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MULTILATERAL INVESTMENT FUND

BELIZE

IMPROVING LIVESTOCK SECTOR PRODUCTIVITY AND CLIMATE RESILIENCE IN BELIZE

(BL – T1094)

ECOMICRO PROGRAM FACILITY (RG-01649)

DONORS MEMORANDUM

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PROJECT SUMMARY
IMPROVING LIVESTOCK SECTOR PRODUCTIVITY AND CLIMATE RESILIENCE IN BELIZE
BL-T1094

Climate change is expected to be one of the greatest threats to food and water security in Mesoamerica over the next decade. Inefficient land use is one of the main contributors to the increase in the amount of carbon in the atmosphere. In Belize, informal, unregulated, and low-intensity cattle ranching is one of the most inefficient and detrimental forms of land use, and is a major contributor to carbon, to deforestation and loss of habitat.

The objective of this EcoMicro Project is to increase the productivity of small and medium size cattle farmers in Belize, and to reduce their vulnerability to climate change. By doing so, the project will also have a beneficial impact on CO² emissions. The project will implement intensive climate smart production technologies, and introduce tailored credit products required for these technologies to be financed. The project will also innovate, by making use of mobile technology to conduct on-farm audits—essential for traceability and other export market requirements—as well as making use of broader data capture to track adoption and impact of new measures. This project will implement best practices in sustainable and climate resilient production systems, among small and middle size farmers and provide producers with green finance products to facilitate the adoption of climate smart technologies.

The project will be executed by the Belize Livestock Producers Association (BLPA) in partnership with The Agronomic Centre for Tropical Research and Education (CATIE) and La Inmaculada Credit Union (LICU). It is expected that the project will directly benefit the owners and employees of 250 small and medium-sized cattle farms, 12 Livestock Extension Technicians, 12 tertiary-level Agriculture teachers through training and capacity-building, and a further 600 indirect beneficiary family members. This green finance product will be piloted with up to 150 small and medium cattle farmers in the Belize, Orange Walk and Cayo Districts of the country. Both the BLPA and the Ministry of Agriculture have committed to scale this project in order to reach a larger number of farmers.

Through the EcoMicro Facility, the MIF in partnership with the Nordic Development Fund (NDF) and Global Affairs Canada (GAC), provides technical assistance to financial institutions to develop and test green finance products. This is the fourteenth EcoMicro project and second in the English-speaking Caribbean. Together with other EcoMicro projects, the MIF expects to expand its knowledge of climate change resilience interventions through partnerships with Financial Institutions and other key actors in the ecosystem. This project will demonstrate that green finance, combined with specialized technical extension services, can facilitate adoption of new adaptation measures by small scale livestock farmers and contribute to building their resilience in the long run.

This project is well-aligned with the overall IDB Group's goals on addressing climate change and environmental sustainability as well as IDB's Strategy for Belize to promote private-sector development and sustainable export-led growth. The project aims to accomplish its objective through: (i) testing and validating climate resilience practices to increase productivity; (ii) farmer outreach and capacity-building; (iii) development of tailored financial products to enable and scale investments in technology; and (iv) generating strategic knowledge for public policies and private-sector scalability.

ANNEXES

ANNEX I	Results Matrix
ANNEX II	Budget Summary

APPENDICES

Draft Resolution

AVAILABLE IN THE TECHNICAL DOCUMENTS SECTION OF MIF PROJECT INFORMATION SYSTEM

ANNEX III	Detailed Budget
ANNEX IV	Diagnostic of Needs of the Executing Agency (DNA) [includes Integrity Due Diligence Analysis]
ANNEX V	Reporting Requirements and Compliance with Milestones and Fiduciary Arrangements
ANNEX VI	Procurement Plan
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ACRONYMS AND ABBREVIATIONS

AOP	Annual Operating Plan
BLPA	Belize's Livestock Producers Association
CATIE	Agronomic Centre for Tropical Research and Education
DNA	Diagnostic of Executing Agency Needs
EA	Executing Agency
GAC	Global Affairs Canada
GHG	Greenhouse Gases
IDB	Inter-American Development Bank
IIC	Inter-American Investment Corporation
LAC	Latin America and the Caribbean
LICU	La Inmaculada Credit Union
MIF	Multilateral Investment Fund
MSMEs	Micro, Small and Medium Enterprises
PEA	Project Executing Agency
PSR	Project Status Report
RND	Rural Development and Natural Resources Division

PROJECT INFORMATION

BELIZE

**IMPROVING LIVESTOCK SECTOR PRODUCTIVITY AND CLIMATE RESILIENCE IN BELIZE
(BL-T1094)**

Country and Geographic Location:	Belize: Belize, Orange Walk and Cayo Districts.		
Executing Agency:	Belize Livestock Producers Association (BLPA)		
Focus Area:	Climate Smart Agriculture		
Coordination with Other Donors/Bank Operations:	RND is a partner of this project as well as the Tropical Agriculture Research and Training Centre (CATIE) and the Ministry of Agriculture of Belize.		
Project Beneficiaries:	The project is expected to directly benefit 250 small and medium size livestock farmers, and train 24 livestock extension service providers and tertiary level technical trainers/teachers		
Financing:	Technical Cooperation:	US\$ 550,500	63%
	Equity:	US\$ 000,000	
	Loan:	US\$ 000,000	
	Other (explain):	US\$ 000,000	
	TOTAL MIF FUNDING:	US\$ 550,500	
	Counterpart:	US\$ 325,200	37%
	Co-financing (if available; include a separate line for IDB Co-financing if applicable):		00%
	TOTAL PROJECT BUDGET:	US\$ 875,700	100%
Execution and Disbursement Period:	36 months of execution and 42 months of disbursement		
Special Contractual Conditions:	Special conditions precedent to first disbursement will be: (i) project coordinator hired, (ii) presentation of the annual operation plan with proposed milestones for the first year; and (iii) signed MOU between La Inmaculada Credit Union and BLPA.		
Environmental and Social Impact Review	This operation was screened and classified as required by the IDB's safeguard policy (OP-703) on August 8 th , 2017. Given the limited impacts and risks, the proposed category for the project is B.		
Unit responsible for disbursements	The project will be supervised by the MIF Country Office CID/CBL in coordination with the IDB/MIF EcoMicro team		

I. Introduction

- 1.1. **The EcoMicro Program:** The “Green Finance for MSMEs and Low-Income Households: The EcoMicro Program” (EcoMicro) is a US\$17mn facility established to pilot green finance for MSMEs (including small farmers) and low-income households in Latin America and the Caribbean (LAC). The goal of the Program is to facilitate green finance, as a means to increase access to Renewable Energy, Energy Efficiency products and to assist in adaptation to Climate Change. The purpose of the facility is to support Financial Intermediaries in partnership with key actors in the broader ecosystem, to provide new finance instruments to capitalize on new opportunities in green financing, while adjusting their risk management models to climate change risk, and incorporating climate impact into their internal policies and operations.
- 1.2. The Program is currently financed with MIF funds, and co-financed by the Nordic Development Fund (NDF), and Global Affairs Canada (GAC) through project specific grants (PSGs). It is executed by the MIF. It was originally approved on October 5, 2011¹, and was subsequently amended² on September 17, 2015 to increase contributions from the MIF and NDF and to extend the execution term through December 2020. In March 2016, GAC made an additional contribution to increase the outreach of the original program specifically in the Caribbean Region³.
- 1.3. This is the fourteenth EcoMicro Project, the first for Belize, with funding proposed under the MIF contribution under ATN/ME-12961-RG⁴.

II. The Problem

A. Problem Description

- 2.1. Belize has undergone significant economic transformation over the last decades, mainly due to the growing tourism industry. Tourism and agriculture are the main source of income and employment. According to the World Bank (2016), agriculture employs 10 percent of the labor force and contributes 13 percent of the GDP, mostly through sugar and tropical fruits.
- 2.2. The agriculture sector is regarded by the Government of Belize as a fundamental sector to meet the country’s growth, development and poverty reduction objectives. Belize’s agricultural policy has emphasized market-led strategies, increasing economic diversification and achieving increased self-sufficiency in food production. This has resulted in the development of new export commodities and expansion of the food crop and livestock sub sectors.
- 2.3. The cattle sub-sector plays an important role in the overall economic and agricultural sector with the value of the industry estimated by BLPA (2016) at US\$ 300 million in

¹ MIF-AT-1143-2

² MIF-AT-1143-3

³ MIF- AT-1143-4

⁴ Convergence number for the MIF funded facility is RG-O1649

2015⁵. The same data indicates that in the last 40 years the national herd has doubled from 44,698 to 97,000 heads and it is foreseen that the contribution of livestock to the agricultural GDP in Belize will continue increasing from its current 18% (BLPA, 2016), not only because of the growth of Belize's tourism sector, that demands high quality products, but also due to the growth in demand of domestic and external markets, mainly Guatemala and Mexico, which is key to the country's strategy of diversification of products and exports markets, as well as trade integration with Central American (Bulmer Thomas, 2015⁶).

- 2.4. Around 3,000 farmers are dedicated to cattle production. Small and medium size farmers (herds of less than 100 cows⁷), represent 80% of all cattle ranchers. These ranchers are concentrated mostly in breeding activities, rather than in the rearing and fattening stages. When young bulls reach a weight of approximately 500 pounds, they are sold mainly to Guatemalan buyers to complete the fattening processes and then reexported to Mexico, while large farmers are focused on the complete cycle (breeding + fattening) for which a higher value is paid in the domestic market. Most of small and medium size farmers are first generation immigrants coming from Central American Countries (Guatemala, Honduras and El Salvador).
- 2.5. Low productivity and inefficient land use are some of the main problems that cattle farmers face in Belize, which results in the loss of market opportunities and, therefore, lower incomes. Some of the problems that this farmers face are:
- 2.6. **Natural Hazards and Climate Change Challenges.** Natural disasters are recognized in Belize as one of the major challenges for agricultural development and threats to livelihood security of smaller farmers. The country has been recently exposed to increasingly frequent hurricanes and tropical storms. In addition to this, Belize is one of the Small Island Development States (SIDS) classified as most vulnerable to climate change. The impact of global climate change is likely to be felt through greater climate variabilities (changes in dry and rainy seasons, temperature increase, forest's fires), even more extreme events (hurricanes, floods, droughts) and damage to water resources, agricultural systems and coastal resources. Effects of climate change are an emerging issue for Belize, but little experience is available to tackle such impacts. Livestock farmers are being affected by the frequency and intensity of extreme climatic events, including the increase in temperature, droughts, floods and storms. These producers have little capacity to adapt to climate variability and even more critically, to reduce this sector's potential environmental impact (mainly through deforestation). Severe climate change occurrences predicted for Mesoamerica over the next decade⁸, are considered one of the greatest threats to food and water security in the region.
- 2.7. **Land degradation and potential deforestation.** Given the rapid growth of the livestock sector over the past ten years, the area devoted to pastureland is rapidly expanding, and is a major contributor to deforestation. The impacts of unregulated, non-intensive cattle

⁵ BLPA Estimates based on Cattle Sweep and Belize Livestock Registry (BLR) data.

⁶ Belize's Regional Integration Options, IDB Technical Note (2013)

⁷ Mixed herds comprising of mature cows and/or bulls as well as calves. Note: ranchers owning more than 100 head of cattle are typically well-established and focused on one specific size.

⁸ The Economics of Climate Change in Central America, 2010.

ranching have devastated large parts of Central America. Over the last 20 years, the area covered by forest in Belize has declined at a rate of 0.6% a year, with land still under forest representing 60% of the country's territorial mass source. Belize has the unique chance to avoid irreversible degradation and to promote good practices and incentive-based conservation driven by the private sector in collaboration with key partners.

Domestic pasture management practices typically do not employ supplementation of feed and do not rely on dry season feeding strategies. Without these practices, the stocking rate currently applied exceeds the carrying capacity of pastures, resulting in pasture degradation problems that in turn compromise the sustainability of livestock production and the preservation of forest lands, as farmers clear new areas for establishing pastures to respond to the nutrient demand of their herds.

- 2.8. Lack of knowledge between farmers and inefficient cultural practices.** Small and medium size livestock farmers have little exposure to either training or extension services. Most of them follow practices that they have learned in their countries of origin, which are not always adapted to the local conditions, for example: excessive clearing of land, breeds not suited for extreme temperatures and lack of supplemental feed.
- 2.9. Inadequate financial products tailored to livestock sector investments.** The local financial sector has experienced excess liquidity for the past 5 years; however, there are limited opportunities for cattle farmers to access credit to finance adaptation. This is largely due to a lack of understanding of the livestock sector that pervades the financial sector. When credit is available, inadequate terms are offered, which are not aligned with the livestock cycle or adequate periods of amortization. In addition, low levels of financial literacy amongst small and medium cattle farmers perpetuates their financial exclusion, contributing to furthering risk aversion by the financial sector.
- 2.10.** Despite these challenges, growing local and global demand and higher market prices are encouraging new investments in the sector. This favorable context represents an opportunity to generate growth in the sector and raise incomes, while also promoting positive environmental impacts.
- 2.11.** Efforts for sustainable intensification of livestock production in Belize, must consider the lack of access to credit and climate change challenges - not only to enhance productivity, but also with respect to sustaining ecosystems. This critically requires building awareness of the sector, building new capacities of farmers to increase the efficiency of their use of financial and technical resources to become more climate resilient.

B. Project Beneficiaries

- 2.12.** The project will benefit up to **250 small and medium size livestock farmers** (herds of less than 100 mixed age heads), in the Belize, Cayo and Orange Walk Districts of the country. Small and medium size cattle farmers represent 80% of Belize's livestock farms and around 20% of all production, and are mostly focused on the "cattle breeding" process. Most small and medium cattle farmers are first generation immigrants from Central American countries, many of whom lack formal education, and are exclusively Spanish speaking.

- 2.13.** The project will also benefit **12 livestock extension officers** (6 of whom are based at the BLPA and 6 within the Ministry of Agriculture) through enhanced technical training and **12 tertiary-level agriculture teachers** will benefit from technical training and curriculum development. Teachers will be selected from the country's leading technical vocational training and tertiary level institutions that currently provide agricultural sector training.
- 2.14.** The [Belize Livestock Producers Association](#), the Executing Agency for this project, and [La Inmaculada Credit Union \(LICU\)](#), the Financial Institution who will pilot the green finance product for the livestock sector, will each benefit from dedicated technical assistance to build their institutional capacity to implement key aspects of enhancing climate resilience of the livestock sector. La Inmaculada has indicated that it has the necessary financial resources to allocate in this underserved market.

III. The Innovation Proposal

A. Project Description

- 3.1.** The project's goal is to contribute to reduce the vulnerability to climate change of small and medium size cattle farmers in Belize. Its objective is to foster the adoption of climate resilient practices and green financial products to increase livestock production in Belize. By doing so, the project will also have a beneficial impact on CO2e emissions. The project will implement intensive climate smart production technologies, and introduce credit products required for these technologies to be financed. The project will also innovate, by making use of mobile technology to conduct on-farm audits—essential for traceability and other export market requirements—as well as broader data capture to track adoption and impact of new measures.
- 3.2.** The proposed solution centers on the joint focus on: (i) increasing the productivity of livestock farmers, particularly those centered on the “breeding” process, by introducing new practices that will respond to climate change and natural hazards challenges, and at the same time will preserve forest land and prevent further land degradation; and (ii) design and pilot a new green finance product tailored to the needs of small and medium cattle farmers, enabling them to adopt and invest in these new practices that will ultimately build their resilience to climate change.
- 3.3.** The project will test and validate climate resilience practices in 150 “model” farm in the country's Cayo, Orange Walk and Belize Districts, to serve as examples for other farmers and train at least 250 farmers in smart livestock production. In collaboration with participating farmers, the project will facilitate comprehensive farm audits that will inform the development of *climate resilient farm improvement plans*, customized to specific on-farm needs. Complementary *green finance* will be developed and piloted, extending credit to farmers so that they can invest in new measures/technologies. The project will also *enhance the capacity of livestock extension services* (within BLPA and the Ministry of Agriculture) to support farmers with implementation. Extension services will also contribute to augmented data collection and analysis (including national annual surveys) facilitated by a mobile application, developed and currently being tested by BLPA.

- 3.4.** These interventions will be achieved through a key partnership between BLPA and [The Tropical Agricultural Research and Higher Education Center \(CATIE\)](#), a Central American⁹ center, dedicated to research and education in agriculture with over 40 years of experience with donor funded projects and consultancies¹⁰ across a wide range of agriculture related areas. CATIE's extensive knowledge in *sustainable livestock management* is of particular relevance to this project—including their work on multi-functional silvopastoral management, low-emission livestock development strategies and conservation of livestock biodiversity. For this project CATIE will supply BLPA with a pool of international technical experts and access to their institutional capacity to support the execution of the climate resilient farm improvement plans, enhanced extension support and technical training of tertiary level technical trainers/teachers.
- 3.5.** **Innovation.** This project is innovative in that it seeks to promote climate-smart practices, combined with tailored green finance, to build resilience and productivity of the livestock sector, which has not yet been explored in Belize. Furthermore, the initiative is private sector driven, focused on meeting the demand of export markets. This project will serve as an important case study, generating real evidence and best practices, on how to best support small and medium cattle farmers to grow the livestock sector—without pastureland expansion.
- 3.6.** **Component I: Test and validate climate resilience practices to increase productivity (MIF: US\$ 136,000, Counterpart: US\$ 190,400)**
- 3.7.** The objective of this component is to test and validate sustainable and climate resilience practices in cattle production to increase productivity of small and medium farms¹¹ in the rural Belize, Cayo and Orange Walk Districts main livestock producing regions of the country.
- 3.8.** With support from CATIE, technical expertise will conduct 10 comprehensive farm audits and develop tailored climate resilient farm improvement plans that take into consideration the goals of each farmer and their on-farm needs. These may include for example, the use of specific varieties of forage based on soil analysis and local climatic conditions (droughts, flooding), breeds adapted to local conditions (e.g. high temperature), climate smart technologies suited to address water management, fertilization, reforestation and sanitary practices.
- 3.9.** More rigorous data collection and analysis on the sector is essential to ensure in-depth analysis of the impact of pilot interventions and allow for an evidenced based assessment of the overall success of the project. Data collection and analysis is also fundamental to facilitate livestock identification, traceability and vaccination control/certification—essential information required to access export markets. For this purpose, a mobile app, developed and piloted by the BLPA, which allows for on-farm/off-line data collection will be used. If needed it might be enhanced with relevant additional technology solutions,

⁹ CATIE members include Belize, Bolivia, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Venezuela, the Inter-American Institute for Cooperation on Agriculture (IICA) and the State of Acre in Brazil.

¹⁰ Including: World Bank, UNDP Global Environment Fund, United States Fish and Wildlife Service (USFWS)

¹¹ With a herd size of up to 100 cattle (mixed: cows, bulls and calves).

based on augmented data collection/analysis needs during key stages of the project. This data collection will include information on the role of women in the farms.

- 3.10. Data collection on each improvement plan will serve allow for an in-depth analysis of the project impact, including enhanced productivity, economic and financial performance and reductions in GHG emissions, as well as a gender approach. Importantly this can significantly ease individual farmer credit application process and reduce risk aversion by the financial sector. For this reason, wherever possible data collection requirements of LICU will be integrated into the BLPAs data collection systems.
- 3.11. **Component II: Outreach and Capacity Upgrading (MIF: US\$ 70,400; Counterpart: US\$ 25,000)**
- 3.12. The goal of this component is to upgrade capacities, both at the technical extension and farmer level, on how to increase productivity in cattle production with climate change resilience practices.
- 3.13. Enhanced, more sophisticated extension services are critical to the success of this project. CATIE experts will build capacity of 12 livestock extension service providers (6 within BLPA and 6 within the Ministry of Agriculture) – that will be selected by their organizations - with the development of Standard Operation Procedures (SOPs), including manuals and protocols and delivery of a training program. Quality control systems will also be developed to track performance. They will also receive training in the new protocols for data collection and analysis enabled by the BLPAs home-grown mobile app technology (see Component 1 for details). CATIE experts will work alongside extension providers in the field for an initial period following the delivery of training to ensure effective knowledge transfer and hands-on capacity building. The involvement of both the private and public sectors extension services will be key to reach scalability.
- 3.14. To ensure the long-term growth of the sector, capacity must also be upgraded at the secondary and tertiary level. CATIE experts will develop specific training programs aligned to the project methodology for up to 12 trainers/teachers including development of the curriculum, training materials/manuals and training of trainers.
- 3.15. At least 250 livestock farmers will be reached through workshops, technology fairs and other types of activities that will be provided by BLPA and the Ministry of Agriculture. From these universe, a group of 150 farmers will receive technical assistance, provided by the extension officers trained by CATIE on a demand based program.
- 3.16. A communication strategy and supporting materials for different stakeholders will be produced both in English and Spanish, to reach a larger number of farmers and support their decision-making processes.
- 3.17. **Component III: Development of a Green Finance Product to build climate resilience of the livestock sector (MIF: US\$ 160,500; Counterpart: US\$45,000)**
- 3.18. The objective of this component is to design and pilot a green financial product¹² for climate change adaption that will build the resilience and increase the productivity of

¹² Green Financing is a range of financial products that are designed to promote investments for: (i) accessing Renewable Energy technologies (e.g. solar products such as panels, pumps etc.); (ii) incorporating Energy Efficiency products (such as

Belize's cattle farmers. LICU will offer a combination of: (i) loans to finance implementation of adaptation; and (i) financial management training so that farmers who access the loans can better manage their finances and enhance the impact of their investments. LICU will adapt financial literacy training materials, already developed for MSMEs under BL-S1001¹³, to the needs of cattle farmers. LICU will pilot the new financial product with up to 150 small and medium cattle farmers (BLPA Members) who will have established farm improvement plans to build resilience under Component 1. LICU will use their balance sheet to finance the pilot loans, including potentially the existing MIF/SEP line of credit under BL-S1001. BLPA will work closely with LICU to ensure that the farmers receiving pilot loans benefit from enhanced livestock extension services available offered by both the BLPA and Ministry of Agriculture, to be rolled-out under Component 2.

- 3.19.** The design of the green finance product will include (i) supply-side market analysis, including an evaluation of technology suppliers relevant to the adaption measures; (ii) elaboration of an operational guide and internal processes for the new green finance product; (iii) training of loans officers and other key LICU staff and external extension service providers; (iv) implementation of the pilot; (v) evaluation of the pilot with recommendations for launching the product to the wider membership of BLPA including cattle, sheep and pig farmers.
- 3.20.** In addition, this component will analyze LICU's overall loan portfolio to assess its vulnerability to climate change. The analysis will include a map of climate change risks (determined based on existing publicly available information, and activities under the project), and their specific impact for LICU clients. This will inform the design of a *climate risk monitoring tool* and will include recommendations to reduce LICU's exposure with specific courses of action where appropriate. Relevant LICU staff will be trained on how to use the climate change risk management tool and how to monitor impact on future loans.
- 3.21.** In order to achieve a strong commitment to building resilience to climate change through green finance, this component will also facilitate an institutional "change of mind" within both LICU and BLPA. The project will facilitate the greening of both institutions including the design and implementation of an environmental policy and action plan to reduce the direct carbon footprint of each agency. A methodology will be developed to measure the institutional carbon footprint (GHG accounting methodology and a GHG baseline) and an energy efficiency baseline and improvements over time.
- 3.22. Component IV: Strategic knowledge for public policies and private sector scalability (MIF: US\$ 45,500; Counterpart: US\$ 9,500)**
- 3.23.** The objective of this component is to capture, synthesize and disseminate the knowledge generated at the project level, including lessons learned, best practices, and key factors

LED lights) to reduce operating expenses that result in savings for offsetting loan repayments; and/or (iii) facilitating Climate Change Adaptation in order to improve the resilience and reduce the vulnerability of clients. Source: EcoMicro

¹³ LICU has successfully completed the execution of the Technical Cooperation portion of BL-S1001 Social Entrepreneurship and Integration through Inclusive Financing and Capacity (MIF SEP Project). This included the development of financial literacy training materials for MSMEs that will be adapted under this project for small and medium cattle farmers. The SEP line of credit is still in execution and could be mobilized to finance the pilot green finance adaptation loans.

of success. One of the main components of the EcoMicro program is directly related to the systematization, documentation and disseminating of the knowledge generated by each of the individual projects of the facility. Adaption requires both changes in behavior and in agricultural methods. Developing successful initiatives will be crucial to create demonstrative effects for replication. This project will contribute to the overall knowledge objective of EcoMicro by sharing lessons learned and collaborating in broader workshops and events to demonstrate sustainability of adaptation finance.

- 3.24.** In addition, this component will generate strategic knowledge for input to local public policy processes and for private and financial sector adoption to ensure scalability of this intervention. Two knowledge products are expected to be developed, one study on climate smart livestock intensification and public private cooperation, as well as a study on lessons learned and best practices. Both will be disseminated via the EcoMicro Program website and events as well as a project-specific sub-regional workshop that will disseminate the outputs to at least 30 key public and private local and regional stakeholders.

B. Project Results, Measurement, Monitoring and Evaluation

- 3.25. Project Results:** By the end of this project the following results are expected: (i) 150 cattle farmers have increased their productivity, (ii) at least 80% of the farms have growth in annual sales of 10% or more, (iii) GHG emissions (CO² per pound of cattle per year) will be reduced. (iv) 80% of small and medium cattle size farms find LICU's Green Finance products suitable.
- 3.26. Measurement:** BLPA will implement rigorous upgraded data collection and analysis systems, to be developed in partnership with CATIE (see details below). Results measurement will be enabled via data collection using BLPA's existing mobile application technology that will be further enhanced under Component I. Livestock extension service providers, who will receive training under Component II, will be responsible for conducting data collection. Data collection will include information broken down by farm, type of cycle, number of herds, region and gender of the decision maker of each farm.
- 3.27. Monitoring & Evaluation:** CATIE will support the Executing Agency to design and implement enhanced monitoring and evaluation systems for the project, in particular for Components I and II. Initial in-depth farm audits will be conducted at the onset of the project which will allow BLPA to construct a *baseline* for each farm as well as for the results matrix. Once the initial audits have been completed, systems will be rolled out for continuous data collection and analysis, yielding information required to meet industry standards, access export markets and to track progress and measure the overall impact of specific activities. A separate and specific baseline study for indicators relating to the green finance product, will be undertaken by LICU under Component III. Target indicators in the current results matrix may be reviewed based on the initial baseline assessments of the 150 farms and green finance product.
- 3.28.** CATIE will work with BLPA to generate a monitoring and evaluation manual, establishing tools and operating processes, and provide specific training to BLPA and the Ministry of Agriculture staff/livestock extension officers involved on this project, particularly on data collection and analysis. The information generated by the project's monitoring and

evaluation system will serve as an input for its management and to disseminate achievements, challenges and lessons learned under Component IV.

- 3.29. Reports:** The BLPA, in close collaboration with the LICU for Component III, will be responsible for presenting Project Status Reports (PSRs) within thirty (30) days after the end of each semester, or more frequently as determined by the MIF by providing at least sixty (60) days advance notice to the EA. The PSR will contain information on the progress of project execution, achievement of milestones, and completion of project objectives as stated in the logical framework and other operational tools. The PSR will also describe issues encountered during the execution and outline possible solutions. Within ninety (90) days after the end of the execution term, the Executing Agency will submit to the MIF a Final Project Status Report (Final PSR) which will highlight results achieved, project sustainability, evaluation findings and lessons learned. These reports are necessary to comply with the Program Evaluation Plan that requires annual reports to the Donor's Committee describing the progress, performance and all recorded results.
- 3.30. Final Evaluation:** A final project evaluation will be carried out when 90% of the MIF contribution has been disbursed or 36 months of the execution period have elapsed. The evaluation will (i) assess and document project results and impact achieved, and (ii) assess the project's potential for scaling-up, including the identification of key factors needed to build a sustainable business case for green finance for building resilience of livestock farmers to climate change in Belize. The MIF will commission the evaluation with resources from its contribution under the EcoMicro Program (RG-M1205). The BLPA will host an evaluation and dissemination workshop with key partners, including the IDB Country Office in Belize and EcoMicro Coordinator, to be held upon project completion to evaluate and disseminate project results. The findings of the final evaluation will be reflected in the final edition of the PSR.

IV. Alignment with IDB Group, Scalability, and Risks

A. Alignment with IDB Group

- 4.1. IDBG institutional Strategy.** This project is aligned with the strategic policy objective of increasing productivity and innovation, by developing quality human capital and providing adequate knowledge and innovation ecosystems. At the same time, it also aligned with climate change and environmental sustainability, which is one of the cross-cutting issues defined on the Update to the Institutional Strategy 2016-2019.
- 4.2.** According to the [joint MDB approach](#) on climate finance tracking, 41% of total IDB funding for this project is invested in climate change mitigation/adaptation activities. This contributes to the IDBG's climate finance goal of 30% of operational approvals by year's end 2020.
- 4.3.** The Business Plan of the IIC identifies Agribusiness as one of the four key priority sectors to support the growth, development and productivity of LAC's private sector. The IIC works closely with the EcoMicro Program team within the MIF to identify potential partnerships with successful pilot projects for further scale with financing from the IIC.
- 4.4.** The IDB Country Strategy with Belize (2013-2017) recognizes that Belize's assets, notably its abundant of land and rich natural resources, provide it with significant potential for

economic growth with the biggest potential being in tourism and agriculture. The Strategy supports the Government of Belize in among other things, promoting private sector development and sustainable export led growth. The IDB also encourages greater trade and economic integration between Belize and other Central American countries.

- 4.5. RND has implemented various public-sector projects on agriculture in Belize such as the US\$5,000,000.00 Agricultural Services Program SG loan (2220/OC-BL), the objective of which was to strengthen the core public agricultural services that provide access to applied production technology corresponding to market opportunities, while reducing the risks derived from threats to plant and animal health and food safety. This in turn has contributed to the broader goal to enhance the competitive productive base upon which Belizean farmers can increase their income. A technical cooperation (BL-T0193) is actually on execution which is working toward strengthening the National Agricultural Statistical System (NASS) and the Agricultural Market Information System (AMIS), which was prepared trying to fulfill the gap of information in the sector. Also, a US\$10,000,000.00 SG Loan for a Climate Vulnerability Reduction Program (BL-L1028) is presently being prepared. This program's objective is to reduce Belize's climate vulnerability and risk, through the implementation of climate resilient measures in the tourism sector and agriculture by improving the governance of Belize's disaster risk management, this will provide data for risk management for agriculture Cattle production might be included in this analysis if there is a specific interest from local authorities. RND has indicated his interest in this sector, and the opportunity that this operation will give them to open a dialogue with the Ministry of Agriculture regarding cattle production.

B. Scalability

- 4.6. Component I and II will be implemented with support from [CATIE](#) and in coordination with the Ministry of Agriculture. The early involvement of this strategic partners is key to scale both at the national and regional level. At the national level, BLPA and the Ministry of Agriculture have committed to scale the knowledge generated by this intervention to other regions of the country, where livestock production is increasing in importance. IICA and CATIE will be key in the outreach of key partners both in the private and public sector of Central America
- 4.7. Specific activities such as studies and a regional workshop have been planned in Component IV to generate strategic knowledge that will assure the path to scale both by the public and private sector. The methodology generated in this project could also serve as an example to implement in other agriculture sub sectors.
- 4.8. On the other hand, RND 's interest in testing climate resilience practices with the livestock industry will be key to generate technological knowledge that could be included in future loans in LAC.
- 4.9. It is expected that LICU will scale the Green Finance Product to the broader livestock sector with over 3,000 cattle farmers (of which 80% are small and medium). LICU will initially scale the pilot green finance to the wider membership of the BLPA. Once the lessons learned and best practice of the pilot phase has been assessed, BLPA expect their membership to significantly increase as new entrants will be attracted to the livestock

sector with the combined support (technical and financial) offered under the project. In addition, LICU foresees the potential to offer green finance for climate resilience to agricultural sector clients, including both existing and new clients. LICU's currently membership is over 11,000 members, of which a significant percentage are involved in the agricultural sector.

C. Project and Institutional Risks

- 4.10. External Risks:** The main external risk is due to factors, such as natural disasters or a sudden downturn of the Belizean economy, which would affect the demand for the products and services promoted and offered. This could also affect the ability and interest to participate in the project on behalf of some of the local partners. These risks are external and their likelihood cannot be influenced through the project's design and implementation. However, a participative planning process and adequate communication protocols during implementation can help beneficiaries and stakeholders respond to these risks, and lessen their impact on expected project results.
- 4.11. Institutional Risks:** The main risk to the effective implementation and positive impact of the project are related to the *limited experience and capacities of the executing agency and the local partnering organizations*. This risk will be mitigated by (i) BLPA's collaboration with CATIE which have over 40 years institutional experience in agriculture, climate change and sustainable livestock farming in Mesoamerica. Through their extensive membership and network CATIE will mobilize relevant technical expertise to support BLPA with project execution; (ii) LICU's will select one of EcoMicro pre-selected Consulting Firms (selected in accordance with the program's methodology detailed in Section 6.6 Procurement) to provide technical support to design and pilot the Green Finance Product; and (iii) close monitoring, support and assistance from the local IDB/MIF supervision team and MIF EcoMicro executing team including frequent and open communication throughout the project execution phase.

V. Instrument and Budget Proposal

- 5.1.** The project has a total cost of US\$ 875,700, of which US\$ 550,500 (63%) will be provided by the MIF and US\$ 325,200 (37%) by the Belize Livestock Producers Association and La Inmaculada Credit Union in cash and in-kind contributions. This project falls under The EcoMicro Program (RG-01649). The instrument to be used is non-reimbursable, given that most of the knowledge generated by this project is considered a public good.

Project Categories	MIF	Counterpart	Total
Component 1: Test and validate improved practices	136,000	190,400	326,400
Component 2: Outreach and Capacity upgrading	70,400	25,000	95,400
Component 3: Development of Green Finance product to build climate resilience in the livestock sector	160,500	45,000	205,500
Component 4: Strategic Knowledge for Public Policies and Private-sector Scalability	45,500	9,500	55,000

Project Administration (Project Executing Agency costs)	89,500	55,300	144,800
Total	501,900	325,200	827,100
Ex Post Reviews (Audit)	12,000		12,000
Monitoring and Evaluation Expert	21,600		21,600
Contingencies	15,000		15,000
Grand Total	550,500	325,200	875,700
% of Financing	63%	37%	100%

VI. Executing Agency (EA) and Implementation Structure

A. Executing Agency(s) Description

- 6.1.** Belize's Livestock Producers Association (BLPA) will be the Executing Agency of this project and will sign the Agreement with the Bank. BLPA has been in existence since 1977 and supports primarily cattle producers in the development and improvement of their production systems. The BLPA is a Statutory Body established under the Meat and Livestock Act, Chapter 214 of the Laws of Belize. It is a membership organization comprising over 250 active individual members and 3 sub-association members which represent rural, small-scale livestock farmers.
- 6.2.** The BLPA is run by a nine (9) member Board of Directors who are elected at Annual General Meetings¹⁴. The primary objectives of the BLPA are to:
- To provide technical assistance and training to farmers in relevant aspects of livestock production
 - Solicit development grants and low interest funding to ensure access to affordable financing for producers.
 - Encourage production of quality livestock (focused on cattle, sheep and goat) by facilitating access to good genetic stock.
 - Promote the diversification of diverse livestock offered to consumers.
 - Promote the consumption of locally produced livestock products.
 - Support and ensure compliance with international standards for marketing of livestock products.
 - Identify local and international markets for the sale of livestock products.

For this program, the BLPA has entered partnerships with the LICU, CATIE and the Ministry of Agriculture, Fisheries, Forestry, Environment and Sustainable Development, to mobilize actions to resolve issues related to the sustainable intensification of the livestock system, enhancing their resiliency under changing climatic conditions.

- 6.3.** **La Inmaculada Credit Union (LICU)** will implement the Green Finance Product and related activities under Component III, in collaboration with the BLPA/CATIE and Ministry of Agriculture. LICU is member owned, non-profit, Credit Union, with over 11,000 members, and assets of BZ\$22M¹⁵. LICU was established in 1949 and has developed

¹⁴ BLPA Strategic Plan 2014-2024: <http://www.youblisher.com/p/1098057-BLPA-Strategic-Plan-2014-2024/>

¹⁵ Central Bank of Belize Quarterly Financial Information of Credit Unions, ending 31 March 2017.

longstanding liaisons with many government and non-government entities to ensure the delivery of numerous additional benefits and services at competitive rates to their membership. Their partnership with the BLPA and commitment to support the livestock sector as well as interest in the EcoMicro program is fully aligned with their Strategic Plan which is aimed at diversifying and greening their portfolio and operations. LICU will contract one of the EcoMicro's pre-selected consulting firms to participate in the program in the Caribbean Region. The firm will provide LICU with technical expertise to support the design and piloting of the Green Finance Pilot Loans tailored to the needs of the small and medium cattle farmers to be targeted in this project. The pre-selected consulting firm, selected by the LICU for this work will collaborate with the BLPA and experts mobilized by CATIE.

B. Implementation Structure and Mechanism

- 6.4.** A Project Executing Agency (PEA) will be established at BLPA, that will be directed by the Finance Officer (acting General Manager) of the organization. A Project coordinator and an assistant will be hired. This team will be responsible of the execution of the activities planned in the project and the administration of resources and procurement of services and goods. LICU will establish a dedicated Executing Unit (EU) to coordinate the Green Finance Pilot and associated activities. LICU will appoint a Project Coordinator responsible for day-to-day liaison with the pre-selected EcoMicro consulting firm. The EU will report directly to the LICU General Manager and/or other duly appointed staff. The EU within the LICU will be responsible for leading the implementation of the activities under Component III, in close collaboration with the overall PEA at BLPA.
- 6.5.** A Project Steering Committee will be constituted. It will be responsible for the strategic planning and following up of the Project and will be chaired by BLPA, and will be comprised of a representative of the Ministry of Agriculture, CATIE, LICU and other relevant stakeholders. The IDB/MIF led by the local supervision team (joined from time to time by the EcoMicro Coordinator) will have a role of observer at this Committee.
- 6.6.** The BLPA will be responsible for the overall reporting requirements, including bi-annual PSRs that will provide progress on project implementation. The LICU EU will have specific responsibility for reporting on the sub-results under Component III - relating to the Green Finance Pilot and associated activities for which they lead implemented. Other PEU responsibilities will include: *a) annually develop and approve the Annual Operating Plan (AOP), b) supervise progress made in each activity by individual service providers including experts mobilized by CATIE and other consulting firms and ensure timely delivery of results, c) supervise and coordinate the activities of consulting firms/individual consultants and those of any other strategic party in the project to ensure relating products and results are delivered in time; and d) control and administer project activities and administrative and financial processes required by the MIF.* The annual execution mechanism will be detailed in the Annual Operating Plan (AOP) and will clearly define responsibilities of the PEU, Executing Agency PEU, LICU EU and other key partners including key consultants (CATIE and EcoMicro consultants). Details on the structure of the execution unit and reporting requirements are in Annex V in the project technical files.

VII. Compliance with Milestones and Special Fiduciary Arrangements

- 7.1. Disbursement by Results, Fiduciary Arrangements.** The Executing Agency will adhere to the standard MIF disbursement by results, Bank procurement policy¹⁶ and financial management¹⁷ arrangements as specified in Annex V.
- 7.2. Results-based disbursement.** The Project will be monitored by the Country Office of Belize in coordination with the IDB/MIF EcoMicro Coordinator. Monitoring will be undertaken in accordance with the performance and risk management policies (fulfilment of milestones) established by the MIF in April 2008 and knowledge sharing requirements of the EcoMicro program. Project disbursements will be contingent upon verification of the achievement of milestones¹⁸. These milestones will be verified using their means of verification, which will be agreed upon between the Executing Agency and the MIF. Achievement of milestones does not exempt the Executing Agency from the responsibility of reaching the results matrix indicators and project's objectives. According to the Performance and Risk-based Project Management Approach, project disbursement amounts will be based on the project's liquidity needs, for a maximum period of 6 months. These needs must be agreed upon between the MIF and EA and will reflect the activities and costs scheduled in the annual planning exercise. Disbursements will be made when the EA requests them to continue normal project implementation and after it is confirmed that no milestones are pending at the time of the request.
- Financial Management and Supervision.** The BLPA will establish and be responsible for maintaining adequate accounts of its finances, internal controls, and project files according to the financial management policy of the IDB/MIF.
- 7.3. Procurement.** In accordance with paragraphs 5.4 - 5.9 of the Donors Memorandum for the EcoMicro program (RG-O1649), consulting firms to support the design and piloting of Green Finance Products are selected by individual Financial Institutions from a pool of eligible consulting firms that have been pre-selected via a competitive process, and are deemed eligible to participate in the EcoMicro program. The IDB/MIF EcoMicro team will guide, in this instance La Inmaculada Credit Union, to complete the final selection of the pre-selected, eligible, consulting firm for Component III.
- 7.4.** BLPA, with MIF contribution resources, will single source CATIE to deliver services under Component I, II and IV in accordance with comprehensive TORs to be developed by BLPA

¹⁶ Link to the Policy: [Procurement of Works and Goods Policy](#)

¹⁷ Link to the document [Financial Management Operational Guidelines](#)

¹⁸ Milestones are activities or outputs critical to achieving the development objectives and must be determined jointly by the executing agency and the MIF. They may be revised and reprogrammed during the project implementation. The executing agency may also request that the Bank modifies the milestones with a limit of two times and provided that the corresponding deadlines have not expired. Fulfilment of milestones does not relieve the EA of the responsibilities to meet the indicators set forth in the results matrix.

and negotiated with CATIE. It is understood that CATIE will provide its technical expertise as well as certain aspects of the technical training requirements under this project.

- 7.5.** For the procurement of other goods and contracting of consulting services, the Executing Agency will apply the IDB Policies (GN-2349-9 and GN-2350-9). The Executing Agencyb which is a private entity, will use the private sector procurement methods specified in Annex 1 of the Operational Guidelines for Technical Cooperation Projects (OP-639) with the exception of the direct selection of the consulting firm which is in agreement with EcoMicro Program rules.

VIII. Information Disclosure and Intellectual Property

- 8.1. Information Disclosure.** This project is categorized as public for the purpose of the Bank's information disclosure policy.
- 8.2. Intellectual Property.** The knowledge products and materials produced with the funds disbursed under the project remain the property of the Inter-American Development Bank.