



Board of Executive Directors

For consideration

On or after 26 June 2018

PR-4576
12 June 2018
Original: Spanish
Public
Simultaneous Disclosure

To: The Executive Directors
From: The Secretary
Subject: Dominican Republic. Proposal for a loan for the "Sustainable Agroforestry Development Program"

Basic Information: Loan type Loan Based on Results (LBR) and Global Multiple Works Operation (GOM)
Borrower Dominican Republic
Amount up to US\$150,000,000
Source Ordinary Capital

Inquiries to: Eirivelthon Santos Lima (telephone Country Office in Bolivia 591-2217-7720) or Gonzalo Muñoz P. (extension 3196)

Remarks: This operation is included in Annex III of document GN-2915, "2018 Operational Program Report", approved by the Board of Executive Directors on 15 April 2018. However, its amount exceeds the ceiling established for Group D countries. Therefore, the operation does not qualify for approval by Simplified Procedure.

Reference: GN-1838-1(7/94), DR-398-17(1/15), GN-2869-1(11/16), DE-146/16, GN-2869-3(8/17), GN-2915(2/18)

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

DOMINICAN REPUBLIC

SUSTAINABLE AGROFORESTRY DEVELOPMENT PROGRAM

(DR-L1120)

LOAN PROPOSAL

This document was prepared by the project team consisting of: Eirivelthon Santos Lima (RND/CBO) and Gonzalo Muñoz P. (CSD/RND), Project Co-Team Leaders; Bruno Jacquet (RND/CDR); Lina Piedad Salazar, Yolanda Valle Porrua, Jossie Fahsbender Valera, and María del Rosario Frugone (CSD/RND); Luis Miguel Aparicio Alcazar (CSD/CCS); Isabel Cristina Granada Garces (INE/TSP); Awilda Margarita Castillo Arias and Yonaida M. Encarnación (CID/CDR); David Jorge Baringo Ezquerra and María José Carreras Gamarra (VPS/ESG); Willy Bendix and Denise Ann Salabie (VPC/FMP); María Sofía Greco (LEG/SGO); and Leonardo R. Corral (SPD/SDV).

This document is being released to the public and distributed to the Bank's Board of Executive Directors simultaneously. This document has not been approved by the Board. Should the Board approve the document with amendments, a revised version will be made available to the public, thus superseding and replacing the original version.

CONTENTS

PROGRAM SUMMARY

I.	DESCRIPTION AND RESULTS MONITORING	1
A.	Background, problem, and rationale	1
B.	Objectives, components, and cost	8
C.	Key impact and results indicators	9
II.	FINANCING STRUCTURE AND MAIN RISKS	10
A.	Financing Instruments	10
B.	Economic viability	11
C.	Environmental and social risks	11
D.	Fiduciary Risks	13
E.	Other risks	13
III.	IMPLEMENTATION AND MANAGEMENT PLAN	14
A.	Summary of implementation arrangements	14
B.	Summary of results monitoring arrangements	17

ANNEXES	
Annex I	Summary Development Effectiveness Matrix
Annex II	Results Matrix
Annex III	Fiduciary Agreements and Requirements

LINKS
<p>REQUIRED</p> <ol style="list-style-type: none"> 1. Multiyear execution plan and annual work plan 2. Monitoring and evaluation plan 3. Environmental and social management report 4. Theory of change and estimated cost 5. Procurement plan <p>OPTIONAL</p> <ol style="list-style-type: none"> 1. Bibliographic references 2. Definition of agroforestry packages 3. Diagnostic assessment and rural road improvement proposal 4. Definition of reforestation packages 5. Formalization of program beneficiary property rights 6. Definition of the optimal incentive for the adoption of agroforestry technologies 7. Statistical information on program beneficiaries 8. MOPC institutional capacity assessment report 9. UTEFDA institutional capacity assessment report 10. Component I Operating Regulations 11. Component II Operating Regulations 12. Program itemized costs 13. Program economic evaluation 14. Program disbursement matrix 15. Evaluation report for use of the country procurement system 16. Contribution to mitigating climate change 17. Evaluation of program governance and execution framework 18. Safeguard policy filter and safeguard screening form

ABBREVIATIONS

CGRD	Office of the Comptroller General of the Dominican Republic
LIBOR	London Interbank Offered Rate
LBR	Loan based on results
ICAS	Institutional Capacity Assessment System
MAPRE	Administrative Ministry of the Presidency
MgC	Megagrams of carbon
MOPC	Ministry of Public Works and Communications
OCGPFRE	Coordinating Office for Projects Financed with External Resources
OEC	Observatory of Economic Complexity
ONE	Oficina Nacional de Estadística [Bureau of National Statistics]
PDA	Programa de Desarrollo Agroforestal [Agroforestry Development Program (Dominican Republic)]
PFMS	Dominican Republic Public Financial Management System
RD\$	Dominican peso
UCPDA	Coordination Unit for Agroforestry Development Projects
UTEPDA	Technical Execution Unit for Agroforestry Development Projects

PROGRAM SUMMARY
DOMINICAN REPUBLIC
SUSTAINABLE AGROFORESTRY DEVELOPMENT PROGRAM
(DR-L1120)

Financial Terms and Conditions				
Borrower: Dominican Republic			Flexible Financing Facility^(b)	
			Amortization period:	21 years
Executing agencies: for Component I, Administrative Ministry of the Presidency (MAPRE); for Component II, Ministry of Public Works and Communications (MOPC)			Disbursement period:	5 years
			Grace period:	6 years ^(c)
			Interest rate:	LIBOR-based
Source	Amount (US\$)	%	Credit fee:	^(d)
IDB (Ordinary Capital)^(a)	150 million	100	Inspection and supervision fee:	^(d)
			Weighted average life:	15.17 years
Total	150 million	100	Approval currency:	United States dollar
Project at a Glance				
Program objective/description: The program's objectives are to: (i) increase the income of small farmers through higher agricultural productivity; and (ii) enhance environmental sustainability and adaptation to climate change through better natural capital management. Its specific objectives are to: (i) increase the adoption of agroforestry technologies; and (ii) improve connectivity with markets.				
Special contractual conditions precedent to the first disbursement of the loan based on results (Component I): (i) a subsidiary contract will have been signed between the Ministry of Finance and MAPRE (paragraph 3.1); (ii) key personnel of the Technical Execution Unit for Agroforestry Development Projects (UTEPDA) will have been appointed or hired, pursuant to the terms of reference previously agreed upon with the Bank; (iii) an integrated management information system for the UTEPDA will have been developed and implemented, pursuant to the technical specifications agreed upon with the Bank (paragraph 3.5); (iv) the respective program Operating Regulations for this component, previously agreed upon with the Bank, will have been approved and entered into effect (paragraph 3.4); and (v) an entity responsible for the independent verification of the results, pursuant to the terms of reference previously agreed upon with the Bank, will have been hired (paragraph 3.10).				
Special contractual conditions precedent to the first disbursement of the multiple works loan (Component II): (i) a subsidiary contract between the Ministry of Finance and the MOPC will have been signed (paragraph 3.1); (ii) a standing operations team will have been named, pursuant to the terms of reference agreed upon with the Bank (paragraph 3.6); and (iii) the respective program Operating Regulations for this component, previously agreed upon with the Bank, will have been approved and entered into effect (paragraph 3.4).				
See also the contractual environmental and social conditions stipulated in the legal requirements section of the program's environmental and social impact assessment .				
Exceptions to Bank policies: None				
Strategic Alignment				
Challenges:^(e)	SI <input type="checkbox"/>	PI <input checked="" type="checkbox"/>	EI <input type="checkbox"/>	
Crosscutting themes:^(f)	GD <input type="checkbox"/>	CC <input checked="" type="checkbox"/>	IC <input type="checkbox"/>	

^(a) All proceeds of the Bank financing will be used to finance the program's implementation through two investment loan instruments, namely: (i) a results-based loan (Component I); and (ii) a multiple works loan (Component II), pursuant to Section II(A) hereof. This financing will be formalized through a single loan contract to be signed between the borrower and the Bank, pursuant to the financial terms and conditions and the special contractual conditions spelled out in the program summary.

^(b) Under the terms of the Flexible Financing Facility (FN-655-1), the borrower has the option of requesting changes in the amortization schedule as well as currency and interest rate conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

^(c) Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted, provided that they do not entail any extension of the original weighted average life of the loan or the last payment date, as documented in the loan contract.

^(d) The credit fee and the inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with relevant policies.

^(e) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

^(f) GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem, and rationale¹

- 1.1 **Agricultural sector context and degradation of natural resources.** Over the past two decades, the agriculture sector's contribution to Dominican gross domestic product has fallen from 13% to 7% (Observatory of Economic Complexity (OEC), 2016). However, this sector remains strategic for economic development and sustainable management of the country's natural resources. According to the results of the preliminary agriculture census, the country has 320,000 agricultural production units, which employ 13% of the economically active population. The agriculture sector is also the main source of employment in rural areas, where one third of the country's population resides (Bureau of National Statistics (ONE), 2010 and Banco Central, 2016). The development opportunities created by the agriculture sector are therefore strategic, because rural areas have a higher incidence of poverty than urban areas (38.1% versus 26.8%). Lastly, during this same period, agricultural exports have grown from 16% of the total value of exports to 25%, chiefly in the categories of fruits and vegetables, bananas, and cocoa, which access niches in the European market (OEC, 2016).
- 1.2 Despite the importance of the agriculture sector in rural areas, 34% of land devoted to agricultural production is cultivated with farming practices that are inappropriate for the country's current soil and climate conditions (Izzo, 2012). These practices degrade the soil and directly impact agricultural productivity, because they undermine the foundations for future production through soil erosion and nutrient loss (Millard, 2011). These farming practices are commonly found in hilly areas of south and southeastern parts of the country. Here, traditional farming, a mix of production for the domestic market and subsistence agriculture, is the main economic activity. Traditional farming is practiced at altitudes of 500 to 1,000 meters in degraded, eroded, and rocky soils on steep 20° to 45° slopes. This type of farming is practiced by small farmers whose main crops include annual crops such as pigeon peas, string beans, and grain maize, and perennial crops, including coffee, avocados, and mangos. Some farmers also raise livestock on a small scale.
- 1.3 Table 1 shows productivity in the intervention area (seven projects² in watersheds prioritized under the Dominican government's Agroforestry Development Program (PDA)) compared to the national average and the average for Central America. For annual crops, it shows that productivity in the intervention area is similar to the national average. For perennial crops, however, the region's productivity is substantially lower than the average for the country and Central America, mainly with respect to avocados, bananas, and cocoa. Coffee productivity is higher than in the rest of the country, but substantially lower than in Central America.

¹ The program's bibliographic references are provided in [optional link 1](#).

² Hondo Valle and Juan Santiago; Sabaneta; Las Cañitas; Independencia; Bahoruco; Los Fríos, and Barahona.

Table 1. Average productivity – perennial crops (kilograms per hectare)

Crop	Intervention area	Dominican Republic	Central America
String beans	954	930	749
Grain maize	1,590	1,647	3,364
Coffee	318	146	600
Avocados	6,626	44,961	10,325
Bananas	8,946	40,239	41,512
Cocoa	329	470	546

Source: United Nations Food and Agricultural Organization Statistical Database (FAOSTAT) and program baseline survey (2017).

- 1.4 Although the productivity of annual crops is the same as the national average, small farmers in hilly areas of the south and southeastern parts of the country still use the slash and burn technique to clear forests for the cultivation of subsistence crops, subsequently abandoning these fields for the reestablishment of secondary forest fallow. Experience shows that this farming technique can be sustainable if regrowth of secondary forest fallow is maintained for 15 to 20 years (Sánchez and Benites, 1987). However, fallow periods have been shortening due to the scarcity of available land for cultivation (Thompson, 1992). Furthermore, crop yields in degraded soils eventually decrease as erosion depletes soil fertility (Montgomery, 2007; Millard, 2011). The economic literature addresses this problem as a vicious circle between poverty and the degradation of natural resources. Traditional farming in fragile soils reduces the production capacity of farms and, by extension, crop yields. Constant repetition of this practice impoverishes farmers and degrades natural resources (Reardon and Vosti, 1997; Swinton, Escobar, and Reardon, 2003; Barbier, 2010).
- 1.5 Lastly, in the south and southeastern parts of the country, the rural population relies on the rural road network to connect it with local and regional markets. Here, ground transport is the principal means of moving freight and passengers. Consequently, the deteriorated condition of the rural road network results in higher transportation costs, reducing the competitiveness of small rural farmers. Rural roads in these areas are situated in mountainous terrain that is hard to reach due to steep slopes of 6% to 20%. As indicated in the Transport Sector Framework (document GN-2740-7), there is a correlation between investment in transport infrastructure, competitiveness, and economic growth. This growth occurs as a result of reduced costs and transport times, which increase the efficiency of production. The program intervention area has roughly 258 kilometers of rural roads, and the representative sample in the intervention area indicates that all roads are in a very poor state of disrepair ([optional link 3](#)). By improving the rural road network, the program will enhance farmers' connectivity to the country's logistical corridors.
- 1.6 **Empirical evidence on the adoption and impact of agroforestry systems.** Empirical evidence on the adoption of agroforestry technologies and its impact on income and productivity is key for the justification and design of the proposed operation. This evidence is therefore summarized below.
- 1.7 **Determinants of adoption.** Numerous studies show that the perception of risk, the biophysical features of the land, liquidity constraints, the lack of information, and lack of access to markets are the main drivers for the adoption of agroforestry technologies (Pattanayak, 2003; Mercer and Pattanayak, 2003). Shiveley (1997, 2001) shows that a critical hurdle to low-income farmers' adoption of agroforestry

technologies is the combination of the high initial cost of adopting them and the probability that the technology will reduce household consumption to below the subsistence level, especially during the initial years. The empirical evidence shows that farmers with less access to markets are also less likely to adopt agroforestry and other farming technologies (Damania et al., 2016; Neill and Lee, 2001). A number of interventions are able to mitigate this perception of risk and thus increase the adoption of agroforestry technologies. For example, technical assistance and membership in producers' groups foster the adoption of agroforestry technologies because they increase information and access to markets (Pattanayak, 2003; Caviglia-Harris, 2003). There is also evidence that formalizing land tenure has a positive impact with respect to the adoption of agroforestry technologies (Goldstein et al., 2015; Deininger et al., 2011; Dower and Pfutze, 2013; Ali et al., 2014). Simmons et al. (2002) show that the introduction of tree crops is 15.4 times more likely when land tenure is assured. This is because the adoption of agroforestry systems is a medium-term investment for producers that requires guarantees of land tenure to ensure a return on their investment.

- 1.8 **Impact of agroforestry technologies.** Bravo-Ureta et al. (2011) assessed the impact of the Natural Resources Management Program for Priority Watersheds (operation 1077/SF-HO) in Honduras. This study showed a significant increase in the value of the beneficiaries' production during the agricultural cycle examined, ranging from US\$263 to US\$331. In El Salvador, Bravo-Ureta et al. (2006) studied a program that sought to raise farm income through the adoption of soil conservation technologies. The study's findings showed that the program beneficiaries' adoption of these technologies succeeded in that objective. In Nicaragua, De los Santos-Montero and Bravo-Ureta (2017a, 2017b) assessed the impact of the Socioenvironmental and Forestry Development Program II (POSAF II) (operation 1084/SF-NI), which supported small farmers' adoption of agroforestry and forestry technologies. The results show that average technical efficiency is higher for beneficiary than for nonbeneficiary producers in forestry systems (44% versus 27%) and agroforestry systems (40% versus 11%) alike. Moreover, the beneficiaries of agroforestry technology increased the annual value of their farm production by US\$1,058, a 126% average increase with respect to the control group. Furthermore, a study for an agroforestry program with Nicaragua, the Environmental Program for Disaster Risk and Climate Change Management (operation 2415/BL-NI), shows that the beneficiaries' adoption of agroforestry crops increased the annual yield per hectare (US\$195) and forest coverage (3 hectares) over that of the control group (IDB, 2017). Lastly, an evaluation of the Technology Transfer to Small Farmers Program in Haiti (2562/GR-HA) showed that these farmers can expect an increase of up to 58% in their income by adopting agroforestry systems (Fahsbender et al., 2017).

- 1.9 **Adoption of agroforestry systems as a strategy for adapting to climate change.** The main climate threats to the livelihood of rural producers are extreme drought, high temperatures, changes in rainfall patterns, and especially torrential rains during the hurricane season, not to mention extreme climate events such as hail- and windstorms (Tineo, Mañon, and Ovalle, 2017). These climate threats affect agricultural production and, hence, food security and farmer income. Agroforestry systems have great adaptive potential compared to traditional single-crop farming. The effects of tree cover on many of the variables considered in the projections on climate change have vast potential for mitigating its impact (Van Noordwijk et al.,

2011). Recent studies (Vaast et al., 2016; Cerda et al., 2014) note the potential of coffee and cocoa production in agroforestry systems for producers' adaptation to climate change at the microclimatological level (blockage of solar rays, rain, and wind), the ecological level (better use of natural resources), and the socioeconomic level (diversification of income sources).

- 1.10 **Adoption of agroforestry systems as a strategy for improving the use of natural capital.** Several recent studies in the Dominican Republic and Latin America show that a strategy to diversify sources of livelihood through the adoption of agroforestry systems promotes soil conservation (Rousseau et al., 2013) and provides important ecosystem services in watersheds (Gross et al., 2014). The trees and perennial crops of agroforestry systems can improve natural capital by adding organic material to the soil and reducing nutrient deficiencies in degraded soils (Souza, et al., 2012). In Africa, coffee- and cocoa-based agroforestry systems have also had a positive impact, creating a refuge for biodiversity (Dowson et al, 2003, Carsan, et al., 2013, and Bhagwat, et al., 2008).
- 1.11 **Agroforestry Development Program.** The Dominican government has recognized the need for a program to achieve better management of natural resources through the development of sustainable agriculture. In early 2017, it launched the Agroforestry Development Program (PDA), with the aim of increasing the environmental sustainability of small farmers through: (i) reforestation and forest conservation in the upper regions of deforested watersheds; (ii) development of sustainable agricultural production through the introduction of agroforestry systems, including a monthly payment of RD\$5,000 over three years to cover operating and maintenance costs; (iii) improvements in production infrastructure, such as the rehabilitation of irrigation systems and farm access roads, the construction of buildings for storage and drying, etc.; and (iv) training and outreach. The program will benefit 11,316 small farmers in prioritized watershed projects of Hondo Valle and Juan Santiago, Sabaneta, Las Cañitas, Independencia, Batoruco, Los Fríos, and Barahona. As of 31 December 2017, the program had executed US\$11 million in budget resources to reforest 5,365 hectares and supported the adoption of agroforestry systems on another 2,023 hectares. For 2018, the General Budget Law allocated US\$32 million for the PDA.
- 1.12 **Selection criteria and resulting PDA target population.** The Dominican government's main criteria for selecting the PDA beneficiaries (paragraph 1.11) include: (i) geography, i.e. location of property within the projects' area of influence; (ii) economic activity, i.e. program beneficiaries must be farmers; and (iii) other benefits, i.e. beneficiaries may not receive other government subsidies with objectives similar to those of the PDA. Data were collected from a sample of 600 PDA farmers to identify the main characteristics of the program beneficiaries in terms of their socioeconomic and production circumstances. Analysis of the data reveals that: (i) the household income of the target population is low, averaging US\$3,410 annually, with US\$1,569 derived from farming (46%); (ii) farmers cultivate small parcels of land, averaging four hectares; (iii) 43% of farmers sell part of their production; (iv) 30% of small hold farms are titled; and (v) 46% of farmers report practicing slash-and-burn agriculture, thus confirming the natural resource management problem ([optional link 7](#)).
- 1.13 **Challenges, strategy, and justification for the operation.** The Dominican government requested Bank support to identify improvements and consolidate the

- PDA (paragraph 1.11). Accordingly, the Bank, in collaboration with the government, conducted a series of diagnostic assessments and held workshops to identify the main challenges facing the PDA and the main lines of action for increasing the program's sustainability ([optional link 2](#), [optional link 3](#), [optional link 4](#), [optional link 5](#), and [optional link 6](#)).
- 1.14 **Challenge 1. Diagnostic assessment and planning.** The PDA lacks a formal diagnostic assessment of and planning for watersheds and farms. The proposed agroforestry systems have specific ecological requirements in terms of temperature, rainfall, and soil quality. The operation calls for additional studies to determine the area's potential for the introduction of agroforestry systems.
 - 1.15 **Challenge 2. Market logic.** The PDA's approach is centered chiefly on the agronomic aspects of adopting agroforestry technologies, with little emphasis on marketing issues. This operation therefore proposes new interventions that will create greater market opportunities through the development of formal business plans and the strengthening of producer organizations.
 - 1.16 **Challenge 3. Enabling conditions.** The intervention approach must be comprehensive to achieve a greater development impact. The PDA considered only the rehabilitation of farm access roads; the operation proposes investments in rural roads to improve farm connectivity with markets.
 - 1.17 **Challenge 4 Sustainability.** The PDA did not initially consider land tenure issues. The operation envisages formalization of small farmers' property rights to guarantee the adoption of agroforestry systems over the long term.
 - 1.18 **Challenge 5. Monitoring and evaluation.** The PDA lacks a standardized monitoring and evaluation system. The operation considers the design and implementation of a monitoring and evaluation system to ensure sound program implementation.
 - 1.19 **Challenge 6. Payments for the maintenance of agroforestry systems.** The PDA provides a monthly payment of RD\$5,000 over three years for the maintenance of agroforestry systems. It was found that these payments could be optimized, since: (i) payment of the monthly incentive should be issued per unit of area converted and not on a per household basis; and (ii) the payment should compensate for the opportunity cost of the land, calculated at RD\$2,290 monthly per hectare for a three-year period, i.e. the period required for the agroforestry system to mature ([optional link 6](#)).
 - 1.20 **Theory of change.** The degradation of natural resources is a threat to the environment and agricultural production. Tackling this challenge requires production incentives to boost agricultural productivity while reducing environmental degradation, especially soil degradation. These measures include the introduction of agroforestry systems—production systems in which trees and crops are grown in the same production unit. The program seeks to increase the adoption of agroforestry systems as an environmentally sustainable production alternative. However, their adoption is hindered by various constraints, which are the basis for the theory of change analysis. Accordingly, these constraints determine the activities to be financed by this operation. Specifically, the main constraints to the adoption of agroforestry technologies are associated with liquidity (62% of farmers have credit

constraints), lack of information (52% are unfamiliar with agroforestry practices), and lack of market access (57% do not sell their production in the market³).

- 1.21 **The proposed program will finance the following activities:** (i) a package of nonreimbursable goods and services for the conversion of productive hectares to the agroforestry system selected by the farmer, a measure aimed at alleviating liquidity constraints; (ii) technical assistance activities for groups and individuals to solve problems related to the lack of information; and (iii) activities related to the development of agricultural associations, the design of association business plans, and the rehabilitation of rural roads with a view to increasing farmers' access to markets for agricultural inputs and products. These activities are all aimed at furthering the beneficiaries' adoption of agroforestry systems and the marketing of their products, generating higher productivity and reducing damage to the environment. Lastly, to guarantee the long-term sustainability of the agroforestry systems adopted, the program will finance activities to ensure that farmers obtain title to their land. This will reduce the risk of farmers losing their investment due to land-tenure disputes, thereby guaranteeing that they benefit from the agroforestry systems and incentivizing investment in these crops ([required link 4](#)).
- 1.22 **The Bank's experience.** The operation draws on the experiences of different Bank-financed projects that support the adoption of agricultural technologies, the restoration of degraded areas, and the rehabilitation of rural roads. Special mention should be made of: (i) the Program in Support of Subsidies for Innovation in Agricultural Technology (operation 2443/OC-DR); (ii) the Acre Sustainable Development Project, Phases I and II (operations 1399/OC-BR and 2928/OC-BR); (iii) the Socioenvironmental and Forestry Development Program – POSAF I and II (operations 970/SF-NI and 1084/SF-NI); (iv) the Recovery and Protection of Climate and Biodiversity Services in Brazil's Southeast Atlantic Forest Corridor project (operation GRT/FM-14550-BR); (v) Business Development and Competitiveness in the Province of San Juan (3107/OC-DR); and (vi) the Environmental Program for Disaster Risk Management and Climate Change (operation 2415/BL-NI). The lessons learned are summarized in the table below.

Table 2. Integration of recommendations into the program's design

Lessons learned	Integration into the program's design
Technology adoption includes the physical asset (i.e. agroforestry systems) and technical assistance. The latter plays a key role in guaranteeing technology adoption. These services should therefore be offered in a timely manner during the agricultural cycle and at the appropriate intervals.	The operation includes the delivery of agroforestry packages and technical assistance. The latter will extend over three agricultural cycles to ensure the adoption of the technologies.
Liquidity constraints limit the adoption of agroforestry technologies that have an initially high cost and a long period of economic return.	The operation will provide nonreimbursable support that includes goods and services (i.e. agroforestry systems and technical assistance) to the facilitate the adoption of agroforestry technologies.

³ Baseline survey of 600 farmers in four of the prioritized watershed projects ([optional link 7](#)).

Lessons learned	Integration into the program's design
It is considered good practice to require or provide land tenure guarantees to ensure the sustainability of the technologies over time. This is extremely important in the case of agroforestry systems, in which the investment involves a long maturity period.	The operation includes activities aimed at guaranteeing land tenure. This will mitigate the risk of expropriation, eviction, and/or land disputes, creating enabling conditions for adoption of the technologies.
In the absence of complete markets, as in rural areas, social capital becomes one of the determinants of agricultural production by increasing access to factors of production, markets, credit, and the adoption of technologies.	The operation will support: (i) the formalization of producer organizations; (ii) training for cooperatives; and (iii) the development of business plans to help connect producers with markets.
Access to public transport infrastructure lowers transaction costs and facilitates market access, creating incentives to grow higher-value crops.	The proposed operation includes the rehabilitation of farm access roads and rural roads, thereby lowering transaction costs and connecting producers with markets.

- 1.23 **Country strategy with the sector.** The program is aligned with the National Development Strategy 2030 and the Agriculture Sector Strategic Plan 2010-2020, both of which share the objectives of boosting productivity, competitiveness, and the environmental and financial sustainability of agricultural production value chains. This will contribute to food security, boost export potential, and generate employment and income for the rural population. The program is also aligned with the Dominican Republic's National Strategy for Adaptation to Climate Change in the Agriculture Sector 2014-2020, aimed at reducing the agriculture sector's vulnerability to climate change. The program will help meet the country's Nationally Determined Contribution, pursuant to the United Nations Framework Convention on Climate Change, which seeks a 25% reduction in greenhouse gas emissions between 2010 and 2030, as established in the aforementioned National Development Strategy.
- 1.24 **The Bank's strategy with the country.** The program will contribute to the following lines of action prioritized in the IDB Group Country Strategy with the Dominican Republic 2017-2020 (document GN-2908): (i) economic stability, productive development, and competitiveness for a more inclusive economy capable of generating quality jobs; and; (ii) protection of the environment and adaptation to climate change for sustainable economic development. The program is included in the Operational Program Report 2018 (document GN-2915).
- 1.25 **Strategic alignment.** The program is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008) and aligned with the challenge of productivity and innovation, by boosting the productivity of farmers through their adoption of new technologies. The program is also aligned with the crosscutting theme of climate change and environmental sustainability, by increasing ecosystem services associated with the expansion of tree cover in degraded watersheds and the resilience of small farmers to climate change. Moreover, it contributes to the Corporate Results Framework 2016-2019 (document GN-2727-6) through the "beneficiaries of improved management and sustainable use of natural capital" indicator. Furthermore, the program is aligned with the strategy of Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5), particularly in its support for the construction and maintenance of socially and environmentally sustainable infrastructure. It is also consistent with dimensions of

success 1 and 3 of the Agriculture and Natural Resources Management Sector Framework (document GN-2709-5), which states that agriculture in the region will have to achieve high levels of productivity and the sustainable use of natural resources in the context of climate change; the Food Security Sector Framework (document GN-2825-3), with respect to the dimensions of safe and nutritious food availability and stability; the Climate Change Sector Framework (document GN-2835-3), by promoting higher agricultural productivity through the adoption of practices for adaptation to climate change; and the Transportation Sector Framework (document GN-2740-7) in the dimension of increasing and improving the coverage, quality, connectivity, and capacity of transportation systems.

- 1.26 It is estimated that 63% of the operation's resources will be invested in climate change mitigation and adaptation activities, following the [multilateral development banks' joint climate finance tracking methodology](#). These resources contribute to the IDB Group target of increasing financing for climate-related projects to 30% of all project approvals by the end of 2020 ([optional link 16](#)).

B. Objectives, components, and cost

- 1.27 **Objective.** The program's objectives are to: (i) increase the income of small farmers through higher agricultural productivity; and (ii) enhance environmental sustainability and adaptation to climate change through better natural capital management. Its specific objectives are to: (i) increase the adoption of agroforestry technologies; and (ii) improve connectivity with markets. The program will support seven projects in watersheds prioritized by the PDA (paragraph 1.11) and will consist of the following components:
- 1.28 **Component I. Adoption of agroforestry technologies (US\$105.63 million).** This component will finance the following outcomes: (i) increase the adoption of agroforestry technologies among smallholder farmers;⁴ and (ii) increase sales of agroforestry products. Interventions for estimating the cost of this component include: (i) technical training in agroforestry systems for outreach workers and program beneficiaries; (ii) zoning of the intervention areas through physical and chemical soil assays, as well as foliar analyses; (iii) technical assistance to smallholder farmers; (iv) delivery of agroforestry packages to smallholder farmers; (v) design and implementation of a monitoring and evaluation system for areas under agroforestry systems; (vi) land cover inventory and demarcation of protected areas in program intervention areas; (vii) land titling in program intervention areas; (viii) formal establishment and strengthening of farmer cooperatives; (ix) support to smallholder farmers' cooperatives for the development of agroforestry business plans; (x) rehabilitation of farm access roads; (xi) environmental and social management activities; and (xii) implementation of the system for monitoring and evaluating the program, administrative expenditures, and the preparation of technical reports and audits.
- 1.29 **Component II. Improvement of connectivity with agricultural markets (US\$44.37 million).** The expected outcome of this component will be better connectivity of smallholder farmers with markets. The program will finance the rehabilitation and maintenance of rural roads in the intervention area. Road

⁴ The following farmers will be eligible to receive support for the adoption of agroforestry technologies: (i) PDA beneficiaries, based on the selection criteria used in that government program (paragraph 1.12); and (ii) those with farms of no more than 10 hectares. Each eligible farmer will receive support for no more than two hectares.

improvement and rehabilitation will involve the following interventions: (i) double surface treatment that does not include expansion of the existing roadway; (ii) roadbed replacement for rural roads, as necessary; (iii) installation of protective gabions, as necessary, and additional hydraulic works for managing runoff; (iv) pavement markings and signage on rehabilitated roads; (v) routine maintenance for two years to guarantee the sustainability of the investments; (vi) environmental and social management activities; and (vii) operating expenses for the execution of the component. Financing will also be provided for the preparation of the component's audit reports.

- 1.30 For rural roadworks, a representative sample of 102 kilometers of these roads was selected, at a cost of US\$15.6 million, representing 35% of the total cost of Component II. The following criteria were used in selecting the roads for the initial sample and will be used for the other roads to be financed under the program: (i) the existence of a critical mass of small farmers in the program's area of influence; (ii) the ability to contribute to connectivity between program intervention areas and main corridors (access to markets); (iii) the intervention must not contribute to or facilitate harm to environmentally and socially sensitive areas; and (iv) the roads must be part of the rural road network.

C. Key impact and results indicators

- 1.31 The program's results matrix, which was agreed upon with the government, includes the program's objectives, impacts, outcomes, and outputs, with their respective indicators and means of verification. With respect to Component I, the operation includes a matrix of disbursement indicators ([optional link 14](#)). The main outcomes are detailed below:

Table 3. Program impact and outcome indicators

Indicators	Measurement (years)	Component I disbursement indicators	Rationale for selection
Program impact indicators			
Annual agricultural income (US\$ per household)	1 and 5	No	Measures impact on the quality of life through an increase in income
Annual agricultural production (US\$ per hectare)	1 and 5	No	Measures change in productivity stemming from the adoption of agroforestry technologies
Beneficiary producers that practice slash-and-burn agriculture	1 and 5	No	Measures behavioral changes among beneficiary producers in terms of land use
Carbon sequestration (MgC)	1 and 5	No	Measures environmental sustainability stemming from the adoption of agroforestry technologies

Indicators	Measurement (years)	Component I disbursement indicators	Rationale for selection
Program outcome indicators			
Agroforestry systems adopted and maintained (hectares)	1 through 5	Yes	Measures the adoption of agroforestry systems over time
Land tenure clarified in prioritized watershed projects	2 through 5	Yes	Measures progress in securing land tenure
Farm access roads rehabilitated (kilometers)	1 through 3	Yes	Measures improvements in market access

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing Instruments

- 2.1 **Cost and financing.** The program's total cost is US\$150 million, to be financed with resources from the Bank's Ordinary Capital through investment financing instruments, namely: (i) a loan based on results (LBR) to finance Component I (US\$105.63 million); and (ii) a multiple works loan to finance Component II (US\$44.37 million). Table 4 provides a breakdown of program costs by component. The program's itemized costs ([optional link 12](#)) presents the estimated cost of the outputs associated with each of its expected outcomes.

Table 4. Program costs (US\$ million)

	Investment category	Bank	Total	%
I	Component I. Adoption of agroforestry technologies	105.63	105.63	70.42
I.1	Direct costs	98.93	98.93	65.95
I.2	Indirect Costs (Administration, Monitoring, Evaluation, and Audits)	6.70	6.70	4.47
II	Component II. Improvement of connectivity with agricultural markets	44.37	44.37	29.58
II.1	Direct costs	44.22	44.22	29.48
II.2	Indirect costs (audits)	0.15	0.15	0.10
	Total	150.00	150.00	100.00

- 2.2 The program will have a five-year disbursement period. The term established for the physical start of Component II works will be three years. Table 5 presents the disbursement schedule by program component.

Table 5. Disbursement schedule (US\$ million)

Source	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
Component I	39.99	30.07	19.30	10.88	5.39	105.63	70.4
Component II	15.76	22.31	3.17	3.13	-	44.37	29.6
Total	55.75	52.38	22.47	14.01	5.39	150.00	
%	37.2	34.9	15.0	9.3	3.6	100.00	

- 2.3 **Justification for use of the financing instruments.** Component I meets the requirements for an LBR, (document GN-2869-1), since: (i) it supports a government program (paragraph 1.11) in achieving results by financing its expenditure framework; (ii) it supports changes in government practices, introducing good practices to support the adoption of agroforestry technologies (paragraph 1.21) and the environmental and social management of investments (paragraph 2.7); and (iii) its institutional capacity analysis of the Technical Execution Unit for Agroforestry Development Projects (UTEPDA) shows the unit: (a) has legal authority to execute the program; (b) has a multisectoral governance structure to ensure the achievement of results (paragraph 3.3); and (c) is developing management systems to guarantee good technical execution (monitoring) and fiduciary execution (procurement and financing) of the program (paragraph 2.10); and (iv) promotes the use of country systems.
- 2.4 Component II meets the requirements for the use of financing under the multiple works modality; it is therefore expected that similar but independent works will be financed, the feasibility of which do not depend on the execution of a particular number of work projects and whose individual size do not justify direct Bank management of the operation. Accordingly, a representative sample equivalent to 35% of the total for Component II has been selected (paragraph 1.30). It should be noted that the LBR instrument is not suitable for these investments, since they are activities not simultaneously linked with the finalization of an outcome and require an intensive flow of financing from the earliest stages of execution.
- 2.5 The proposed financing structure will facilitate the development of a comprehensive vision of the interventions, as the program's technical viability critically depends on simultaneous execution of the two components. This financial structure, which includes two loan modalities under a single program, allows for comprehensive financing of the interventions, thereby facilitating attainment of the program's objectives.
- B. Economic viability**
- 2.6 An ex ante economic analysis has been conducted to assess the program's economic viability through a cost/benefit analysis that quantified the benefits generated by the increase in both smallholder farmers' agricultural productivity and carbon sequestration. It also quantified the public and private costs of program execution in terms of investment, operating, and maintenance costs. The analysis yielded an internal rate of return of 13.04% and a net present value of US\$3.1 million, based on a 12% discount rate, a 12-year period of analysis, and shadow prices. In addition, a sensitivity analysis of various scenarios was conducted that included changes in a number of key variables ([optional link 13](#)).
- C. Environmental and social risks**
- 2.7 **Program classification.** The program is classified as a category "B" operation, in light of the foreseeable adverse social and environmental impacts that could derive from the activities of Components I and II: local short-term adverse environmental impacts, including the related social impacts, for which specific mitigation measures

are available. Furthermore, neither component involves involuntary resettlement⁵ nor adverse environmental and/or social impacts of a magnitude that would necessitate the program's classification under category "A". In the case of Component I, because the execution of the activities will involve use of the country social and environmental management systems of the borrower, an analysis was conducted of the equivalency and acceptability of the country systems in terms of the applicable Bank safeguards, pursuant to Directive B16. The gaps identified, as well as the measures required to close those gaps and manage the social and environmental risks associated with Component I, are detailed in the country environmental and social systems assessment and respective action plan. As for Component II, the potential social and environmental impacts and associated risks, as well the respective mitigation measures, are detailed in the environmental and social impact assessment, the environmental and social management plan, and the environmental and social management framework. Lastly, the operation has been classified as having a medium risk of natural disasters (type 1).

- 2.8 **Risks and mitigation measures identified.** Table 6 presents the high environmental and social risks associated with Components I and II and the respective mitigation measures.

Table 6. Main potential risks and mitigation measures*

Potential risks/impacts	Mitigation measures
Use of invasive species in agroforestry systems	(i) Outcomes that imply the use of invasive species will not be eligible; and (ii) A plan to remove invasive species will be implemented.
Degradation of natural habitats from pollution or deforestation	(i) Agrochemicals preapproved by the Bank will be used and an agrochemical management plan implemented; and (ii) Measures to prevent deforestation will be introduced, including monitoring and environmental communication and education activities.
Degradation of protected areas	(i) Outcomes that imply the degradation of protected areas will not be eligible; (ii) Protected areas within the intervention area will be demarcated; (iii) Roads traversing protected areas will not be rehabilitated.
Limited monitoring of beneficiaries and properties	Creation of: (i) a register of beneficiaries with producer georeferencing and a monitoring system; and (ii) a platform for the dissemination of information.
Gender equity	Measures will be introduced to support gender equity in the program.
Economic and/or physical displacement and the consequent risk of impoverishing the population due to land titling activities.	(i) Outcomes that imply economic or physical displacement of the population and the consequent risk of impoverishment will not be eligible; (ii) A study will be conducted to assess the risk of economic and/or physical displacement; and

⁵ Although no people will be physically displaced, in the event partial rights-of-way must be secured, a plan and compensation framework for right-of-way have been prepared, which include adequate compensation should expropriation (of small plots) become necessary and/or the displacement of small structures (fencing on agricultural plots).

Potential risks/impacts	Mitigation measures
	(iii) The technical specifications for the process will include guidelines to prevent people ineligible for title to the land to be excluded or harmed.

* The country environmental and social systems assessment (Component I), the environmental and social management plan, and the environmental and the environmental and social management framework (Component II) detail all the adverse risks and impacts identified, as well as the mitigation measures. These will be reflected in the respective technical specifications, which will be part of the program Operating Regulations and the terms of reference of the verifying entity.

- 2.9 **Public consultations.** Eight public consultations were held: the first at the national level and the rest at the local level. The consultations were considered important, and the participants reported their acceptance of the program ([optional link 10](#) and [optional link 11](#)). The environmental and social safeguards documentation has been published on the IDB's website.

D. **Fiduciary Risks**

- 2.10 Regarding the execution of Component I, the newly created UTEPDA has limited capacity in project management and in major and/or complex procurement for Bank-financed projects ([optional link 9](#) and [Annex III](#)). Consequently, and given the loan modality (LBR), the fiduciary risk for the execution of this component is considered high. In order to strengthen the UTEPDA's capacity,⁶ the following recommendations were issued: (i) supplement fiduciary staff and their capacities; (ii) implement a program activity monitoring and reporting system; (iii) put the Office of the Comptroller General's Internal Audit Unit under the UTEPDA; and (iv) prepare a UTEPDA operations manual for implementing the government program. During program execution, the Bank will also conduct supervision visits to monitor the implementation status of the recommended activities and fiduciary arrangements. Furthermore, regarding the execution of Component II, the executing agency, the Ministry of Public Works and Communications, through the Coordinating Office for Projects Financed with External Resources (OCGPFRE), has ample experience in executing loans from the Bank. According to the findings of the fiduciary assessment, the fiduciary risk for the execution of Component II is medium ([optional link 8](#) and [Annex III](#)) and can be mitigated by updating fiduciary management procedures and providing advisory services and training for the executing agency as well as establishing a standing operations team.

E. **Other risks**

- 2.11 **Implementation risk.** The following medium-level risks have been identified for Component I: (i) inefficient agroforestry systems; and (ii) poor management of the agroforestry systems. The following action will be taken to mitigate the first of these: (a) monitor plant health (monitoring of blight and diseases); (b) provide producers with timely and efficient plant transport services; (c) have a module in the UTEPDA for stock control in the system that will be implemented for the monitoring, evaluation, and supervision of planted areas; (d) hire the necessary technical personnel with the requisite qualifications for supervision; and (e) train and monitor technical personnel and producers. Mitigation measures for the second risk will

⁶ Technical cooperation resources from technical assistance operation ATN/OC-16311-DR (US\$300,000) will be used to strengthen the execution capacity of the UTEPDA, supporting program start-up.

consist of workshops on responsible agrochemical use and final waste disposal for technical personnel and multipliers.

- 2.12 **Public administration and governance risk.** The risk associated with the UTEPDA's capacity and technical management was assessed as "medium." Mitigation measures will include: (i) assigning specialized technical personnel to the respective areas; and (ii) and providing technical training.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 **Borrower and Executing Agencies.** The Dominican Republic will be the Borrower in this operation. The executing agency for Component I will be the MAPRE, through the UTEPDA.⁷ The executing agency of Component II will be the MOPC, through the OCGPFRE. The executing agencies will carry out the general coordination activities for the execution of their respective components and comprehensive program execution. **A special contractual condition precedent to the first disbursement of the loan proceeds for each component will be the signing of a subsidiary contract between the Ministry of Finance and each of the executing agencies** that establishes the obligations of the parties and the mechanisms for coordinating with the other institutions involved in program execution. This condition has been expressly requested by the borrower and is in accordance with established practice in the country for managing projects which ensure that the executing agencies are tasked with the pertinent obligations and responsibilities under the loan contract to be signed between the borrower and the Bank, and also facilitates agreement of all additional interagency coordination activities prior to the initiation of disbursements for each program component.
- 3.2 The UTEPDA, in coordination with the Ministry of Agriculture, will be responsible for the technical management of Component I. To achieve the outcome "adoption of agroforestry technologies," the UTEPDA and the Ministry of Agriculture will have to coordinate technical implementation of the following activities: training for producers and outreach technicians; agricultural zoning studies; support for the introduction and maintenance of agroforestry systems; technical assistance to farmers; the rehabilitation of farm access roads; and implementation of monitoring and supervision arrangements for areas under agroforestry systems. In order to improve land tenure, UTEPDA and the State Standing Committee on Land Titling (CPTTE), through the appropriate legal instrument, will coordinate the following activities: preparation of occupation inventories and the demarcation of protected areas; issuance of title to the beneficiaries of the Dominican State and of the protected areas identified to the Dominican State. Technical management of Component II will be the responsibility of the OCGPFRE, in coordination with the UTEPDA.
- 3.3 **Program governance.** The Coordination Unit for Agroforestry Development Projects (UCPDA)⁸ of the Executive Office of the President (UCPDA) is the program's management committee. The UCPDA was created to coordinate and oversee implementation of the Agroforestry Development Program. It is comprised

⁷ Established by Presidential Decree 10-17 of 19 January 2017, Article 2.

⁸ Established by Presidential Decree 10-17 of 19 January 2017, Article 1.

of the ministries of the institutions involved in the program's execution. The UCPDA will be responsible for program direction and strategic coordination ([optional link 17](#)). The UCPDA's composition, operations, and relationships with the executing agencies will be detailed in the program Operational Regulations.

- 3.4 **Program Operational Regulations.** Each program component will have its own Operating Regulations ([optional link 10](#) and [optional link 11](#)). **As a special contractual condition precedent to the first disbursement of the resources to finance each component, the respective program Operating Regulations will have been approved and entered into effect, as previously agreed upon with the Bank,** so that the guidelines and procedures to be followed by each executing agency will be established for the successful execution of this program. According to the Bank's experience in the region, the approval of program Operating Regulations prior to the first disbursement of proceeds enhances the executing agency's internal organization prior to initiating program execution. Approval of the program Operating Regulations therefore helps to mitigate risks associated with a lack of knowledge of the program operating procedures agreed upon with the Bank.
- 3.5 **Key UTEPDA staff.** The UTEPDA will have, *inter alia*, the following key staff: (i) an operations manager; (ii) a financial manager; (iii) a planning specialist; (iv) a monitoring specialist; and (v) a procurement specialist. To ensure successful execution, **the appointment or hiring of these key staff, pursuant to the terms of reference previously agreed with the Bank, will be a special contractual condition precedent to the first disbursement of financing for Component I.** The UTEPDA will further strengthen the program execution team with the following staff, to be hired or appointed pursuant to the terms of reference and profiles previously agreed upon with the Bank: (i) three project coordinators; (ii) one coordinator for farm access roads; (iii) one land titling coordinator; (iv) nine audit technicians; (v) one accountant; (vi) one financial assistant; and (vii) one legal specialist, as well as consulting services in specific areas, as needed. Furthermore, **as a special contractual condition precedent to the first disbursement of financing for Component I, an integrated management information system for the UTEPDA will have been designed and implemented, pursuant to the technical specifications agreed upon with the Bank,** thereby ensuring a system is in place to monitor and track the results of Component I as well as to mitigate the fiduciary risks associated with this component (paragraph 2.10). Both conditions are key to mitigating risks that routinely arise in projects with newly created executing agencies, such as the UTEPDA. Accordingly, good international practices provide that the successful execution of complex projects will essentially hinge on the contracting human resources with the relevant experience and the implementation of project management systems by the executing agency or agencies.
- 3.6 **Key OCGPFRE personnel.** For efficient execution of Component II, **as a special contractual condition precedent to the first disbursement of financing for Component II, a standing operations team will have been named, pursuant to the terms of reference agreed upon with the Bank.** This standing operations team will consist, *inter alia*, of: (i) a technical coordinator; (ii) a planning specialist; (iii) a financial specialist; and (iv) a hydraulics specialist. To ensure the efficient use of resources for Component II, the OCGPFRE will have a full-time operations team working on the program, in addition to the staff comprising that office. Based on the Bank's experience in the region, it is essential that programs have dedicated human resources working exclusively to achieve program development objectives.

- 3.7 **Procurement of works, goods, consulting services, and nonconsulting services.** The execution of Component I provides for the use of country procurement systems. The Bank evaluated these systems using the Methodology for Assessing Procurement Systems (MAPS) ([optional link 15](#)). Accordingly, the systems were found to be consistent with internationally accepted principles, practices, and standards for all procurement methods and allowed providers from all countries to participate. These systems will be used for the procurement of: works, goods, consulting services (firms and individuals), and nonconsulting services. Only the selection of the independent verification entity will follow the procedures established in Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9). For Component II, procurement financed with Bank resources will be carried out pursuant to the Policies for the Procurement of Goods and Works financed by the Inter-American Development Bank (document GN-2349-9) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9). The procurement plan contains the procurement to be made during the execution of Component II ([required link 5](#)).
- 3.8 **Disbursement mechanism.** For Component I, disbursements will be processed on a six-month basis, using the following procedure: (i) the UTEPDA will issue a progress report on the execution of Component I and the result indicators that will be used for disbursements, mentioned in the matrix of disbursement indicators; it will submit that report for external outcome verification, in which the achievement of outcomes will be examined following the protocols established in the monitoring and evaluation plan ([required link 2](#)), contained in the program Operating Regulations ([optional link 10](#)); (ii) the independent external verification entity will verify that the outcomes have been achieved in accordance with the objectives mentioned within the time frame stipulated in its terms of reference; and (iii) once achievement of the outcomes has been verified, the Bank, following its customary procedures and schedules, will disburse the respective financial resources to the account indicated by the Borrower. The Bank will disburse the amount corresponding to each indicator if, and only if, the external verification finds that the value of the indicator in question is equal to or higher than the established target. If it is lower, the disbursement will be proportional to the achievement of the agreed upon target. Unutilized balances may be reprogrammed in the successive disbursements.
- 3.9 Resources for Component II may be disbursed through advances, reimbursement of expenses, and direct payment to providers. In the case of advances, disbursements are based on the projected expenditures for up to 180 days. The minimum percentage that will be required for a new advance of funds will be 80%.
- 3.10 **External verification of outcomes for Component I.** A specialized entity will act as an independent evaluator of the degree to which the outcomes have been achieved. It will be responsible for submitting an outcome verification report to the Bank in advance of each disbursement request. The verification entity will focus on two objectives: (i) issuing an opinion about the accuracy, reliability, validity, and consistency of information on outcomes; and (ii) determining the value of the outcome indicators established in each disbursement tranche. Based on its analyses, it may also issue recommendations to facilitate meeting the targets. The verification entity will be contracted pursuant to the terms of reference previously agreed upon with the Bank and in line with the Bank's policies for the selection and contracting of consultants. **Its contracting will therefore be a special contractual**

condition precedent to the first disbursement of financing for Component I, since each disbursement under this component will be subject to independent verification of the degree to which the corresponding outcomes were achieved (paragraph 3.12).

- 3.11 **Initial disbursement of Component I.** Once the conditions precedent to the first disbursement have been met, the executing agency may request an advance of up to 15% of the total amount of Component I to finance activities necessary for the timely achievement of its expected outcomes (document GN-2869-3). The Dominican government has confirmed that it will request an advance of US\$15.8 million, or 15% of Component I, to achieve the outcomes programmed for the first year of execution. Estimation of the initial disbursement amount was based on the planning of the targets, outputs, activities, and administrative expenses with their respective procurement processes. Agreement was reached with Dominican government that the initial disbursement requested would be discounted from the fourth disbursement of Component I. The government's justification of the discount period for the initial disbursement is tied to cash flow needs during the first years of Component I execution.
- 3.12 **Recognition of previous Component I outcomes.** The program includes financing for outcomes previously achieved under Component I ([optional link 14](#)). The government has confirmed that it will request the Bank's recognition of US\$4.6 million, or 4.3% of Component I. This financing will be applied to the outcomes obtained between the project profile approval date (16 June 2017) and the loan eligibility date. The Bank has reviewed the progress made on achieving the targets, the technical specifications of the outputs, the dates of the expenditures, the main activities, and their respective unit costs, verifying that they are within the scope of the proposed operation. The Bank has also reviewed how the costs of obtaining these outcomes were financed within the program's expenditure framework. Lastly, the disbursement will be made following independent verification of the outcomes.
- 3.13 **Audits and other financial reports.** During program execution, separate audited financial statements will be submitted for each program component no later than 120 days after the end of each fiscal period, and the program's final audited financial statements on project completion no later than 120 days after the date of the last disbursement. Each executing agency, UTEPDA and OCGPFRE, will be responsible for preparing and delivering the audited financial statements of its respective component to the Bank. The audited financial statements for Component I will include an analysis of the costs involved in attaining the outcomes. Moreover, prior to the disbursement of the last tranche of Bank financing for Component I, the executing agency will submit a report, to the Bank's satisfaction, detailing the costs associated with achieving the outcomes of that component. This report will determine the amount of resources to be disbursed. In the event this amount is less than the one established in the disbursement matrix, the remaining balance of undisbursed resources will be automatically canceled.
- B. Summary of results monitoring arrangements**
- 3.14 The program has a detailed monitoring and evaluation plan agreed upon with the UTEPDA and the MOPC ([required link 2](#)). The UTEPDA will be responsible for generating the information necessary for monitoring the indicators contained in the results matrix and sharing it with the Bank.

- 3.15 **Program monitoring.** The executing agencies, UTEPDA and MOPC, will prepare a monitoring report and submit it to the Bank no later than 60 days after the end of each six-month period during program execution. These reports will focus on achievement of the outcome indicators and outputs as well as the identification of the problems encountered and corrective action taken. With respect to Component II, in the last quarter of each year during project execution, the executing agency will submit, to the Bank's satisfaction, the respective annual work plan for the coming year.
- 3.16 **Program evaluation.** The executing agency will prepare the following independent evaluations, to be financed with the loan proceeds: (i) a midterm evaluation, to be submitted to the Bank no later than 90 days after 50% of the loan proceeds have been disbursed or two years from the date of the first disbursement of the program resources, whichever comes first; and (ii) a final evaluation, to be submitted to the Bank no later than 90 days after the Bank has disbursed 90% of the program resources. At minimum, these evaluations will include: (i) background information on the program; (ii) the methodology used to evaluate the degree to which the program's activities, outputs, outcomes, and impacts have been realized, including environmental and social management; and (iii) the results of the evaluations, based on the methodology. Furthermore, in the midterm evaluation, the executing agency will describe the progress made in executing the program's impact assessment plan: (i) the results of the implementation of the program's baseline; and (ii) identification of the problems encountered and solutions proposed by the executing agency to overcome them. In the final evaluation, the executing agency will present the results of the follow-up survey, among other matters.
- 3.17 **Impact assessment.** The program impact assessment will identify the program's impact on the beneficiary producers by comparing them with the control group. The methodology to be used for this purpose is a combination of propensity score matching and differences-in-differences. This will be accomplished with the information gathered on a representative group of beneficiaries and nonbeneficiaries. The estimated sample consists of 1,180 producers for each round of surveys. The projected costs of the assessment considered the implementation and analysis of two rounds (baseline and follow-up).

Development Effectiveness Matrix		
Summary		DR-L1120
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Productivity and Innovation -Climate Change and Environmental Sustainability	
Country Development Results Indicators	-Reduction of emissions with support of IDBG financing (annual million tons CO2 e)* -Beneficiaries of improved management and sustainable use of natural capital (#)* -Roads built or upgraded (km)* -Farmers with improved access to agricultural services and investments (#)* -Beneficiaries of IDBG projects that contribute to at least one key dimension of food security (#)* -Beneficiaries of improved management and sustainable use of cultural capital (#)*	
2. Country Development Objectives	Yes	
Country Strategy Results Matrix	GN-2908	Adapt agricultural production to climate change.
Country Program Results Matrix	OPR-2018 (GN-2915)	The intervention is included in the 2018 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		8.8
3.1 Program Diagnosis		3.0
3.2 Proposed Interventions or Solutions		4.0
3.3 Results Matrix Quality		1.8
4. Ex ante Economic Analysis		9.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		3.0
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		1.0
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		0.0
5. Monitoring and Evaluation		10.0
5.1 Monitoring Mechanisms		2.5
5.2 Evaluation Plan		7.5
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		High
Identified risks have been rated for magnitude and likelihood		Yes
Mitigation measures have been identified for major risks		Yes
Mitigation measures have indicators for tracking their implementation		Yes
Environmental & social risk classification		B
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting, Internal Audit. Procurement: Information System, Price Comparison, Contracting Individual Consultant, National Public Bidding.
Non-Fiduciary	No	
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	The ATN/OC-16311-DR is giving support to the UTEPDA to improve its executing capacity.

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The objectives of the program are: (i) to increase the income of small producers through higher agricultural productivity; and (ii) increase environmental sustainability and adaptation to climate change through better management of the natural capital. The specific objectives are: (i) to increase the adoption of agroforestry technologies; and (ii) improve connectivity to markets. The program is structured financially through the use of the Results Based Loan (RBL) instrument to finance Component I and the Multiple Works Loan instrument to finance Component II

The diagnosis of the problem of the degradation of natural resources due to inadequate agricultural practices is solid and based on evidence. The determinants that limit the adoption of agroforestry systems are identified and quantified. The proposed interventions are focused on easing the barriers to adoption. The effectiveness of the proposed interventions is validated with empirical evidence. These elements contribute to the construction of a clear and well-supported Theory of Change, which anchors the disbursements of component I under the RBL instrument. The indicators of the results matrix that condition the disbursements of the RBL in general are of outcomes, they are SMART, and with time-bound targets and means and protocols for verification.

The economic analysis is based on quantifying the increases in the gross margins of production, using assumptions about productivity increases attributable to the adoption of agroforestry systems, and the reduction of greenhouse gases. The sensitivity analysis shows that the economic viability of the program is quite sensitive to the assumptions of increased productivity, and the effective ratio of technology adoption.

The Monitoring Plan meets the requirements for a RBL. The proposed evaluation is non-experimental (difference-in-difference with matching) and meets the respective quality requirements.

RESULTS MATRIX

General objectives:	The program's objectives are to: (i) increase the income of small farmers through higher agricultural productivity; and (ii) enhance environmental sustainability and adaptation to climate change through better natural capital management.
Specific objectives:	Its specific objectives are to: (i) increase the productivity of small farmers and environmental sustainability by increasing the adoption of agroforestry technologies; and (ii) improving farmers' connectivity with markets by rehabilitating rural roads.

EXPECTED IMPACT

Indicators	Unit of measurement	Baseline		Targets		Means of verification	Observations
		Value	Year	Value	Year		
Annual agricultural income	Dollars/household	1,569	2017	1,695	2022	Program impact assessment	<u>Source baseline:</u> Beneficiary baseline, 2017 <u>Source target:</u> The 8% increase is taken from Bravo-Ureta et al., 2016. This increase is in beneficiary producers versus the control group.
Gross value of annual agricultural production	Dollars/hectare	1,375	2017	3,107	2022	Program impact assessment	<u>Source baseline:</u> Beneficiary baseline 2017 <u>Source target:</u> De Los Santos-Montero and Bravo-Ureta (2017) estimate a 126% increase in productivity for agroforestry crops in Nicaragua four years after their introduction. This percentage corresponds to the scenario with the most rigorous evaluation methodology. This increase represents the impact on the beneficiary producers versus the control group.
Carbon sequestration	MgC	0	2017	566,390	2022	Final program evaluation	18,000 hectares in five years. Annual sequestration of 10 MgC/hectare/year 2 is assumed.
Beneficiary producers who practice slash-and-burn agriculture	%	43	2017	0	2022	Program impact assessment	<u>Source baseline:</u> Beneficiary baseline, 2017 <u>Source target:</u> Commitment contract with the government
Producers who benefit from better management and sustainable use of natural capital	Producers	0	2017	9,295	2022	Final program evaluation	Producers that adopt agroforestry technologies

EXPECTED OUTCOMES

Expected outcomes	Unit of measurement	Baseline		Targets						Disbursement Indicator (yes/no)	Means of verification	Observations
		Value	Year	Year 1	Year 2	Year 3	Year 4	Year 5	Total			
Outcome 1: Increase in the adoption of agroforestry technologies												
Indicator 1.1. Agroforestry systems adopted for one six-month period	Hectare	1,400	2017	4,398	6,469	6,320	-	-	18,587 ¹	yes	Verification entity report	The results are monitored in the year the agroforestry system is installed and over two consecutive years of maintenance.
Indicator 1.2. Agroforestry systems adopted for 18 months	Hectare	0	0	1,400	4,398	6,469	6,320	-	18,587	yes		
Indicator 1.3 Agroforestry systems adopted for three years	Hectare	0	0	-	1,400	4,398	6,469	6,320	18,587	yes		
Indicator 1.4. Land tenure clarified in projects associated with the prioritized watersheds	Project	0	0	0	2 ²	2	2	1	7	yes	Verification entity report	The program's geographical area consists of seven projects for watersheds prioritized by the Agroforestry Development Program. The specific projects involve the following watersheds: (i) Hondo Valle and Juan Santiago; (ii) Sabaneta; (iii) Las Cañitas; (iv) Independencia; (v) Bahoruco; (vi) Los Frios; and (vii) Barahona.
Outcome 2: Increased sales of agroforestry products												
Indicator 2.1. Farm access roads rehabilitated	Km	0	-	154	107	177	-	-	438	yes	Verification entity report	

¹ The total target includes the 1,400 hectares defined as the baseline that will be examined.

² The delivery of the associated outputs (6 and 7) are programmed beginning in year 1, and the audits to verify the outcomes associated with disbursements will begin in year 2.

OUTPUTS

Outputs	Estimated cost (US\$)	Unit of measurement	Baseline	Year 1 (2019)	Year 2 (2020)	Year 3 (2021)	Year 4 (2022)	Year 5 (2023)	Final target	Means of verification	Observations
Component I: Adoption of agroforestry technologies											
Output 1: Training provided to beneficiaries and technicians	260,000	Event	0	5	6	6	-	-	17	Training reports	
Milestone 1: Agroforestry Development Program training for technicians		Technician	0	139	131	132	-	-	402	List of Participants	
Milestone 2: Agroforestry Development Program training for beneficiaries		Beneficiary	0	3,026	3,109	3,160	-	-	9,295		Beneficiaries 8,657/40 producers = 216
Milestone 3: Training of technical team in the management of coffee, avocado, and cocoa crops		Technician	0	139	131	132	-	-	402		
Milestone 4: Training of technicians in different areas		Technician	0	139	131	132	-	-	402		Training workshops are planned for technicians on: (i) soil conservation practices; (ii) chemical and organic fertilization; (iii) conflict management; (iv) grafting techniques; and (v) harvesting techniques.
Milestone 5: Training of beneficiaries in different areas		Beneficiary	0	3,026	3,109	3,160	-	-	9,295		
Output 2: Zoning, physical-chemical soil assays, and foliar analyses of plants for implementation of agroforestry systems completed	235,000	Study	0	9	2	1	2	-	14	Diagnostic assessment document	Includes soil classification, hydrologic studies, and soil fertility. Milestone 1 consists of one study per project with 100 representative samples for each watershed.
Milestone 1: Zoning studies completed		Study	0	7	-	-	-	-	7	Zoning study	
Milestone 2: Physical-chemical soil studies completed		Sample	0	700	-	-	-	-	700	Outcome reports	
Milestone 3: Foliar analyses of the crops completed		Sample	0	700	700	700	700	-	2,800		

Outputs	Estimated cost (US\$)	Unit of measurement	Baseline	Year 1 (2019)	Year 2 (2020)	Year 3 (2021)	Year 4 (2022)	Year 5 (2023)	Final target	Means of verification	Observations
<u>Milestone 4:</u> Soil fertility study completed		Sample	0	-	700		700	-	1,400		
<u>Output 3:</u> Agroforestry systems planted	75,585,000	Hectare	1,400	4,398	6,469	6,320	-	-	18,587	Monitoring report and technical audit	Includes seven projects in the prioritized watersheds
<u>Output 4:</u> Producers who receive technical assistance for the adoption and maintenance of agroforestry systems	3,760,000	Producer	0	3,026	3,109	3,160	-	-	9,295		A maximum of two hectares per product is foreseen. The technical assistance includes 14 visits to each producer the first year and 12 visits the second and third year.
<u>Output 5:</u> Monitoring and supervision system for areas under agroforestry systems implemented	1,000,000	System	0	1	-	-	-	-	1		The monitoring includes: (i) monitoring of the socioenvironmental data collected as part of Output 7; (ii) a baseline and monitoring of deforestation through satellite imaging.
<u>Output 6:</u> Beneficiary occupation inventory and identification of surface area of protected areas completed	3,670,000	Inventory	0	1	2	3	1	-	7	Inventory report by watershed	This output seeks to identify the surface area of protected areas in six of the program's priority watersheds. <u>Source:</u> Real Estate Registration Regulations, Law 108-05, Law 64-00, and the constitution

Outputs	Estimated cost (US\$)	Unit of measurement	Baseline	Year 1 (2019)	Year 2 (2020)	Year 3 (2021)	Year 4 (2022)	Year 5 (2023)	Final target	Means of verification	Observations
<u>Output 7:</u> Certificates of title issued	2,779,000	Certificate of title	0	1,700	1,780	3,200	1,660	-	8,340 ³	Certificates of title issued	The issue of certificates of title to land in the Agroforestry Development Program's intervention areas is foreseen. <u>Source:</u> Real Estate Registration Regulations, Law 108-05, and Law 51-07 Year 1: Hondo Valle and Juan Santiago; Year 2: Sabaneta and Los Frios; Year 3 Las Cañitas, Bahoruco, and Independencia; Year 4 Barahona
<u>Output 8:</u> Cooperatives formalized and/or strengthened	50,000	Cooperative	0	15	-	-	-	-	15	Presidential decree Training reports	Formalized = having a presidential decree indicating legal status Strengthened = training.
<u>Output 9:</u> Business plans for each cooperative developed	530,000	Business plan	0	-	5	5	5	-	15	Business plan documents	
<u>Output 10:</u> Farm access roads rehabilitated	11,060,000	Kilometer	0	154	107	177	-	-	438	UTEPDA and Ministry of Agriculture monitoring reports	
Component II: Improvement of connectivity with agricultural markets											
<u>Output 11:</u> Rural roads rehabilitated	44,220,000	Kilometer	0	-	-	-	258	-	258	MOPC monitoring reports	
<u>Milestone 1:</u> Roads rehabilitated				-	258	-	-	-	258		
<u>Milestone 2:</u> Roads maintained				-	-	258	258	-	516		

³ This target is subject to adjustments based on the findings of the cadastral registry diagnostic assessment, where the number of certificates of title issued will depend on the number of properties for which applications are submitted.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country:	Dominican Republic
Name:	Sustainable Agroforestry Development Program (DR-L1120)
Executing agencies:	Administrative Ministry of the Presidency (MAPRE), through the Technical Execution Unit for Agroforestry Development Projects (UTEPDA), and the Ministry of Public Works and Communications (MOPC), through the Coordinating Office for Projects Financed with External Resources (OCGPFRE)
Fiduciary team:	Willy Bendix, Denise Salabie (FMP/CDR), and Yonaida Encarnación (CID/CDR)

I. EXECUTIVE SUMMARY

- 1.1 Institutional capacity assessments of the program's executing agencies (which included fiduciary management) were performed as follows: (i) August 2017 assessment of the UTEPDA, using the Institutional Capacity Assessment System (ICAS); (ii) February 2018 assessment of the UTEPDA, using the Institutional Capacity Assessment Platform (ICAP); and (iii) February 2018 assessment of the MOPC, using the ICAS system. General conclusions: since this is a Loan based on Results (LBR) and UTEPDA is a newly created unit with little experience, the fiduciary risk for the execution of Component I is high. The MOPC, through OCGPFRE, which has ample experience in the execution of IDB loans, has a medium fiduciary risk for the execution of Component II.
- 1.2 With respect to the Dominican Republic's Public Financial Management System (PFMS), according to the August 2017 assessment¹ of the PFMS and the 2016 PEFA² report on the Dominican Republic (submitted in October 2016), in general terms, the country's PFMS is in partial alignment with good international practices.
- 1.3 Moreover, in February 2016, the updated assessment of the Dominican Republic's public procurement system, using the OECD/DAC³ methodology, was completed. In this assessment, the average score for the four pillars was 2.12, compared with 1.69 in 2012. This is due to the progress in Pillar II "Institutional Framework and Management Capacity" and Pillar III "Procurement Operations and Market Practices." Progress is less evident in Pillar I "Legal and Regulatory Framework" and Pillar IV "Integrity and Transparency of the Public Procurement Arrangement," which demonstrate the need to amend Law 340-06 on Procurement and Contracting.

¹ Assessment of the Internal Control, Budget, Treasury, and Accounting and Reporting subsystems, using the methodology established in the IDB's Guide for the Acceptance of the Use of Country Procurement System Tool (GUS) to determine the level of development and use of PFMS.

² Public Expenditure and Financial Accountability.

³ Development Assistance Committee of the Organization for Economic Cooperation and Development.

- 1.4 This operation, a US\$150 million Bank loan, is comprised of two investment loan instruments: (i) an LBR of US\$105.63 million to finance Component I; and a (ii) a multiple works loan of US\$44.37 million to finance Component II.
- 1.5 Component I of the program, an LBR, will use country financial management systems (except for external control) and the executing agency's procurement system for contracting under that component. Component II, a multiple works loan, will use the country budget, treasury, and accounting and reporting subsystems. For procurement, the Policies for the Procurement of Goods and Works financed by the Inter-American Development Bank (document GN-2349-9, and any subsequent revisions thereof) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9, and any subsequent revisions thereof) will apply.

II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCIES

- 2.1 The two executing agencies will be responsible for the program's execution:
 - a. MAPRE, through the UTEPDA, will be the executing agency for Component I. the UTEPDA was created on 19 January 2017 to execute and supervise implementation of forestry development projects approved by the President of the Republic.
 - b. The MOPC, through the OCGPRFE, will be the executing agency for Component II. The OCGPRE has executed IDB loans⁴ and is therefore familiar with Bank procedures and its operations planning and monitoring tools. It also has a cadre of human and technical resources that will enable it to assume the responsibilities of this operation.

III. EVALUATION OF FIDUCIARY RISK AND MITIGATION MEASURES

- 3.1 The UTEPDA is in the process of preparing and implementing the manuals, guidelines, rules, and regulations that will govern its operations. Since its creation in 2017, it has gained experience in program execution, although its capacity in terms of project management and large and/or complex project procurement is limited. Accordingly, and since an LBR is involved, the fiduciary risk for the execution of Component I is considered high. The main fiduciary risk entails significant delays in procurement and financial management that may impact the achievement of project outcomes.
- 3.2 With a view to strengthening the UTEPDA, the following was proposed:
 - (i) supplement the necessary fiduciary personnel and strengthen their capacities;
 - (ii) implement a program activity monitoring and reporting system;
 - (iii) put the Office of the Comptroller General's (CGRD) Internal Audit Unit under the UTEPDA;
 - and (iv) prepare a UTEPDA operations manual for implementing the government program. To implement these activities, a technical cooperation operation is planned to strengthen the UTEPDA. Moreover, the Bank will conduct supervision

⁴ (i) Multiphase Program for the Rehabilitation and Maintenance of Road Infrastructure (operation 1931/OC-DR); and (ii) Business Development and Competitiveness in the Province of San Juan (operation 3107/OC-DR, Subcomponent 2.1).

visits during program execution to monitor implementation of the recommended activities.

- 3.3 It should be borne in mind that for this LBR instrument, the executing agency must have the necessary cash flow to cover project expenditures; this will require good financial planning guaranteed by timely allocation of adequate resources from the government's annual budget throughout the Component I execution period.
- 3.4 **OCGPFRE (MOPC).** The fiduciary capacity assessment of the executing agency using the ICAS tool has rated its fiduciary capacity as having a medium risk that can be mitigated with updated fiduciary management procedures as well as advisory services and training for the executing agency, and by having a standing operations team.

IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE CONTRACTS

- 4.1 The following agreements and requirements will be considered in the operation:
 - a. **Exchange rate agreed upon with the executing agency for reporting.** The applicable exchange rate will be the following: For the purpose of determining the equivalency of expenses incurred in local currency and charged to the local contribution or of the reimbursement of expenses charged to the loan, the agreed upon exchange rate will be the rate on the effective date that the borrower, executing agency, or any other natural or legal person to whom the authority to effect expenditures has been delegated, makes the respective payments to the contractor, provider, or beneficiary.
 - b. **Audited financial statements.** During program execution, separate audited financial statements will be submitted for each program component no later than 120 days after the end of each fiscal period, and the program's final audited financial statements on project completion no later than 120 days after the date of the last disbursement. The executing agencies will be responsible for preparing and submitting the audited financial statements of their respective component to the Bank. The audited financial statements for Component I (LBR) will include an analysis of the costs associated with achieving the program's outcomes, including possible differences between the actual and real costs of the program and the amounts disbursed.
 - c. **Additional financial report.** Prior to the disbursement of resources corresponding to the last tranche of Component I, the executing agency will present, to the Bank's satisfaction, a report (which may or may not be audited) containing the costs associated with achieving the results of that component. This report will determine the amount of resources to be disbursed. In the event this amount is less than the one established in the disbursement matrix, the remaining balance of undisbursed resources will be automatically canceled.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

A. Execution of purchases under Component I (Agroforestry)

- 5.1 **Use of the executing agency's procurement system.** The executing agency's procurement system will be used in execution of this component, since the Bank's assessment has verified that the system is consistent with procurement principles and practices and allows bidders from all countries to participate. The system will be used for the procurement of goods, nonconsulting services, and consulting services (firms and individuals). Only the selection of the independent verification entity will follow the procedures established in Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9).
- 5.2 **Procurement supervision.** The method of procurement supervision under this component, following the executing agency's procedures, will be the audits provided for under the program. This represents one of the advantages of the LBR, since it eliminates ex ante no objections or ex post reviews by the Bank.
- 5.3 **Financing of prior outcomes (retroactive financing).** The program provides for the financing of outcomes previously achieved under Component I. The government has confirmed that it will request the Bank's recognition of US\$4.6 million, or 4.3% of Component I. This financing will be applied to the outcomes achieved between the project profile approval date (16 June 2017) and the loan eligibility date. The Bank's technical team has reviewed the technical aspects related to the recognition of prior outcomes under this component, based on the achievement described in the Proposal for Operations Development. Lastly, disbursement will be made following independent external verification of the outcomes.

B. Procurement execution under Component II (rural roads)

- 5.4 Procurement will be carried out in accordance with policies set out in documents GN-2349-9 and GN-2350-9, and will be executed by the executing agency in consideration of the following:
- a. **Procurement of works, goods, and nonconsulting services.**⁵ In this category, procurement subject to international competitive bidding will be executed using the Bank's standard bidding documents; and those subject to national competitive bidding will be executed using the national bidding documents agreed upon with or satisfactory to the Bank. On the Bank's end, the review/approval of technical specifications is the responsibility of the sector specialist/project team leader.
 - b. **Selection and contracting of consultants.** Regardless of contract amount, contracts for consulting services will be executed using the Bank's standard request for proposals. On the Bank's end, the review/approval of the terms of reference for the contracting of services is the responsibility of the program's sector specialist.

⁵ Policies for the Procurement of Goods and Works financed by the Inter-American Development Bank (document GN-2349-9), paragraph 1.1. Nonconsulting services are treated as goods.

- c. **Selection of individual consultants.** Contracting will be based on a comparison of at least three candidates' qualifications to perform the work. When the situation so warrants, notices will be published in the local or international press or on the United Nations Development Business website, in order to obtain information on qualified consultants. On the Bank's end, the review/approval of the terms of reference for the contracting of services is the responsibility of the program's sector specialist.
- d. **Procurement planning.** The MOPC will publish the procurement plan in the Procurement Plan Execution System and will update it at least annually or as needed to reflect current program execution needs and the progress made.

C. Threshold amounts

- 5.5 The thresholds for Component II, which calls for the use of international competitive bidding and shortlist of international consultants, will be made available to the executing agency on the website www.iadb.org/procurement. The selection method will be determined based on the complexity and features of the procurement or contract, which will be reflected in the Bank-approved procurement plan.

D. Main procurements

- 5.6 The executing agency of Component II will be responsible for preparing the procurement plan. The procurement specialist will provide assistance to ensure that procedures are consistent with the Bank's procurement policies by submitting the compulsory report to the sector specialist/project team leader for consideration. The main procurements anticipated under this component are listed in Table 1.

Table 1. Main procurements

Activity	Type of bidding	Estimated date	Estimated amount (US\$000)
Works			
Rehabilitation of rural roads	International competitive bidding	Throughout the program	36,660
Consulting Services (Companies)			
External supervision of works	Selection based on consultants' qualifications	Throughout the program	2,100
*To access the procurement plan for the first 18 months, click here .			

E. Procurement supervision under Component II

- 5.7 Based on the level of fiduciary risk identified for the program, the supervision method will be ex post, and reviews will be conducted according to the annual supervision plan. The reports of the ex post review will include at least one physical inspection visit to examine the procurement processes subject to review. The thresholds for ex post review of the procurement processes will be established in the procurement plan.

F. Records and files

- 5.8 The executing agencies tasked with executing the loan will be responsible for maintaining the files and supporting documentation on procurement processes, for all receipts for payments made with project funds, and for adhering to established procedures when making them.

VI. FINANCIAL MANAGEMENT

- 6.1 **Programming and budget.** The annual budget is prepared by the Ministry of the Treasury, through the Bureau of the Budget, in coordination with the Ministry of Economy, Planning, and Development, as well as the other government agencies involved in the process. The UTEDPA and the OCGPFRE will be responsible for managing the program's planning and budget and will use planning tools.
- 6.2 **Accounting and financial information systems.** The UTEDPA and the OCGPFRE will use the project module of the Integrated Financial Management System (SIGEF/UEPEX), which, in addition to recording accounting transactions and handling budget control, also has the ability to generate the required financial statements, pursuant to the Bank's regulations and policies. The UTEPDA will also prepare an accounting plan consistent with the budget that meets the integrity and valuation requirements of the investments made with financing resources, defining the program budget structure (identifying the program, source, components/outcomes, and outputs) and its relation to the financial accounts.
- 6.3 **Disbursements and cash flow.** The following disbursement modalities will be used for the program: for Component I, executed by the UTEPDA, disbursements will be based on the Bank's guidelines for LBRs established in document GN-2869-3. Accordingly, disbursements will be based on the established disbursement matrix ([optional link 14](#)), once an independent firm, agency, or individual expert has independently verified the outcomes achieved. For Component II, executed by the OCGPFRE, the main disbursement modality will be advances of funds, based on financial planning of up to six months. Subsequent advances may be disbursed once 80% of the cumulative balance pending justification has been submitted to and accepted by the Bank. The funds for Component I will be deposited in the treasury single account. Disbursements for Component II will be deposited in separate bank accounts in the name of the program or in a bank or subaccount of the treasury single account.
- 6.4 **Internal control and audits.** The CGRD is responsible for the government's internal audit function. To perform this function, the CGRD will be assisted by the internal audit unit in each government agency of the Dominican Republic.
- 6.5 **External control.** For the external audits of Components I and II: (i) auditing firms will be contracted that are acceptable to the Bank; (ii) the audits will be conducted pursuant to the terms of reference previously agreed upon with the Bank and as established in the Financial Management Guide for IDB-financed Projects (Operational Policy OP-273-6); and (iii) the International Standards on Auditing will be used for the review of the financial statements. Auditing costs will be financed with program resources (paragraph 4.1(b)). During the loan disbursement period, the annual audited financial statements will be submitted separately for each

program component within 120 days of the end of the fiscal period of each executing agency. Each executing agency will be responsible for preparing and submitting the audited financial statements of its respective component to the Bank.

- 6.6 **Fiduciary supervision plan.** Given the high fiduciary risk of Component I, supervision will be conducted through onsite visits by the Bank to monitor the implementation status of both the activities recommended for strengthening the unit's capacity and the fiduciary arrangements. Supervision will also involve annual financial audits. Financial supervision of Component II will involve inspection visits, ex post review, and audits by contracted external auditors. The responsible program team will continuously monitor the risks of the operation, especially during the first year of execution.
- 6.7 **Execution mechanism.** The executing agencies of the operation will be the MAPRE, through UTEDPA, for Component I; and the MOPC, through the OCGPFRE, for Component II. A strategic committee consisting of the Ministry of the Presidency, the Ministry of Agriculture, and the Ministry of the Environment and Natural Resources will support program governance and institutional coordination.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/18

Dominican Republic. Loan ____/OC-DR to the Dominican Republic
Sustainable Agroforestry Development Program

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Dominican Republic, as borrower, for the purpose of granting it a financing to cooperate in the execution of the Sustainable Agroforestry Development Program. Such financing will be for the amount of up to US\$150,000,000 from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on __ _____ 2018)