PLAN VIVO
For nature, climate and communities

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Sembrando Futuro

Dominican Republic

Developed by:

Taking Root

FLORESTA
PLANTANDO PARA EL FUTURO

Contents

Overview

Project	Sembrando Futuro
Location:	Country: Dominican Republic Province: Monte Plata
Project Coordinator and Applicant Organization:	*Name: Kahlil Baker, PhD* Title: Chief Executive Officer Organization: Taking Root Email: kahlil@takingroot.com
Project Area:	The project will be implemented in the Monte Plata Province, with an initial focus on the Upper Ozama and Yamasa watersheds. The first planting wave, in 2024, of potentially retroactively certifiable land will include approximately 200 – 300 hectares of land. The project will aspire to scale up to approximately 1,300 hectares in the medium term (within 5-years). The long-term goal is to expand into a larger-scale, multi-province smallholder carbon project over the next 10 years.
Project Participants:	The project will initially target ~ 140 smallholders for the first planting wave. In the medium term, we expect to scale up to ~700 smallholders.
Project Intervention(s):	This project promotes ecosystem restoration at the watershed level through adopting agroforestry practices (cacao) with smallholders on underutilized portions of their farmland.
Expected Benefits	• Increased carbon sequestration on a per hectare basis • Increased smallholder access to resources • Increased forest cover to protect critical watersheds • Increased total farm productivity (cacao, fruits) • Increased smallholder income • Increased food security • Increased biodiversity on farms • Decreased vulnerability to climate change • Increase in gender equality
Methodology:	The project estimates all climate benefits using modules and tools that align with the Plan Vivo Methodology: PM0001 - Agriculture and Forestry Carbon Benefit Assessment Methodology. Specifically, the project uses module PU0001 for baseline emissions estimation, PU004 for leakage estimation, PU005 for uncertainty estimates, and PT003 for estimating future stand carbon sequestration.
PIN Version:	V2.0
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1 General Information

1.1 Project Interventions

Table 1.1 – Project Interventions

Intervention	Environmental Benefits	Livelihood Benefits
Ecosystem Restoration: Establishing Cacao-Agroforestry Systems on underutilized portions of smallholder lands.	**Carbon Benefits:** The selection of native hardwoods significantly contributes to additional carbon storage through increased below and aboveground forest biomass. **Water Co-benefits:** Increased tree root network and canopies improve the soil's water retention capacity, decreasing stormwater volumes, and subsequent soil loss, and increasing groundwater reserves. This in turn mitigates landscape and farmer vulnerabilities from droughts, landslides, and wind erosion. **Soil Co-Benefits:** Organic matter originating from tree vegetation contributes to heightened nutrient absorption and microbial diversity which improves soil health. **Biodiversity Co-Benefits:** Planting cacao trees (*Theobroma cacao*) alongside diverse tree species on farmlands enhances biodiversity, benefiting birds, insects, and other wildlife. The hardwoods in the designs are native species (*Swietenia macrophylla* and *Cedrela odorata*) that support bees during flowering season and provide habitat for endemic bird species like the carpenter (*Malenerpes striatus*). Fruit trees also offer food and nesting for birds. This increased faunal diversity promotes seed dispersal, pollination, and pest regulation, ultimately boosting farm yield and resilience.	**Economic Benefits:** Smallholders benefit from increased revenue through (i) carbon credit revenue sharing, (ii) increased cacao yields, and (iii) an extended cropping season. This is achieved through multi-strata planting in functional groupings (annual crops like corn, yucca, plantains and woody perennials). Project participants will establish cacao agroforestry systems on underutilized portions of their land, planting cacao alongside hardwoods and a choice of three types of fruit crops (avocado, zapote, and agria orange) based on their preferences and local farming context and market demands. **Risk Reduction Co-Benefits:** The hardwoods buffer crops from rising temperatures and extreme weather, thus improving agricultural resilience and preventing large yield declines.

1.2 Project Boundaries

Table 1.2 Project Boundaries

Location:	Country: Dominican Republic
Project Region	Monte Plata Province
Project Area(s)	The project is located in the Monte Plata Province (2.603 km2). Initially, the focus will be on two watersheds - Upper Ozama (237km2) and Yamasa (98km2) - spanning a total area of 335 km2 in the border region with Province Monseñor Nouel. In the medium-term, we expect to include the Bermejo and Guanuma watersheds, located east and southeast respectively, towards the provincial capital, Monte Plate City. The Ozama and Yamasa rivers originate from the Sierra de Yamasa low-lying mountains, with Loma los Siete Picos (856 m.a.s.l) as a prominent peak. The municipality of Yamasa is located at the foothills of the mountain range. Both watersheds provide vital water-regulating systems and services for populations in the Monte Plata Province and the Capital District of Santo Domingo.
Protected Areas	There are multiple protected areas surrounding the watersheds, with the National Park Loma los Siete Picos having overlap with the Upper Ozama watershed. Other protected areas of note in the project region are the Humedales de Ozama and the Sierra Prieta.

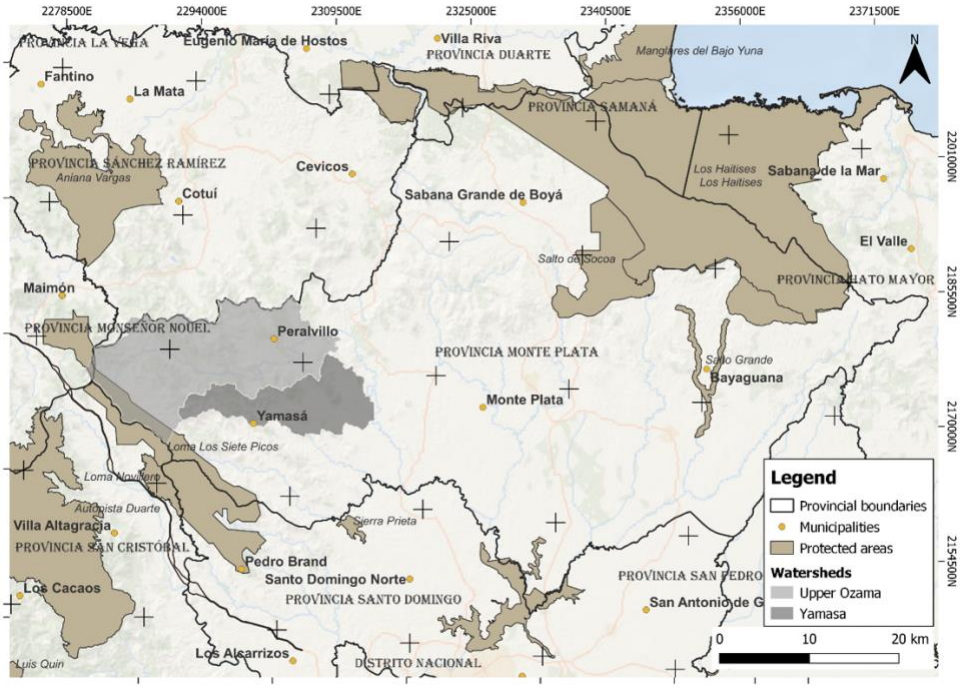


Figure 1. Map of initial project areas within the Monte Plata Province, showing the two watersheds (Upper Ozama and Yamasa), as well as protected areas, rivers, and streams.

1.3 Land and Carbon Rights

The project will work with smallholders who possess valid documentation to prove land tenure. This is critical as in the Dominican Republic, carbon rights are associated with land ownership (see Section 4.2 for the relevant national laws).

An initial survey of smallholders in the project region suggests that 60% possess land title documentation in the form of a sales contract and registration of their land with a local authority.

The lack of land titles in rural areas is a widely acknowledged problem in the Dominican Republic. Registering property rights for rural populations is a component of the country's national development strategy (MMARN, 2019). The Dominican Agrarian Institute, a decentralized entity that is overseen by the Ministry of Agriculture, currently issues provisional titling for smallholders who have demonstrated attachment to their farming plots and a willingness to use them for their benefits and that of their families (IAD, 2021). However, provisional titling is progressing slowly. According to sources from local municipalities and Floresta Incorporada staff consulted during the feasibility study phase, it can take individual farmers several years to obtain provisional titling. Furthermore, the costs and bureaucratic hurdles of seeking titling registration and visiting registration offices in distant towns and the capital, Santo Domingo, make it impractical for rural populations (FCPF, 2019). Considering this context, in the absence of formal tenure documents, the project is currently considering a range of acceptable documentation to prove land title, including:

- **Private Deed**: Has a sales contract certified by a lawyer
- **Public Deed**: Has the property registered with the local municipality (e.g. a provisional cadastre administered by a local governing authority)
- **Assignment of Rights ('Cesión de Derechos')**): Has a private or public deed in the parents' name and legal contract assigning the use of the farm, or at least the area to be included in the carbon project.
- **Promise of Sales Agreement**: Has a binding contract to purchase the land (only acceptable if there are clear indications that the sale is about to happen).

2 Stakeholder Engagement

2.1 Stakeholder Identification

Stakeholder	Category	Considered vulnerable group (Y/N)	Relationship with the Project	Engagement
Smallholder farmers	Local Stakeholder	Yes	They are the project participants that establish cacao agroforestry systems on underutilized portions of their land	Involvement through the project intervention (PES agreements, technical assistance, labour support)
Community Savings Groups	Local Stakeholder	Yes	Will provide a gateway and entry point to recruit participants and practise community-led project design	Are engaged during recruitment (project expansion into new regions) in some project areas, especially during initial years of the project
Women farmers	Local Stakeholder	Yes	Female heads of households (e.g. widows, single mothers) that have inherited land, and seek opportunities to diversify their farming economies through agroforestry	Involvement through the project intervention (PES agreements, technical assistance). Expected to be positively influenced by the training and seasonal labour support that is routinely offered by the project
Non-farming community members	Local Stakeholder	Yes	Are given access to training and employment opportunities in project-owned	Involvement through seasonal employment in project operations

			nurseries and during planting season	
Government (Ministry of Environment, Consejo Nacional Cambio Climatico)	Secondary Stakeholder	No	Are consulted to ensure that the project meets relevant national policy and legislation and avoid double counting of emissions reductions benefits	Involvement through legal and regulatory processes
Industry (e.g. CONACADO, CIRAD, Harvard Fine Cocoa and Chocolate Institute, UNDP DR)	Secondary Stakeholder	No	Knowledge exchange and consultations to stay informed on best practices in cacao agroforestry systems and cacao markets	General information exchange (e.g. reports, case studies, research) through meetings, webinars and conferences

2.2 Project Coordination and Management

Organization	Relevant Experience	Roles and Responsibilities
Taking Root (Vancouver, Canada)	Taking Root is an experienced Plan Vivo project developer working towards accelerating the restoration of the world's forests by growing trees with smallholder farmers. Taking Root's flagship project, the CommuniTree Carbon Program, is Nicaragua's largest reforestation initiative and one of the leading Plan Vivo projects, for carbon credits with over 4 million saleable PVCs issued from the program to date. Taking Root's model unlocks forest restoration with smallholder farmers at scale by combining community-led practices with its innovative technology platform to track, manage and verify impact with thousands of farmers. Taking Root's approach has gained recognition from the UN, EU, and World Economic Forum.	Project Coordinator and Applicant Organization: • Development of planting designs and silvicultural interventions in collaboration with smallholders and Floresta Incorporada • Carbon calculations • Plan Vivo Standard compliance • Technology and training delivery • Coaching for milestones and growth targets • Carbon credits sales • Revenue transfer to project participants
Floresta Inc. (Piedra Blanca, Dominican Republic)	Floresta Incorporada (hereafter referred to as 'Floresta') works with populations in conditions of poverty to improve smallholder livelihoods and promote sustainable land use at the watershed level. Floresta is well-known in rural farming communities in the Monte Plata Province, as the organisation has been active for over 30 years. In the beginning, Floresta positively contributed to smallholder agriculture through environmental education. Over the years, Floresta transitioned its focus to tree planting and regenerative agriculture with smallholders, expanding its operations across multiple	Local Implementor: • Management of all ground operations • Participant recruitment, training and support • Management of central nurseries • Monitoring farmer project interventions • Carbon monitoring using Taking Root's technology platform • Administration of farmer payments

	watersheds.	
Plant With Purpose (San Diego, United States)	Plant With Purpose (PWP) is a non-profit organization with an international focus, currently operating its signature watershed model across eight countries where autonomous alliance partners support savings groups in farming communities and engage them in reforestation and sustainable land use. Floresta is PWP's autonomous alliance partner in the Dominican Republic.	PWP is the Project Partner and Advisor to Floresta, offering guidance, leadership, funding and programmatic support.

Floresta Feasibility Study:

Between September 2021 and March 2023, Taking Root and Floresta collaborated on a feasibility study to assess the potential to create a national-scale, nature-based carbon removal project, certified by the Plan Vivo Carbon Standard, in the Dominican Republic. During three field visits (Nov 2021, Nov 2022, Feb 2023), operative tasks such as Floresta's ability to recruit participants and conduct field monitoring were assessed, as well as administrative functions to roll out PES payments. A planting wave is currently slated for 2024, using a preliminary cacao agroforestry design, farmer eligibility criteria, and silvicultural activity schedule, which we may wish to certify retroactively. The parcels and farmers in this planting wave meet the criteria for land size, landscape features, and ownership that are targeted for this project.

Floresta's great reputation among smallholders and local authorities exceeded expectations. Central to Floresta's livelihood pillar are savings groups (500+ nationwide) formed to empower communities facing conditions of poverty. These groups facilitate savings and credit for their members. The savings groups provide a great entry point into communities for farmer recruitment. The savings groups also attest to Floresta's ability to work with the community and appropriately design how to handle impact payments and savings. In addition, savings groups may be able to be utilized to strengthen project participants' bonds to support one another in reforestation. Furthermore, Floresta's work at the watershed levels offers a good avenue for project scale-up beyond the initial project regions.

Floresta has appropriate human resources and labour forces but will require some capacity building, additional hiring, and technical training to implement the project with support from Taking Root. The local team exhibited a strong willingness to embrace novel tools and reinforce their workforce, providing reassurance for the successful implementation of target-driven recruitment strategies and meticulous planting designs within the framework of a certified carbon project. In terms of operational and administrative capacity, Floresta has appropriate infrastructure in place. Overall, it was determined that Floresta is well-positioned to carry out a certified Plan Vivo carbon project.

Table 2.2 Responsibility for Project Coordination and Management Functions

Project Coordination and Management Function	Principle Roles	Support Roles
Stakeholder engagement during project development and implementation	Floresta	Taking Root
Ensuring conformance with the Plan Vivo Standard and compliance with applicable policies, laws and regulations	Taking Root	Floresta
Developing technical specifications, land management plans and project agreements with project participants	Taking Root	Floresta
Ensuring that the PDD is updated with any changes to the project	Taking Root	-
Registration and recording of land management plans, project agreements, monitoring results, and sales agreements	Floresta	Taking Root
Managing project finances and dispersal of income to project participants as described by the benefit sharing mechanism	Taking Root	Floresta
Managing Plan Vivo Certificates in the Plan Vivo Registry	Taking Root	-
Preparing annual reports and coordinating validation and verification events	Taking Root	-
Securing certificate sales and other means of funding the project	Taking Root	-
Assisting project participants to secure any legal or regulatory permissions required to carry out the project	Floresta	Taking Root
Providing technical assistance and capacity building required for project participants to implement project interventions	Floresta	Taking Root
Monitoring progress indicators, livelihood indicators and ecosystem indicators and providing ongoing support to project participants	Floresta	Taking Root
Measurement, reporting and verification of carbon benefits	Taking Root	Floresta

2.3 Project Participants

The project participants are smallholders within the Ozama and Yamasa watersheds. Smallholders carry out project interventions on their private lands. Agriculture serves as a significant source of income and employment in the country. The sector contributes around 10% to the country's GDP since the mid- 2000s, the majority of which is generated by smallholders with an average farm size of 8 hectares (DR Agro Sector Report, 2023). Approximately 71% of smallholders cultivate farms smaller than 4 hectares (NBS, 2016). Considering this context, the project engages smallholders with an average of 8 hectares or less to participate in the program.

The participants are residents of economically vulnerable communities where Floresta has had several decades of presence offering social and environmental programming and services. Through Floresta's savings groups program, community members pool their savings and provide loans to each other for household expenses and business investments. Farmers are often members of these groups. They are restricted in cultivating underutilized portions of their land due to poor economies from their current land use model, known as 'ciclo corto,' ('short cycle), which prioritizes annual crops over more lucrative opportunities like cacao and fruit cultivation. Farmer participants in Floresta's network of savings groups are thus an entry point to the project, as the carbon project will offer a natural extension to the savings groups model and agroecology training and education offered by Floresta. As such, project participants will be recruited from two sources: Floresta's established network of (200+) savings groups that are autonomously run by local communities across the two watershed regions; and door-to-door canvassing and community meetings in new communities to attract new potential participants.

2.4 Participatory Design

Smallholders:

The project identifies participant smallholders as vulnerable groups within the local communities where activities will be implemented. Consequently, the project prioritizes participant engagement and inclusivity, ensuring that the design and operation of project activities are informed by their feedback. To enhance social inclusion, Floresta will promote the project among their existing savings groups, which follow a community-based and family-oriented approach. They will also explore how to involve project participants in savings groups.

Participatory design for the cacao agroforestry systems involves farmer field visits and surveys to gather input on tree species, following a long practice by Floresta to deploy digital surveying tools on a recurring basis with the purpose to continuously improve programming. For example, offering a group of fruit trees in the multi-strata cacao agroforestry design, instead of a fixed combination of species, directly reflects farmers' preferences for selecting trees suitable for their local markets amongst several options.

Women Farmers:

During community focus groups (see picture D), jointly held by Floresta and Taking Root, women farmers were identified as a local stakeholder group that stands to benefit especially from the current design of the agroforestry project, which emphasizes technical support, training, and access to temporary labour support for participants. In the groups, women identified themselves as heads of households (widows or single mothers) who inherited lands from their family and juggle domestic responsibilities alongside farming work, which restricts their ability to adopt more sustainable and lucrative farming systems such as cacao agroforestry. Their access to household labour is especially limited since the eldest children would often engage in paid employment to support the family livelihoods. The built-in technical assistance and seasonal labour support that the project will routinely offer to all project participants thus stands to especially benefit women farmers.

Non-Participants:

The project also incorporates specialized design considerations for cacao agroforestry establishment. These provisions include offering seasonal employment opportunities in project nurseries and during planting seasons to community members from non-farming households. This approach ensures the project extends economic benefits to the broader local community, beyond the direct farmer participants.

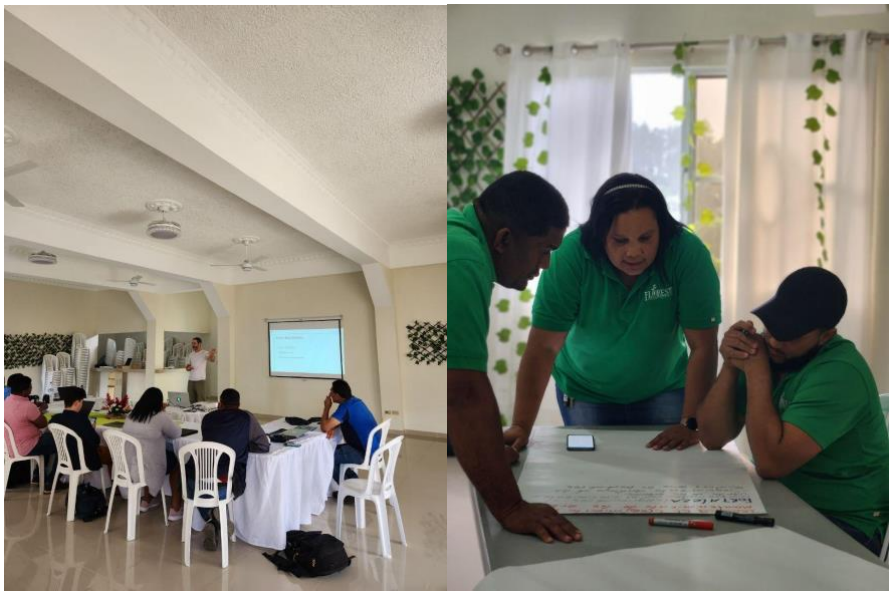
Secondary Stakeholders:

They are government (relevant ministries), as well as industry and research agencies. The former will be regularly engaged by Floresta and Taking Root via letters and meetings in regional offices and the Ministries in the capital city of Santo Domingo to ensure the project is meeting all relevant laws and regulations.

Industry stakeholders and research institutions (e.g. Harvard Fine Chocolate and Cacao Institute) and industry (e.g. CONACADO cooperative network) are also engaged through meetings and webinars, to ensure the project activities are based on the latest best practices in smallholder cacao agroforestry.

Picture A. Farmers showing their parcels and sharing thoughts on tree species selection

Picture B: Floresta team participation



Picture C. Floresta and Taking Root farmer Focus Groups (Current Land Use and Barrier Analysis)


Picture D. Project socialization and carbon training for Floresta field technicians

2.5 FPIC Process

The project will involve smallholder farmers who own their land. As such, the project will take special consideration and support to ensure that farmers can effectively understand and engage in project agreements and benefit from project opportunities, and a are given access to a grievance mechanism that is culturally appropriate and technologically accessible at any point.

The project will inform prospective participants of their rights and responsibilities, and tailor the signing of PES agreements to accommodate their individual circumstances. Smallholders will be introduced to the project in Spanish and can register by signing a Spanish PES agreement. This agreement will be verbally explained during community recruitment meetings and at the time of signing. It will outline project benefits, proceedings, and rules in the form of a silvicultural activity schedule that must be followed to trigger payments. The agreement will also detail the technical support and training offered to help complete the schedule successfully, emphasizing voluntary participation. PES agreements are co-designed with Floresta.

The project ensures accessibility by explaining materials and contracts verbatim for those with reading difficulties. Illiterate smallholders can have a household member as a signing witness. Smallholders will be given time to reflect before signing. Lastly, included in the PES agreement will be sections on data consent to ensure that participants know how their data will be utilized and stored and that they can withdraw consent at any time, as well as a detailed explanation of the project grievance mechanism.

A grievance mechanism is currently being developed for the project, based on Taking Root's proven protocol and tailored to the specific context of the project. The grievance protocol will be designed in the local language (Spanish) for members of the local communities where the project is active (participants and non-participants) to report social, economic, environmental, and cultural issues throughout the project cycle, ensuring timely, fair, and transparent resolutions. Pre-filled emails and project-specific web forms, accessible via QR codes, are examples of technology channels that are used in Taking Roots' projects, and which are subsequently distributed via awareness channels in the community (e.g. public posters, informational one-pagers pinned to central locations in the community, and explanations during meetings).

3 Project Design

3.1 Baseline Scenario

The Dominican Republic is a major producer and exporter of agricultural products, including sugar cane, tobacco, rice, bananas, and cacao. These products are principally grown by a large number of smallholders on eight hectares of land on average (NBS, 2016).

The smallholders in the project region participate in productive systems that involve a combination of subsistence crop production and local market sales (including staple crops like corn, yucca, beans, and vegetables) and livestock grazing (primarily cattle, but also goats and pigs). These systems are often based on unsustainable land-use practices - notably cutting down trees for domestic energy consumption and slash-and burn practices for annual crop rotation - which drive deforestation, soil erosion, and seter depletion, and undermine the ability of smallholders to adapt to the effects of extreme weather (Lloyd, 2019). The Global Climate Risk Index ranked the Dominican Republic as one of the countries that is highly vulnerable to the impacts of droughts, heat waves, and tropical storms and floods (Eckstein et al. 2019).

The country remains a promising cacao producer, even under future climate change scenarios (Bunn et al., 2019). There are ways in which smallholders can garner additional resilience in future climate scenarios. For example, shifting the focus toward agroforestry systems, where shade trees are grown among different niche (e.g., organic, fair trade, quality) products, can provide a buffer from climate extremes.

There is evidence that this shift is already underway. In recent years, the Dominican Republic has emerged as one of the world's foremost exporters of organic shade-grown cacao (Cacao Barometer, 2022). However, financial instability plus a lack of access to training and know-how are challenges that impede additional smallholders from adopting shade-grown cacao agroforestry on their farms.

The project will help to empower smallholders in the country's cacao agroforestry sector. The proposed project intervention will enable smallholders to improve crop outputs, farm ecology, income levels, and reduce their vulnerability to extreme weather events.

3.2 Livelihood Baseline

1. Smallholders

The population in the proposed project region are vulnerable rural families, with a living wage of USD 350/month or less (GLWC, 2022), whose incomes mainly depend on agricultural production for markets or self-consumption. Many grow annual crops like corn and beans (IFAD, 2017). Plantains and bananas are commonly intercropped with cacao, but declining cacao yields are a concern due to ageing plantations which are less resilient to extreme weather and disease events (Deheuvels et al., 2016).

After these events, smallholders often resort to clearing more land to compensate for lost production, further driving the cycle of deforestation and land degradation. Others turn to off-farm work, resulting in a reduction in the quality of diets and increased private debt to offset the costs of food, transportation, and lodging during labour migration (IFAD, 2017). These short-term actions hinder smallholders from building the resilient agroforestry parcels needed to withstand external shocks over the long term.

In addition, many remain unaware of agroforestry's potential for building resilience or do not have the skillset to implement these systems well. Some who try face difficulties by intercropping shade trees and cacao in poorly implemented systems that provide subpar yields and climate adaptation benefits (Burgess et al. 2022).

The project will provide intensive training and seasonal labour support for the implementation of multi-strata cacao agroforestry systems, planting cacao alongside hardwoods and fruit trees. This approach enables farmers to cultivate annual crops (such as corn, plantains, and yucca) while the woody perennials become established. Project field technicians will offer continuous technical support and supervision to ensure healthy and well-maintained crops, allowing farmers to achieve market benefits within a reasonable timeframe. Furthermore, Floresta's extensive experience in assisting and training smallholders in organic pest control and fertilizers will enable farmers to produce high-quality crops. Thus, over the medium to long term, through the agroforestry systems, participants will enhance their livelihoods through the sale of high-value agroforestry (fruits, cacao) products. Ultimately, participants will benefit from more resilient and diversified farming landscapes in a changing climate.

2. The Savings Groups

Local populations in the project region voluntarily participate in Floresta-supported, self-managed savings groups. These groups typically consist of 20-30 self-selected members (smallholders and landless rural workers) who convene regularly to engage in savings and loans activities and study practices to improve their local farming economies.

The savings groups empower its members to self-facilitate savings and credit and foster the creation of rural microenterprises. By 2022, Floresta had given start-up training and technical support to 200+ savings groups across the Monte Plata Province. Although the savings groups have created micro-enterprises, up until now they have not been leveraged to directly increase the financial resilience of existing cacao farms. The Sembrando Futuro project will recruit some members of savings groups to be project participants and will also explore how to organize project participants into new savings groups or similar structures. Thus, through savings groups, the project will facilitate knowledge and financial resources, help members benefit by connecting them to more dynamic sectors (fruits, cacao), and create jobs in agroforestry landscapes that align with local community interests.

3. Women farmers

Women represent about 20% of smallholders in the Dominican Republic. They are primarily engaged in producing root crops and vegetables and participate in the sector as street and market vendors (UNDP, 2021). These income activities lack long-term security due to market demand volatility. In addition, many of these women are the heads of single-parent households. With reduced and less stable incomes, these households are more vulnerable to external economic fluctuations and extreme weather events.

Women farmers in the region face significant barriers to accessing sustainable farming systems like agroforestry, primarily due to limited finances and household labour. During focus groups the project identified widow farmers and single mothers who inherited land as a group that is expected to particularly benefit from the project activities. These women struggle to adopt more sustainable farming options, like cacao agroforestry systems, on underutilized land due to dual responsibilities of domestic chores and farming, while their eldest children typically provide household income. The project's design emphasizes intensive training, technical support, and seasonal labour assistance to participants. Women farmers stand to especially benefit from these built-in training and labour support components.

3.3 Ecosystem Baseline

Upper Ozama and Yamasa

The project will be implemented in the Monte Plata Province, initially encompassing the Upper Ozama and Yamasa watersheds that span 335 km2 within the project region.

The region mainly features subtropical moist broadleaf forests (Hispaniolan Moist Forests). The Dominican Republic is important in bird biodiversity, with 34 endemic species and 21 Important Areas for Bird Conservation, including the Humedales de Ozama National Park (MMARN, 2012). The region features rainfall year-round. The annual wet season occurs between May and November. The average annual rainfall is 1,700 mm based on data from 1991-2020, and average temperatures range from 31 °C in the wet season and 29 °C in the dry season (Climate Change Knowledge Portal of the World Bank, 2024).

Approximately 48% of the area within and around the Upper Ozama and Yamasa watersheds is used for agriculture (MMARN, 2012). Although the Dominican Republic has made some progress in controlling deforestation for timber extraction, recent studies indicate that forests are increasingly threatened, with substantial degradation occurring in the country's upper watersheds due to agricultural expansion (FCPF, 2019). Large-scale cattle farming and slash-and-burn practices for annual crop rotations on smallholder lands are the primary drivers of deforestation in the watershed region. Both watersheds are crucial agricultural growth areas, with legal and policy focus directed toward intensification and export markets. However, there are no policy measures outside protected areas to curb deforestation resulting from agricultural expansion.

The Ozama River and watershed are also major sources of water supply for population centres in the Monte Plata and the capital region of Santo Domingo. Hydroelectricity dams are part of a water management system in the project region and are known to divert water from local river basins that serve smallholder farmers toward agricultural industries and population centres. These diverted water quantities, coupled with the removal of tree cover on smallholder lands, leave farmers extremely vulnerable to climate extremes such as droughts. Intensive crop rotation and tree removal have led to significant soil erosion in the watershed region, where the removal of the topsoil layer, coupled with decreased soil water retention capacity, exacerbates pressures on smallholder farming economies. Without measures to accelerate reforestation, the Upper Ozama and Yamasa will continue to lose biodiversity from habitat loss and essential hydrological ecosystem services. Empowering smallholders through innovative agroforestry systems will increase forest cover and support the rehabilitation of ecosystems and habitat to protect these vital watersheds.

3.4 Project Logic

Table 3.4 Initial Project Logic

Aim		
The aim of the "*Sembrando Futuro*" project is to help smallholders transition to sustainable agricultural systems that will increase resilience to climate change, food and income security, farm productivity, and biodiversity, while indirectly addressing the drivers of deforestation. Taking Root, in collaboration with Floresta, co-developed a comprehensive plan to create a national-scale nature-based carbon removal project in the next 10 years, with the following sub-objectives (projection for the first 5 project years): • Implement cacao agroforestry on ~ 1,300 hectares of land belonging to ~ 700 smallholders • Diversify smallholder revenues to induce income security through the sales of carbon credits and agroforestry products (cacao, fruits). • Initial modelling indicates the potential to plant 128 hardwoods per hectare within the projected total planting area (~ 1,300 hectares), resulting in a net sequestration of approximately 374,925 tCO2 over a 20-year crediting period, including a 20% risk buffer. • Roll-out training and activity schedules for the successful implementation of project interventions and validate success via monitoring, using Taking Root's technology platform • Create new jobs for local populations in cacao agroforestry landscapes (e.g. nurseries, planting, tree maintenance)		
	Description	**Assumptions/Risks**
Outcomes – Intended overall project aim		
Carbon Benefit	Increased above and below-ground carbon sequestration in the landscape	Managing the tree growth for carbon sequestration must be balanced with crop production. This balance will be ensured by appropriate tree selection and spacing in the planting design. Carbon sequestration is inhibited by natural disasters in a warming climate (e.g., possible future fires and disease outbreaks) or parcel underperformance. This risk will be mitigated by applying a set of criteria to screen eligible smallholders during recruitment, as well as by adhering to Plan Vivo Standard norms for risk buffers to protect the project against losses in carbon sequestration.
Livelihood Benefits	Diversified smallholder revenues will induce income security through an extended	Farmers often lose interest due to the perceived burden of caring for agroforestry parcels that are in establishment. To mitigate this risk, the project will

	cropping season. Close training and technical supervision during the establishment of cacao agroforestry systems ensure that well-maintained parcels are established that bring a high-quality crop to market in a reasonable timeframe to unlock additional income sources for farmers (cacao, fruits).	provide access to technical training on best management practices and seasonal labour support. This support aims to ensure farmers feel empowered and motivated by observing healthy and rapidly developing agroforestry systems, facilitated by the silvicultural management schedule implemented by the project.
Ecosystem Benefits	Planting native tree species will rehabilitate habitat, biodiversity, and degraded landscapes in vital watersheds (Upper Ozama and Yamasa)	Increasing biodiversity and species richness through planting hardwoods favoured by birds and other wildlife can negatively impact crop yield (Notaro, 2020). This risk will be minimized by exploring participants' perceptions and collaboration to find workable solutions.
Outputs		
Output 1	Issuance and sale of high-quality forest carbon removal credits totalling 374,925 tCO2 over a 20-year crediting period, generated from reforested areas within the first 5 years of the project	There is an assumption that there will be market demand for carbon removals created by the project. Taking Root has a long-standing buyer partner network of carbon removals, whose values and vision align with those of the project. Taking Root is socialising the project with these partners and new potential financing partners throughout the project development process to validate future demand and gather market feedback, so that the project design considers market requirements.
Output 2	~ 1,300 hectares of cacao agroforestry systems on underutilized portions of smallholder lands are established within the first 5 years of the project	Parcels underperform due to a lack of, or improper, maintenance. Risks associated with young tree mortality, pest infestations, and vulnerability to water scarcity will be achieved by implementing an annual activity schedule that is tied to incentive payments from the revenues of carbon credit sales, outlined in the farmer contracts, and implemented through technician support activities. This approach will be reinforced by establishing project-affiliated nurseries and farmer support from field technicians to effectively execute intervention activities. Provision of Taking Root's technology platform and mobile app indirectly support these activities as the data collected

		from parcel maintenance activities can be analysed to inform practices and identify areas of intervention.
Output 3	128 hardwoods will be planted per hectare, alongside planting of fruit and cacao trees in a multi-strata cacao agroforestry system on underutilized portions of smallholders' lands	The project manages the risk of non-native species being introduced to the project region. The hardwoods (*Swietenia macrophylla* and *Cedrela odorata*) are native tree species. Fruit trees in the design (avocado, zapote) are also native, with the exception of Agria Oranges (*Citrus aurantium*), which are a naturalized fruit from Southeast Asia that is preferred by farmers in the project region for its market potential. This naturalized species is not known to be invasive or prone to disease in the project region and is a common market fruit crop in the Dominican Republic. Planting designs will be periodically updated over the project's lifetime to ensure they continue to meet smallholders' needs and are adapted to the local landscapes under changing climate conditions.
Output 4	Members of the local community benefit from seasonal employment opportunities	Non-farming members of Floresta's savings groups feel left out from benefits accrued from the project. The project will mitigate this risk through providing employment opportunities for members in the communities who do not own land or reside on plots of land that are not suitable for the project intervention. Furthermore, Floresta will continue providing programming and other support to those who do not participate in the carbon project but are otherwise in savings groups.
Output 5	Women farmers take the lead in establishing cacao agroforestry systems on their farms	Women farmers lose interest due to the perceived burden of caring for agroforestry systems during establishment. To mitigate this risk, the project will provide access to technical training on best management practices and seasonal labour support. This support aims to ensure that project participants feel empowered and motivated by observing healthy and rapidly developing agroforestry systems, facilitated by the silvicultural management schedule implemented by the project.

3.5 Additionality

Table 3.5 Initial Barrier Analysis

Project Intervention:		
Ecosystem Restoration Smallholders will establish a cacao agroforestry system on underutilized portions of their land.		
Type of Barrier	Description of Specific Barriers	Mitigation Measures
Economic/Financial	The project targets rural areas with high rates of poverty and populations that are highly vulnerable to the effects of extreme weather events. Smallholders do not possess the financial means to invest in the acquisition of inputs and materials to transition toward more sustainable farming models.	The project will devise a mechanism to provide access to finance so that farmers can face the initial investment required to participate in the project, and PVC sales will provide the recurring revenue streams needed to make the establishment of cacao agroforestry interventions on farmers' lands financially feasible.
Technical	Smallholders rarely possess the technical training to collect data on tree growth over time, which is a requirement for annual reporting and certification of carbon credits.	The project matches smallholders with project field technicians that provide training and support on an ongoing basis. Field technicians, in turn, are trained on management and monitoring of tree growth using Taking Root's technology platform to report monitoring activities and data
Institutional	In the Dominican Republic, there is limited awareness and under-enforcement of laws governing forests and trees on farms.	The project will ensure that project participants are briefed on pertinent legal and policy frameworks concerning agroforestry interventions with governmental bodies. Furthermore, it will extend support in obtaining necessary authorizations in accordance with such requirements, as deemed necessary.

Environmental	The Dominican Republic is already experiencing the effects of climate change, which leaves many smallholders vulnerable. At the same time, losses in yield from crop disease and the poverty cycle prevent them from acquiring the know-how needed to access improved seeds, systems, and techniques required for climate adaptation.	The project will consider climate change and extreme weather as key factors in selecting tree species and developing planting designs with smallholders and experts.
Cultural	Selecting and growing tall shade trees (hardwoods) in agricultural systems is not part of the recent land management history of the country's farming sector. There exists a low-productivity stereotype surrounding the presence of trees in crop systems. Smallholders sometimes practice tree girdling of existing trees, which severely limits the growth and carbon capture potential of the hardwoods. Furthermore, smallholders tend to overcrowd parcels with crops and not practice tree pruning, which further limits tree growth and the associated ecosystem and climate adaptation benefits of tall shade trees.	The project aims to debunk the low productivity stereotype associated with hardwoods in agroforestry parcels. It will achieve this by strategically optimizing tree density in the proposed multi-strata planting design, thereby decreasing farmers' inclination to remove trees. Additionally, the project will educate farmers about the environmental advantages of tall shade trees in agroforestry, particularly emphasizing enhanced water retention. Furthermore, the project will provide farmers with desired hardwoods, fostering commitment to the planting design. Lastly, continuous education and feedback consideration will ensure adaptability, addressing trade-offs in the cacao agroforestry system. This approach will transform mindsets and dispel stereotypes, promoting a sustainable relationship between farmers and agroforestry.

3.6 Exclusion List

The proposed project does not include Plan Vivo Exclusion List Activities.

3.7 Environmental and Social Screening

Table 3.7 Environmental and Social Risks

Risk Area	Potential Risks
Vulnerable Groups	This risk is not material, as the project will catalyse job opportunities in cacao-agroforestry landscapes, enabling members of the rural workforce to gain access to temporary employment (e.g. in planting on others' farms)
Gender Equality	This risk is not material due to the project design, which includes technical assistance and seasonal labour support. This lowers barriers for women farmers who are single heads of households (e.g., widows, single mothers who inherited land) to participate in the project and diversify their farming economies with cacao and fruits.
Human Rights	There are no material risks. The project will respect smallholders' right to FPIC. At no point will the project put vulnerable rural populations in situations that would infringe upon their rights. The project is voluntary and participants can exit without penalty at any time.
Community, Health, Safety & Security	There are no material risks. Project interventions aim at improving the economic situation of rural communities through supporting work opportunities and creating more resilient farming landscapes, decreasing vulnerability to adverse effects from extreme weather and climate change.
Labour and Working Conditions	There is no material risk. The project aims to empower local partners in overseeing the rights and safety of all workers associated with the project. This will be achieved by adhering to national labour standards and laws, providing training to staff members to address rights and safety concerns, and facilitating budget allocation for the procurement of personal protective equipment and the implementation of standardised procedures to safeguard the welfare of project workers.
Resource Efficiency, Pollution, Wastes, Chemicals and GHG emissions	Project activities - such as the transport of technicians and seedlings by truck and motorcycle - produce GHG emissions. These emissions will be accounted for and offset in Taking Root's annual organizational carbon foot-printing exercise. No fertilizers will be used to grow the hardwoods. For cacao cultivation, the project will encourage the use of organic fertilizers when needed.
Access Restrictions and Livelihoods	The project works with smallholders that own their lands. Technicians will be trained to not enter smallholder lands to conduct project activities without the farmer's consent.
Cultural Heritage	There is no material risk. As all participants will be smallholders on their individual private lands, we are not planting in cultural heritage sites.
Indigenous Peoples	There are no major material risks to Indigenous People's rights. The project will implement a land evaluation process, where available land in the project area is cross-referenced against available country maps of Indigenous and Protected Areas.

	If the project becomes aware of issues where non-Indigenous smallholders occupy contested lands, the project will not onboard these smallholders, even if they demonstrate proof of legal land tenure.
Biodiversity and Sustainable Use of Natural Resources	There is no material risk. The project explicitly aims to support sustainable land use and reforestation in critical watersheds. The project will primarily select native tree species for the agroforestry interventions. Naturalized species will only be considered if they are non-invasive and offer clear climate and livelihood benefits to project participants.
Land Tenure Conflicts	There is no material risk. The project works with smallholders that own their land. The government respects the property rights of its citizens as per the Civil Code.
Risk of Not Accounting for Climate Change	There is no material risk - in fact, this project will consider climate change and extreme weather as key factors in selecting tree species and developing planting designs with smallholders and experts. Agroforestry practices can help build resilience of farming landscapes to the adverse effects of droughts and extreme weather (heat, storms, floods).
Other – e.g. Cumulative Impacts	N/A

3.8 Double Counting

Table 3.8 National Level Legislation, Policies and Instruments

	Yes/No/ Unsure	Details
Is there a national registry for land-based carbon projects?	No	The Consejo Nacional para el Cambio Climático is the Designated National Authority tasked with the development of a national carbon registry. To that effect, the country is in the process of drafting a Climate Change Law, which is expected to clarify the process for the VCM in contributing to national GHG emissions. In the interim, the project has established a channel of communication with the Consejo to coordinate a process for obtaining a Letter of Approval/ Non-Objection from the Ministry.
Are carbon rights defined in national legislation?	Yes	In 2018, the Dominican Republic enacted Law No. 44-18, which addresses Payments for Ecosystem Services. Article 4 explicitly designates carbon sequestration as an ecosystem service covered by the law. Article 7 of the same law clarifies that carbon rights are tied to land ownership. Moreover, as per Civil Code Art. 546, ownership of a thing (movable or immovable, natural or artificial) gives the rights over all it produces.
Are there any carbon pricing regulations existing or in development (e.g. emissions trading scheme or carbon tax)?	No	N/A
Does the country receive or plan to receive results-based climate finance through bilateral or multilateral programs?	Yes	The Dominican Republic is currently hosting a Jurisdictional REDD+ program until 2025 under the Forest Carbon Partnership Facility. There is potential for some overlap between the proposed project and REDD+ program areas. To avoid double counting, the project has contacted MMARN which oversees the REDD+ project to communicate the proposed project area, so that MMARN can ensure no overlap in activities.
Are there any other relevant regulations, policies or instruments?	No	The Dominican Republic recently renewed its knowledge-transfer agreement with Costa Rica to learn from the country's successful roll-out of a Payments for Ecosystem Services Program that makes direct cash transfers to private landowners for forest protection activities. The government does not currently have an action plan or timeline for the adoption of such an instrument in the Dominican Republic.

4 Governance and Administration

4.1 Governance Structure

The project targets smallholders to implement cacao agroforestry systems on their lands, contributing to reforestation. Their participation will be managed by Floresta, Taking Root's implementation partner for the project. Floresta is a locally based organization with a 30-year track-record of working with rural farming communities in the Dominican Republic. Floresta will administer and implement the project on the ground, while Taking Root offers technology and support, certification, and credit sales through the Plan Vivo Standard. Revenues from the sales of Plan Vivo certified carbon credits will enable smallholders to perform the switch to agroforestry practices that will provide long-term livelihood and ecosystem benefits and support sustainable development in the country.

The following diagram summarises the project structure to generate smallholder benefits:

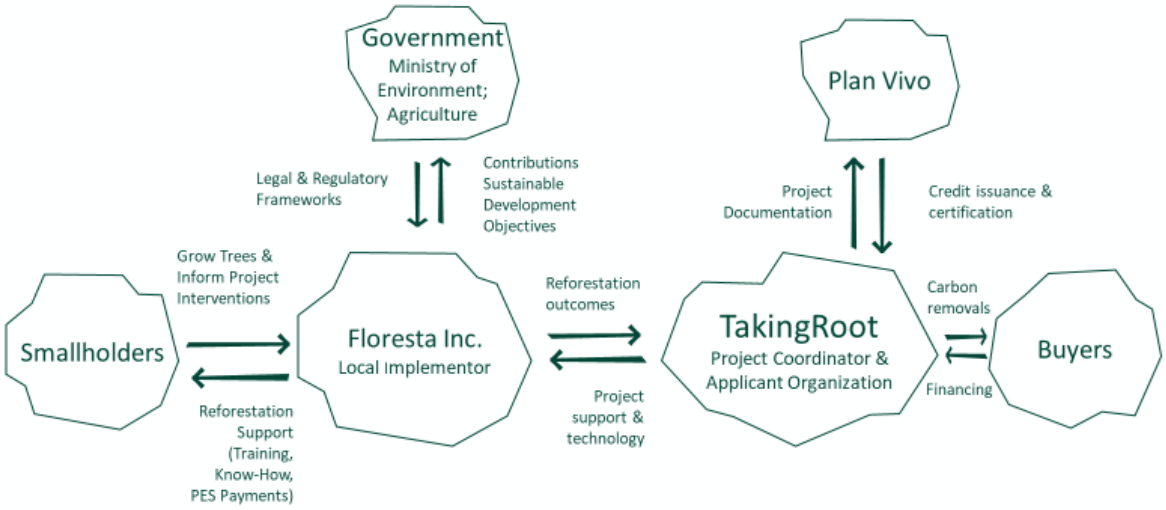


Figure 2. Project structure for the use of carbon benefits from smallholder cacao agroforestry

4.2 Legal and Regulatory Compliance

The project will strictly adhere to national legal requirements. The following national laws have been identified as crucial in the context of the carbon project and smallholder agroforestry: Civil Code from Year 2007; Law on the Environment and Natural Resources (64-00); the Forest Sector Law (57-18), and the Ecosystem Services Law (44-18).

In the Dominican Republic, carbon rights are tied to private land ownership. Civil Code Art. 546 establishes that ownership of a thing, movable, or immovable, whether natural or artificial, gives rights over all it produces. More importantly, Art. 7 of the Payment for Ecosystem Services Law states that the right to receive such payments belongs to the owners of the land where ecosystem services are being produced.

The project practises ongoing government engagement to ensure project compliance with the national law and to enhance awareness among participating smallholders about relevant regulations for trees grown on their farms.

In line with this objective, the project received an Endorsement Letter from the Ministry of Agriculture (Figure 5-2, Annex 5) that confirms the project's significance in supporting sustainable development and climate adaptation in the country.

4.3 Financial Plan

The project is anticipated to be financed sustainably through the sale of high integrity carbon credits which will cover all operational costs related to the project. Taking Root has well-established buyer-partners in Europe and North America who have expressed interest in advance purchase of credits or other forms of carbon financing. It is anticipated that Taking Root will finalize initial carbon financing deals in 2024/early 2025, once the project design and financial plan for credit generation is completed.

Taking Root has funded the upfront feasibility, project design and initial tree planting operations through philanthropic grant funding in order to get the project carbon-finance ready. This initial funding was secured through a number of sources including Partnerships for Forests and the Arbor Day Foundation, alongside co-funding from Plant With Purpose and Taking Root.

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Annexes

Annex 1 – Project Boundaries

The data files for project region and area boundaries can be accessed with the following link:

https://www.dropbox.com/scl/fi/9hqvfudvxndw9b35j3ih8/Appenfix1_PIN_Map_files.zip?rlkey=m4yg2hqksscai06yug66sszls&dl=0

Annex 2 –Registration Certificate

Figure 3: Taking Root Registration Certificate

Innovation, Science and Economic Development Canada
Corporations Canada

Innovation, Sciences et Développement économique Canada
Corporations Canada

Certificate of Incorporation

Canada Business Corporations Act

Certificat de constitution

Loi canadienne sur les sociétés par actions

Taking Root Inc.

Corporate name / Dénomination sociale

1550701-4

Corporation number / Numéro de société

I HEREBY CERTIFY that the above-named corporation, the articles of incorporation of which are attached, is incorporated under the *Canada Business Corporations Act*.

JE CERTIFIE que la société susmentionnée, dont les statuts constitutifs sont joints, est constituée en vertu de la *Loi canadienne sur les sociétés par actions*.

Hantz Prosper

Director / Directeur

2023-11-06

Date of Incorporation (YYYY-MM-DD)
Date de constitution (AAAA-MM-JJ)

Canada

Annex 3 – Exclusion List

Activities	Included in Project ('Yes' or 'No')
Any project activities leading to or requiring the destruction [1] of critical habitat [2] or any forestry project which does not implement a plan for improvement and/or sustainable management.	No
Any activity which could be associated with the significant impairment of areas particularly worthy of protection of cultural heritage (without adequate compensation in accordance with international standards).	No
Trade in animals, plants or any natural products not complying with the provisions of the CITES/Washington convention [3].	No
Illegal, harvesting or trading in any wildlife resources.	No
Destructive fishing methods or drift net fishing with a net more than 2.5 km in length, explosives and/or poison.	No
Large-scale commercial logging operations for use in primary tropical moist forest.	No
Production or trade in wood or other forestry products other than from sustainably managed forests [4].	No
Exploitation of diamond mines and marketing of diamonds where the host country has not adhered to the Kimberley Process, and exploitation of other conflict minerals [5]	No
Activities involving harmful or exploitative forms of forced labour, [6] harmful child labour [7], modern slavery and human trafficking [8].	No
Projects that include involuntary physical displacement and/or forced eviction.	No
Production or activities that encroach on lands owned, or claimed or occupied by Indigenous Peoples, without full documented Free, Prior and Informed Consent (FPIC) of such peoples [9].	No
Production, use, sale or trade of pharmaceuticals, pesticides/herbicides, ozone layer depleting substances [10], and other toxic [11] or dangerous materials such as asbestos or products containing PCB's [12], wildlife or products regulated under CITES, including all products that are banned or are being progressively phased out internationally.	No
Production or trade of arms, ammunition, weaponry, controversial weapons, or components thereof (e.g., nuclear weapons and radioactive ammunition, biological and chemical weapons of mass destruction, cluster bombs, anti -personnel mines, enriched uranium).	No
Procurement and use of firearms.	No

Provision of finances to military institutions involved in conservation or security activities.	No
Production or trade of strong alcohol intended for human consumption or other alcoholic beverages (excluding beer and wine).	No
Production or trade of tobacco and other drugs	No
Gambling, gaming establishments, casinos or any equivalent enterprises and undertaking [13].	No
Any trade related to pornography, prostitution or sexual exploitation of any form.	No
Production or trade in radioactive material. This does not apply to the procurement of medical equipment, quality control equipment or other application for which the radioactive source is insignificant and/or adequately shielded.	No
Production or trade in unbound asbestos. This does not apply to the purchase or use of cement linings with bound asbestos and an asbestos content of less than 20%.	No
Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.	No
Transboundary trade in wastes, except for those accepted by the Basel Convention and its underlying regulations [14].	No
Any activity leading to an irreversible modification or significant displacement of an element of culturally critical heritage [15].	No
Production and distribution, or investment in, media that are racist, antidemocratic or that advocate discrimination against a part of the population.	No
Projects involving the planting or introduction of invasive species.	No
Projects that increase the dependency of primary participants and other stakeholders on fossil fuels.	No

Notes:

[1] Destruction means (1) the elimination or severe reduction in the integrity of a habitat/area caused by a major and long-term/prolonged change in land-use or water resources or (2) the modification of a habitat such that this habitat's ability to fulfil its function/ role is lost.

[2] The term critical habitat encompasses natural and modified habitats that deserve particular attention. This term includes (1) spaces with high biodiversity value as defined in the IUCN's classification criteria, including, in particular, habitats required for the survival of endangered species as defined by the IUCN's red list of threatened species or by any national legislation; (2) spaces with a particular importance for endemic species or whose geographical range is limited; (3) critical sites for the survival of migratory species; (4) spaces welcoming a significant number of individuals from congregatory species; (5) spaces presenting unique assemblages of species or containing species which are

associated according to key evolution processes or which fulfil key ecosystem services; (6) and territories with socially, economically or culturally significant biodiversity for local communities. Primary forests or high conservation value forests must also be considered as critical habitats.

[3] https://cites.org/eng/disc/text.php

[4] Sustainably managed forests are forests managed in a way that balances ecological, economic and socio-cultural needs.

[5] Conflict minerals, including tin, tungsten, tantalum and gold, can be used to finance armed groups, fuel forced labour and other human rights abuses, and support corruption and money laundering. See the EU Regulation on conflict minerals: https://policy.trade.ec.europa.eu/development-and-sustainability/conflict-minerals-regulation/regulation-explained_en

[6] Forced labour means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

[7] Harmful child labour means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development. Employees must be at least 14 years of age, as defined in the ILO's Declaration on the Fundamental Principles and Rights at Work (C138 – Minimum Age Convention, Article 2), unless local laws require compulsory school attendance or a minimum working age. In such circumstances, the highest age requirement must be used.

[8] Modern slavery is comprised two key components: forced labour and forced marriage. These refer to situations of exploitation that a person cannot leave or refuse due to threats, violence, deception or coercion. (https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---ipec/documents/publication/wcms_854733.pdf)

[9] https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/

[10] Any chemical component which reacts with, and destroys, the stratospheric ozone layer leading to the formation of holes in this layer. The Montreal Protocol lists Ozone Depleting Substances (ODS), their reduction targets and deadlines for phasing them out.

[11] Including substances included under the Rotterdam Convention, Stockholm Convention and WHO "Pharmaceuticals: Restrictions in Use and Availability".

[12] PCBs (polychlorinated biphenyls) are a group of highly toxic chemical products that may be found in oil-filled electrical transformers, capacitors and switchgear dating from 1950 to 1985.

[13] Any direct financing of these projects or activities involving them (for example, a hotel including a casino). Urban improvement plans which could subsequently incorporate such projects are not affected.

[14] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal (1989).

[15] "Critical cultural heritage" is considered as any heritage element recognised internationally or nationally as being of historical, social and/or cultural interest.

Annex 4 - Environmental and Social Screening

Topic	Risk Questions	Project Coordinator Response
Environmental and Social Risks		
Vulnerable Groups	Are there vulnerable or disadvantaged groups or individuals, including people with disabilities (consider also landless groups, lower income groups less able to cope with livelihood shocks/stresses) in the project area, and are their livelihood conditions well understood by the project?	An initial stakeholder analysis was performed during feasibility assessment for this project. Among the vulnerable groups are non-farming members of the community that participate in community savings groups from which the project will recruit participants. The project is committed to paying special attention to these vulnerable groups and monitor their needs as part of the project design.
	Is there a risk that project activities disproportionately affect vulnerable groups, due to their vulnerability status?	There is no such risk. On the contrary, the project's aim to create additional employment opportunities for non-farming members in the local communities (e.g. seasonal work opportunities in project nurseries and during planting season.)
	Is there a risk that the project discriminates against vulnerable groups, for example regarding access to project services or benefits and decision-making?	No, the project will devise a participatory design mechanism that ensures that the voices of vulnerable groups are included in decision-making.
Gender equality	Is there a risk of adverse gender impacts due to the project/ project activities, including for example discrimination or creation/exacerbation or perpetuation of gender-related inequalities?	This risk is not material due to the project design, which includes technical assistance and seasonal labour support. This lowers barriers for women farmers who are single heads of households (e.g., widows, single mothers who inherited land) to participate in the project and diversify their farming economies with cacao and fruits.
	Is there a risk that project activities will result in adverse impacts on the situation of women or girls, including their rights and livelihoods? Consider for example where access restrictions disproportionately affect women and girls due to	No, because the project explicitly welcomes women farmers as participants and breaks down barriers for them to join through the built-in operational support, especially seasonal labour support during planting season, and access to technical advice from project field technicians who can advise on parcel management (e.g. weeding), organic pest

	their roles and positions in accessing environmental goods and services?	control, and tree maintenance for hardwoods and fruit trees. As such, the participation of women farmers in cacao agroforestry practices is expected to increase as a result of the project.
	Is there a risk that project activities could cause or contribute to gender-based violence, including risks of sexual exploitation, sexual abuse or sexual harassment (SEAH)? Consider partner and collaborating partner organizations and policies they have in place. Please describe.	No. Both Floresta and Taking Root are committed to gender equality and any form of SEAH is against the values of both organizations. The presence of specific SEAH policies at Floresta have been reviewed and are deemed satisfactory by Taking Root.
Human Rights	Is there a risk that the project prevents peoples from fulfilling their economic or social rights, such as the right to life, the right to self-determination, cultural survival, health, work, water and adequate standard of living?	No. The project interventions are designed to improve the livelihoods of smallholders and their families in the project region. Moreover, farmer's input in the planting designs and activity schedules for their implementation is explicitly encouraged to ensure that interventions meet participants' needs.
	Is there a risk that the project prevents peoples from enjoying their procedural rights, for example through exclusion of individuals or groups from participating in decisions affecting them?	No. At no point will the project proceed with activities on participants' private lands without their FPIC.
	Are you aware of any severe human rights violations linked to project partners in the last 5 years?	There are no human rights violations linked to any of the project partners.
Community, Health, Safety & Security	Is there a risk of exacerbating existing social and stakeholder conflicts through the implementation of project activities? Consider for example existing conflicts over land or natural resources, between communities and the state.	No. The project works with smallholders that own their land. The government of the Dominican Republic has traditionally respected the individual property rights of its citizens as per the Civil Code.

	Does the project provide support (technical, material, financial) to law enforcement activities? Consider support to government agencies and to Community Rangers or members conducting monitoring and patrolling. If so, is there a risk that these activities will harm communities or personnel involved in monitoring and patrolling?	No. Because this project takes place on the private lands of smallholders and not on conservation lands where ranging and patrolling takes place.
	Are there any other activities that could adversely affect community health and safety? Consider for example exacerbating human-wildlife conflict, affecting provisioning ecosystem services, and transmission of diseases.	No. The project will focus on agroforestry systems on smallholders' private lands and not on Conservation Work in National Parks and Range Lands where these risks would be material.
Labour and working conditions	Is there a risk that the project, including project partners, would lead to working conditions for project workers[1] that are not aligned with national labour laws or the International Labor Organization's (ILO) Declaration on the Fundamental Principles and Rights at Work (discriminatory working conditions, lack of equal opportunity, lack of clear employment terms, failure to prevent harassment or exploitation, failure to ensure freedom of association etc.)?	No. The project aims to empower local partners in overseeing the rights and safety of project workers. This will be achieved through compliance with labour standards and laws, thorough staff training on rights and safety, for example, by allocating budgets for personal protective equipment (PPE) and standardized procedures to protect project workers.
	Is there an occupational health and safety risk to project workers while completing project activities?	Yes. Project field technicians must follow safety at work protocols when they conduct training and monitoring activities on participants' lands.

[1] Project workers include project coordinator staff, staff of other project partners, third party groups fulfilling core functions of the project, and community volunteers or contracted workers.

		Floresta's workplace policies will be validated during an upcoming field visit and reviewed to ensure they meet the standards of the project coordinator.
	Is there a risk that the project support or be linked to forced labour, harmful child labour, or any other damaging forms of labour?	No. Floresta and Taking Root do not hire staff below the legal working age.
Resource efficiency, pollution, wastes, chemicals and GHG emissions	Is there a risk that project activities might lead to releasing pollutants to the environment, cause significant amounts of waste or hazardous waste or materials?	There is no material risk from fertilizer use. For the cacao production, the project will encourage the use of organic fertilizers and pesticides that cause minimal effects on the environment.
	Is there a risk that the project will lead to significant consumption of energy, water or other resources, or lead to significant increases of greenhouse gases?	No. The minimal GHG emissions from the project principally stem from transportation. Post-certification, the project will account for and retire its own offsets for those emissions on an annual basis.
Access restrictions and livelihoods	Will the project include activities that could restrict peoples' access to land or natural resources where they have recognised rights (customary, and legal). Consider projects that introduce new access restrictions (e.g. creation of a community forest), reinforce existing access restrictions (e.g. improve management effectiveness and patrolling of a community forest), or alter the way that land and natural resource access restrictions are decided (e.g. through introducing formal management such as co-management).	No. The project will work with smallholders on their private lands.
	Is there a risk that the access restrictions introduced	Not applicable. The project will work with smallholders on their private lands.

	/reinforced/altered by the project will negatively affect peoples' livelihoods?	
	Have strategies to avoid, minimise and compensate for these negative impacts been identified and planned?	Not applicable. The project will work with smallholders on their private lands.
Cultural heritage	Is the Project Area officially designated or proposed as a cultural site, including international and national designations?	No. The project works with smallholders on their private lands.
	Does the project site potentially include important physical cultural resources, including burial sites and monuments, or natural features or resources of cultural significance (e.g. sacred sites and species, ceremonial areas) and is there risk that the project will negatively impact this cultural heritage?	Not applicable because the project area is on private smallholder lands. Protected or otherwise designated cultural heritage sites do not fall within prospective project areas.
	Is there a risk that the project will negatively impact intangible cultural heritage? Consider for example cultural practices, social and cultural norms in relation to land and natural resources.	Not applicable because the project area is on private smallholder lands. Protected or otherwise designated cultural heritage sites do not fall within prospective project areas.
Indigenous Peoples	Are there Indigenous Peoples[2] living within the Project Area, using the land or natural resources within the project area, or with claims to land or territory within the Project Area?	The project will work with private smallholders that own their land. The project is not aware of any conflict where non-Indigenous smallholders occupy lands on the territories of Indigenous Peoples.

2 As per the IUCN Environmental and Social Management System, Indigenous Peoples include: "(i) peoples who identify themselves as "indigenous" in strict sense; (ii) tribal peoples whose social, cultural, and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations; and (iii) traditional peoples not necessarily called indigenous or tribal but who share the same characteristics of social, cultural, and economic conditions that distinguish them from other sections of the national community, whose status is regulated wholly or partially by their own customs or traditions, and whose livelihoods are closely connected to ecosystems and their goods and services" (IUCN 2016).

		The project will implement a land evaluation process, where available land in the project area is cross-referenced against available country maps of Indigenous and Protected Areas and consult municipal and regional authorities regarding the presence and status of conflicts between project participants and Indigenous communities in the project region. In situations where the project identifies non-Indigenous smallholders occupying Indigenous contested lands, the project will not onboard these smallholders, even if they demonstrate proof of legal land tenure.
	Is there a risk that the project negatively affects Indigenous Peoples through economic displacement, negatively affects their rights (including right to FPIC), their self-determination, or any other social or cultural impacts?	No. For the same reason as stated above. The project will devise a land evaluation process to ensure that no smallholders are onboarded on contested lands, even if they demonstrate proof of land tenure.
	Is there a risk that there is inadequate consultation of Indigenous Peoples, and/or that the project does not seek the FPIC of Indigenous Peoples, for example leading to lack of benefits or inappropriate activities?	No. The project does not plan to recruit smallholders from the territories of Indigenous Peoples.
Biodiversity and sustainable use of natural resources	Is there a risk that project activities will cause adverse impacts on biodiversity (both in areas of high biodiversity value, and outside of these areas) or the functioning of ecosystems? Consider issues such as use of pesticides, construction, fencing, disturbance etc.	No. The project will only use organic fertilizers and pesticides for the cacao agroforestry interventions on smallholders' lands. Floresta has a track-record, offering training in organic pest management and fertilizers as part of its agroecology programming pillar. Participants in this project stand to benefit from this knowledge and training that will be offered.
	Is there a risk that the project will introduce non-native species or invasive species?	No. The project will use native hardwoods. In cases where participants express preferences for naturalized species of fruit trees that can offer a high value crop for market sales, the

		project will ensure that they are non-invasive and only consider their introduction if it is determined that there are clear livelihood benefits associated with their use.
	Is there a risk that the project will lead to the unsustainable use of natural resources? Consider for example projects promoting value chains and natural resource-based livelihoods.	No. The project will train smallholders in cacao agroforestry and inform them about relevant best-practices, laws, and regulations for the sustainable management of these systems.
Land tenure and conflicts	Has the land tenure and use rights in the project area been assessed and understood?	The project targets smallholders that can prove ownership of their land. Lack of formal land titles is a widely acknowledged problem in rural communities in the country. The government is currently issuing provisional titling for the rural population and the project will determine during an upcoming field visit what is acceptable documentation in the absence of formal land tenure.
	Is there a risk that project activities will exacerbate any existing land tenure conflicts, or lead to land tenure or use right conflicts?	No. The project targets smallholders on their private land. The government respects the individual property rights of its citizens.
Risk of not accounting for climate change	Have trends in climate variability in the project areas been assessed and understood?	The project has conducted desk-based research on the effects of a changing climate in the project region in the agricultural land use sectors as part of the feasibility study. Projections show that the Dominican Republic is a favourable country for cacao agroforestry, even under future climate projections (Bunn et al. 2019).
	Has the climate vulnerability of communities and particular social groups been assessed and understood?	Yes. The project is designed with a focus on increasing smallholders' resilience against the effects of extreme weather and climate change.
	Is there a risk that climate variability and changes might influence the effectiveness of project activities (e.g. undermine project-supported livelihood	No. On the contrary, the project is designed with a focus on climate adaptation and resilience by encouraging adoption of sustainable farming systems (cacao agroforestry) on smallholders' lands.

	activities) or increase community exposure to climate variation and hazards? Consider floods, droughts, wildfires, landslides, cyclones, etc.	
Other – e.g. cumulative impacts	Is there a risk that the project will contribute cumulatively to existing environmental or social risks or impacts, for example through introducing new access restrictions in a landscape with existing restrictions and limited land availability?	No, this project will not introduce new access restrictions. The project will act in accordance with the environmental and forest sector specific laws and regulations in the country.
	Are there any other environmental and social risks worthy of note that are not covered by the topics and questions above?	The project is not currently aware of any factors that could pose a risk to the cacao agroforestry landscapes that the project will implement. The project will monitor activities in industries (e.g. mining) that could cause encroachment on the lands where project interventions take place and devise risk mitigation strategies as appropriate.
Safeguard Provisions		
Stakeholder engagement	Has a stakeholder analysis been conducted that has identified all stakeholders that could influence or be affected by the project, or is this still to be completed? Please describe.	A preliminary stakeholder analysis identified local actors in the area (see table in Section 2.1) as part of a feasibility study. Stakeholder analysis will be revised regularly as part of the project design and during implementation to identify relevant local stakeholders.
	Are the local community and indigenous peoples statutory or customary rights to land or resources within the project area already clear and documented, or is further assessment required? Please describe.	In the initial project region, there are no known Indigenous lands or customary rights to lands where there is a risk that smallholders that are recruited for participation reside on disputed lands.
	Are local governance structures and decision-making processes described and understood (including details of the	Not applicable. The project works with individual smallholders that own their lands. Local governance structures and decision-making processing under a collective

	involvement of women and marginalized or vulnerable groups), or is further assessment required? Please describe.	management structure will not apply. Each participant will sign their individual PES agreement with the project under the FPIC strategy that has been designed for that purpose (see section on FPIC in the PIN).
	Are past or ongoing disputes over land or resources in the project area known and documented, or is there need for further assessment? Please describe.	The project is not aware of land disputes that challenge the private ownership status of smallholders in the project region.
Stakeholder consultation	Does the project have a Stakeholder Engagement Plan with clear measures to engage Vulnerable Groups, or is this plan still to be developed? Please describe.	Yes. A preliminary plan has been developed. Specific measures for engagement of vulnerable groups will be developed during an upcoming field visit.
	Has the Project Coordinator informed all stakeholders of the project, through providing relevant project information in an accessible format, or does this still need to be completed? Please describe.	The project has designed a brochure and posters that will be used to socialize smallholders in local communities and in the Floresta Community Savings Groups to the project.
Free, Prior and Informed Consent	Has the project analysed and understood national and international requirements for Free Prior and Informed Consent (FPIC)? Please describe.	Yes. The project is taking FPIC principles into consideration for project design and signing PES agreements with smallholders.
	Has the project identified potential FPIC rights holders and potential representatives in local communities and among indigenous peoples, or is this still to be completed? Please describe.	The project works with smallholders on their private lands. See the above section on "Indigenous Peoples" for a description of how the project will make sure to not include smallholders that occupy Indigenous contested lands.
	Has the project worked with rightsholders and representatives of local communities and Indigenous Peoples to understand the local decision-making process and	The project works with smallholders on their private lands. See the above section on "Indigenous Peoples" for a description of how the project will make sure to not include smallholders that occupy Indigenous contested lands.

	timeline (ensuring involvement of women and vulnerable groups), or is this still to be completed? Please describe.	
	Has the project sought consent from communities to 'consider the proposed Project', and if so, where is this in principle consent documented? Please describe.	The project works with smallholders on their private lands. See the above section on "Indigenous Peoples" for a description of how the project will make sure to not include smallholders that occupy Indigenous contested lands.
Grievance Mechanism	Does the project already have a Grievance Mechanism, or is this still to be established? Please describe.	A grievance mechanism is currently being developed that will be designed according to Taking Root's protocol for carbon project grievances and PV Climate Standard requirements.
	For projects with a GRM, is this accessible to project affected people? Please describe.	Not applicable. This project works with smallholders on their private lands.

Annex 5 – Notification of Relevant Authorities

Taking Root

Solicitud de reunión

To: Jose Elias González, Viceministro de Recursos Forestales
Federico Franco, Viceministro de Áreas Protegidas y Biodiversidad

Attention: Milagros De Camps, Viceministra de Cambio Climático y Sostenibilidad

Fecha: 20 de enero de 2023

Objetivo

Buscamos desarrollar proyectos agroforestales a largo plazo con agricultores a escala nacional en la República Dominicana financiados a través del mercado voluntario de carbono con dos componentes principales:

1. Proporcionar incentivos financieros a los agricultores para que cultiven los árboles (lo que representa el 60 % de nuestro precio de venta), y
2. Proporcionar acceso al mercado para los bienes producidos por sus sistemas agroforestales

Es esencial que cualquier trabajo que hagamos sea en completa colaboración con las prioridades e instituciones nacionales. Por esta razón, nos gustaría reunirnos con Nathalie Flores e Ivan Cruz para comprender mejor cómo un proyecto de mercado de carbono voluntario podría apoyar y alinearse más con las prioridades gubernamentales, como los objetivos de adaptación y mitigación del cambio climático pertenecientes al sector AFOLU y el trabajo que se está realizando en el marco del proyecto REDD+ jurisdiccional.

Puedo estar disponible para una reunión en persona dentro de un aviso de una semana o estoy disponible para una videoconferencia a su conveniencia.

Sobre Taking Root

Taking Root es una organización creada en 2007 cuyo propósito es acelerar la restauración de los bosques del mundo a través del desarrollo de proyectos comunitarios de reforestación/forestación que generan créditos de carbono certificados. Taking Root trabaja con sus socios en el diseño, implementación, gestión, monitoreo y certificación de estos proyectos de alta calidad y largo plazo, donde los agricultores están empoderados para cultivar árboles y mejorar sus medios de vida a través de la venta de créditos de carbono y la conexión a los mercados.

Taking Root aprovecha la tecnología y 15 años de experiencia trabajando con pequeños agricultores en países tropicales para garantizar que las remociones de carbono forestal generadas a través del proyecto sean transparentes, sólidas y creen un impacto positivo a largo plazo, incluida la mitigación y adaptación al cambio climático, y mejores medios de vida. Taking Root ha sido reconocido por nuestras mejores prácticas por la ONU, la UE y Foro Económico Mundial.

Nuestra experiencia

Tenemos experiencia en la implementación y liderazgo de proyectos de reforestación/agroforestería a gran escala, rigurosos y verificados por terceros con un fuerte componente de medios de vida y

Figure 5-1[Page 1]. Notification to relevant national authorities informing them about the project

Taking Root

durabilidad a largo plazo. Hemos estado trabajando con agricultores para cultivar árboles durante más de 10 años en Nicaragua, a través de un programa llamado CommuniTree. Esto ha resultado en la reforestación de más de 9.000 hectáreas y el secuestro de 2,2 millones de toneladas de CO2.

A través de la venta de créditos de carbono en el Mercado Voluntario de Carbono, los agricultores obtienen Pagos por Servicios Ecosistémicos (PSA). Esto implica que el 60% de los ingresos por la venta de créditos de carbono se entreguen a los agricultores como pagos en efectivo o materiales. Además, conectamos a los agricultores con los mercados para que puedan vender sus productos, ya sea café, madera o semillas.

Colaboración en República Dominicana con Floresta Incorporada

Desde 2019, Taking Root ha estado apoyando los esfuerzos de Floresta Incorporada, una ONG humanitaria y ambiental local en la República Dominicana, proporcionando financiamiento, servicios de apoyo y tecnología.

Operando desde 1984, Floresta Incorporada se asocia con agricultores locales para mejorar la calidad de vida de las comunidades rurales en condiciones de pobreza y degradación ambiental a través de metodologías de empoderamiento. Este proceso de colaboración brinda a los agricultores la oportunidad de apropiarse y transformar sus cuencas hidrográficas a través de la agrosilvicultura dinámica, el desarrollo humano y las microempresas que impulsan el desarrollo comunitario. Floresta Incorporada sería nuestro socio local para cualquier proyecto agroforestal a largo plazo que decidamos emprender, en espera de más discusiones sobre cómo podemos asegurarnos de estar alineados con las políticas gubernamentales sobre mitigación del cambio climático.

Muchas gracias y espero su respuesta,

Kahlil Baker, CEO de Taking Root
kahlil@takingroot.org

Figure 5-1[Page 2]. Notification to relevant national authorities informing them about the project

GOBIERNO DE LA
REPÚBLICA DOMINICANA
AGRICULTURA

Santo Domingo, D. N.
Miércoles, 01 de febrero de 2023.

MARD-2023-3832

Señor
Kahlil Baker,
CEO de Taking Root
Kahlil@takingroot.org.

Distinguido Señor Baker:

Me es grato acusar recibo de su comunicación de fecha 26 de enero del presente año, para informarle que el Ministerio de Agricultura no tiene objeción para que la empresa Taking Root y Floresta, pueda desarrollar proyectos agroforestales a largo plazo, con productores dominicanos de escasos recursos, financiados a través del mercado de carbono, con los componentes de proporcionar incentivos financieros y acceso a los mercados para los bienes producidos a través del mismo.

Este proyecto ayudará al país a cumplir con su contribución nacional determinada (CND) establecida en el Acuerdo de Paris, en el COP21 del 2015, al rendir cuentas de las emisiones y la absorción antropógenas correspondientes.

La experiencia de Floresta en la creación de asociaciones de productores, para el mejoramiento de su calidad y el pago por captura de carbono, es una combinación perfecta, para el desarrollo sostenible de las comunidades que impactaran los proyectos que Taking Root/Floresta se propone implementar.

Atentamente,

Limber Cruz
Ministro de Agricultura

GOBIERNO DE LA REPÚBLICA DOMINICANA
AGRICULTURA DESPACHO

LC
dr

Autopista Duarte Km. 6 1/2, Los Jardines del Norte, Santo Domingo, República Dominicana, Teléfono 809-547-3888,
Agricultura.gob.do / @AgriculturaRD, RNC: 401007381

Figure 5-2. Letter of Support from the Ministry of Agriculture