 2016 Direction INCAH, Direction Production Végétale du MARNDR, Spécialiste café RESEPA, Direction de l'Innovation du MARNDR, Direction SYFAAH Présentation du programme AKT; échange sur éventuelle participation dans la mise en œuvre

18 août 2016 Direction Générale MDE Présentation du Programme AKT

29 septembre 16 CIAT Mission de cadrage, échanges d'informations

### Departmental administrations

<table>
<thead>
<tr>
<th>Date</th>
<th>Institutions</th>
<th>Sujets</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 août 2016</td>
<td>EMAD</td>
<td>Fonctionnement EMAD</td>
</tr>
<tr>
<td>13 août 2016</td>
<td>DDA Nord</td>
<td>Échange téléphonique sur la problématique du café dans le nord Information sur le programme AKT et sur le Fonctionnement du CFAIM</td>
</tr>
<tr>
<td>18 août 2016</td>
<td>DDA de la Grande Anse</td>
<td>Programmes en cours dans le Nord, Problématique du café Information sur le programme AKT</td>
</tr>
</tbody>
</table>

### Municipal administrations

<table>
<thead>
<tr>
<th>Date</th>
<th>Institutions</th>
<th>Sujets</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 août 2016</td>
<td>BAC</td>
<td>Problématique café, fonctionnement BAC</td>
</tr>
<tr>
<td>12 août 2016</td>
<td>BAC, Mairie de Dondon,</td>
<td>Problématique café, Vulnérabilité, Mesures de Protection de l'environnement</td>
</tr>
<tr>
<td>13 août 2016</td>
<td>Mairie de Plaisance</td>
<td>Problématique café, Vulnérabilité, Mesures de Protection de l'environnement</td>
</tr>
<tr>
<td>14 août 2016</td>
<td>Responsable ferme de Baptiste</td>
<td>Fonctionnement de la ferme, Information sur le Programme AKT</td>
</tr>
<tr>
<td>15 août 2016</td>
<td>Responsable cartel communal de Baptiste INCAH-Baptiste, Mairie de Thiotte</td>
<td>Problématique café, Vulnérabilité, Mesures de Protection de l'environnement</td>
</tr>
<tr>
<td>16 août 2016</td>
<td>Mairie de Beaumont</td>
<td>Problématique café, Vulnérabilité, Mesures de Protection de l'environnement</td>
</tr>
<tr>
<td>17 août 2016</td>
<td>Mairie de Pestel</td>
<td>Problématique café, Vulnérabilité, Mesures de Protection de l'environnement</td>
</tr>
<tr>
<td>31 août 2016</td>
<td>Juge de Paix</td>
<td>Problématique café, Vulnérabilité, Mesures de Protection de l'environnement</td>
</tr>
</tbody>
</table>

### International agencies

<table>
<thead>
<tr>
<th>Date</th>
<th>Institutions</th>
<th>Sujets</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 juillet 2016</td>
<td>AFD</td>
<td>Mission de cadrage Paris</td>
</tr>
<tr>
<td>26 juillet 2016</td>
<td>AFD, UE</td>
<td>Mission de cadrage Haïti, Échanges d'information</td>
</tr>
<tr>
<td>27 juillet 2016</td>
<td>Ambassade de France, BID, J/PHRO</td>
<td>Mission de cadrage</td>
</tr>
<tr>
<td>09 août 2016</td>
<td>AFD</td>
<td>Organisation générale de la mission de terrain + dialogue sur le thèmecrédit</td>
</tr>
<tr>
<td>18 août 2016</td>
<td>DID / FADQDI</td>
<td>Financement de la régénération des systèmes agroforestiers</td>
</tr>
<tr>
<td>18 août 2016</td>
<td>PNUD, PNUE</td>
<td>Informations sur les Programmes en cours et sur le Programme AKT</td>
</tr>
<tr>
<td>Date</td>
<td>Institutions</td>
<td>Sujets</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>19 août 2016</td>
<td>Ambassade du Canada, IICA</td>
<td>Informations sur les Programmes en cours et sur le Programme AKT</td>
</tr>
<tr>
<td>20 août (et 28 septembre 2016)</td>
<td>Ambassade de France (et autres agences)</td>
<td>Cadrage (et Restitution de la mission de terrain)</td>
</tr>
</tbody>
</table>

**NGOs**

<table>
<thead>
<tr>
<th>Date</th>
<th>Institutions</th>
<th>Sujets</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 juillet 2016</td>
<td>AVSF</td>
<td>Mission de cadrage, Échanges d'information</td>
</tr>
<tr>
<td>09 août 2016</td>
<td>AVSF</td>
<td>Séance de travail sur le crédit</td>
</tr>
<tr>
<td>09 août 2016</td>
<td>PNPCH</td>
<td>Crédit agricole</td>
</tr>
<tr>
<td>09 août 2016</td>
<td>HaitiPrendRacines</td>
<td>Information sur l'initiative Haiti Prend Racines et sur le Programme AKT</td>
</tr>
<tr>
<td>10 août 2016</td>
<td>AFDI, AGRISud, AVSF Nord,</td>
<td>Présentation Programmes renforcement organisationnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Présentation Programme Aménagement Bassin versant Limbé</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Programme Korekafé dans le nord</td>
</tr>
<tr>
<td>12 août 2016</td>
<td>AVANSE</td>
<td>Programmes en cours d'exécution et information sur le Programme AKT</td>
</tr>
<tr>
<td>14 août 2016</td>
<td>GIZ-Thiotte</td>
<td>Programme binational sur Protection de la forêt;</td>
</tr>
<tr>
<td>16 août 2016</td>
<td>ACTED</td>
<td>Programmes en cours d'exécution et information sur le Programme AKT</td>
</tr>
<tr>
<td>17 août 2016</td>
<td>AVSF</td>
<td>Bilan des actions sur le café (Korekafé, Korejaden2)</td>
</tr>
<tr>
<td>17 août 2016</td>
<td>OXFAM</td>
<td>Programmes en cours d'exécution et information sur le Programme AKT</td>
</tr>
<tr>
<td>18 août 2016</td>
<td>Université de la Grande Anse</td>
<td>Programmes en cours d'exécution et information sur le Programme AKT</td>
</tr>
<tr>
<td>20 août 2016</td>
<td>LWR</td>
<td>Programmes en cours d'exécution et information sur le Programme AKT</td>
</tr>
<tr>
<td>20 septembre 16</td>
<td>HEVETAS</td>
<td>Échanges d'informations sur le Programme</td>
</tr>
<tr>
<td>21 septembre 16</td>
<td>Indépendant</td>
<td>Échanges d'informations sur le Programme</td>
</tr>
<tr>
<td>23 septembre 16</td>
<td>AVSF</td>
<td>Commentaires sur le Programme, Échanges d'informations</td>
</tr>
</tbody>
</table>

**Farmers organizations**

<table>
<thead>
<tr>
<th>Date</th>
<th>Institutions</th>
<th>Sujets</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 août 2016</td>
<td>RECOCARNO</td>
<td>Information, Coordination</td>
</tr>
<tr>
<td>11 août 2016</td>
<td>CAgava, Agriculteur, COOPACVEG,</td>
<td>Fonctionnement de la coopérative, Problématique Café, changement climatique et vulnérabilité</td>
</tr>
<tr>
<td>12 août 016</td>
<td>AFGA (Groupement de femmes), CAFAVA (groupement de jeunes, Chambres agricoles de Dondon, KKKLD, RECOCARNO, FECCANO</td>
<td>Fonctionnement de la coopérative, Problématique Café, changement climatique et vulnérabilité Filière cacao</td>
</tr>
<tr>
<td>13 Août 2016</td>
<td>Coopératives KPKP, COPVOCH, SCAD</td>
<td>Fonctionnement de la coopérative, Problématique Café, changement climatique et vulnérabilité</td>
</tr>
<tr>
<td>14 août 2016</td>
<td>UCOCAB, Agriculteurs, COOPCAB</td>
<td>Financement, Crédit</td>
</tr>
<tr>
<td>15 août 2016</td>
<td>Coopératives COAL, NCOCABA, CAB, Association des femmes de Baptiste,</td>
<td>Fonctionnement de la coopérative, Problématique Café, changement climatique et vulnérabilité</td>
</tr>
<tr>
<td>16 août 2016</td>
<td>COOPECLAS de Savanette, UCAB de Beaumont</td>
<td>Fonctionnement de la coopérative, Problématique Café, changement climatique et vulnérabilité</td>
</tr>
<tr>
<td>17 août 2016</td>
<td>Organisations paysannes de Pestel, RECA, Jeunes de Beaumont, spécialiste en qualité café</td>
<td>Information sur le Programme AKT, Problématique dégradation environnement et disparition du couvert caféier, vulnérabilité, genre</td>
</tr>
<tr>
<td>18 août 2016</td>
<td>Groupes de femme de Pestel, Coopérative COCAMA</td>
<td>Genre; Cacao</td>
</tr>
</tbody>
</table>
29 août 2016  |  Groupe de femme MOFAB, UPAB  |  Genre
30 août 2016  |  APCAB, UJDT  |  Fonctionnement de la coopérative, Problématique Café, changement climatique et vulnérabilité
31 août 2016  |  CMIA, "Ougan",  |  Fonctionnement de la coopérative, Problématique Café, changement climatique et vulnérabilité

- **Trade actors**

<table>
<thead>
<tr>
<th>Date</th>
<th>Institutions</th>
<th>Sujets</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 août 2016</td>
<td>NOVELLA</td>
<td>Information sur le Programme AKT, Échanges sur la chute du café et le changement climatique,</td>
</tr>
<tr>
<td>15 août 2016</td>
<td>EntrepriseEspacevert</td>
<td>Visite Pépinière</td>
</tr>
<tr>
<td>20 août 2016</td>
<td>UPAB- REBO</td>
<td>Fonctionnement de la coopérative affiliée à REBO, Problématique Café, changement climatique et vulnérabilité</td>
</tr>
</tbody>
</table>

**H. Status of Project/Programme**

1) A pre-feasibility study is expected to be completed at this stage. Please provide the report in section J.

2) Please indicate whether a feasibility study and/or environmental and social impact assessment has been conducted for the proposed project/programme: Yes ☐ No ☐
   *(If ‘Yes’, please provide them in section J.)*

3) Will the proposed project/programme be developed as an extension of a previous project (e.g. subsequent phase), or based on a previous project/programme (e.g. scale up or replication)? Yes ☐ No ☐
   *(If yes, please provide an evaluation report of the previous project in section J, if available.)*

**I. Remarks**

**J. Supporting Documents for Concept Note**

- Map indicating the location of the project/programme
- Financial Model
- Pre-feasibility Study
- Feasibility Study (if applicable)
- Environmental and Social Impact Assessment (if applicable)
- Evaluation Report (if applicable)
Annex I: Map Indicating the Location of the Project

Annex II: Pre-feasibility Study
See attached document

Annex III: Indicative Timetable