

**HONDURAS**

**LOW-CARBON, CLIMATE-RESILIENT, AND INCLUSIVE DEVELOPMENT IN EL  
CAJÓN AND LAKE YOJOA WATERSHEDS IN HONDURAS**

**(HO-L1243/HO-G1263)**

**PROPOSAL FOR OPERATION DEVELOPMENT**

This document was prepared by the project team consisting of: Ana Rios (RND/CHO), Team Leader; Carlos Jácome (ENE/CHO), Alternate Team Leader; Ginés Suárez (RND/CES); Mario González and Yolanda Valle (CSD/RND); Francisco Manjarres (WSA/CHO); Ruth Catacoli (VPS/ESG); Daniel Maradiaga (ESG/CHO); Nidia Hidalgo (GDI/CES); Fausto Castillo (DIS/CHO); Gloria Visconti and Anabella Palacios (CSD/CCS); Monica Lugo (LEG/SGO); Nina Mendoza (CID/CHO); Raquel Lopez (CCS/CHO); Raul Lozano and Christian Contin (FMP/CHO).

## TABLE OF CONTENTS

<b>PROJECT SUMMARY</b> .....	<b>1</b>
<b>I. PROJECT DESCRIPTION AND MONITORING OF RESULTS</b> .....	<b>2</b>
A. Background, Problems, and Rationale.....	2
B. Objectives, Components, and Cost .....	12
C. Key Performance Indicators .....	15
<b>II. FINANCING STRUCTURE AND MAIN RISKS</b> .....	<b>15</b>
A. Financing Instruments.....	15
B. Environmental and Social Risks .....	17
C. Fiduciary Risks .....	17
D. Other Risks and Key Issues.....	18
<b>III. IMPLEMENTATION AND MANAGEMENT PLAN</b> .....	<b>18</b>
A. Summary of Implementation Arrangements.....	18
B. Summary of Performance Monitoring Arrangements.....	20
C. Post-Approval Design Activities.....	21

CONFIDENTIAL

<b>ANNEXES</b>	
Annex I	Development Effectiveness Matrix (DEM) - Summary
Annex II	Results Matrix
Annex III	Fiduciary Agreements and Requirements
Annex IV	ESRR Safeguard Filter

<b>REQUIRED ELECTRONIC LINKS (REL)</b>	
REL#1	<a href="#">Pluriannual Execution Plan (PEP) / Annual Operational Plan (AOP)</a>
REL#2	<a href="#">Monitoring and Evaluation Plan</a>
REL#3	<a href="#">Environmental and Social Review Summary (ESRS)</a>
REL#4	<a href="#">Procurement Plan</a>

<b>OPTIONAL ELECTRONIC LINKS (OEL)</b>	
OEL#1	<a href="#">Bibliographic References</a>
OEL#2	<a href="#">Importance of Hydroelectric Power Plants</a>
OEL#3	<a href="#">Deforestation Analysis</a>
OEL#4	<a href="#">Component I Technical Report</a>
OEL#5	<a href="#">Nature-Based Solutions</a>
OEL#6	<a href="#">Project Operating Manual (POM)</a>
OEL#7	<a href="#">Indicator Definition and Monitoring</a>
OEL#8	<a href="#">Gender and Diversity Analysis</a>
OEL#9	<a href="#">Climate Change Analysis</a>
OEL#10	<a href="#">Economic Analysis of the Project</a>
OEL#11	<a href="#">Environmental Program for Disaster Risk and Climate Change Management's PCR</a>
OEL#12	<a href="#">HO0035 PCR</a>
OEL#13	<a href="#">Synergies and Complementarities</a>

<b>REQUIRED APPENDICES</b>	
Appendix I	<a href="#">Risk Matrix</a>
Appendix II	<a href="#">Development Effectiveness Matrix (DEM)</a>

**ABBREVIATIONS**

TA	Technical Assistance
GF	Grant Funding
IDB	Inter-American Development Bank
CC	Climate Change
CS	Climate-Smart
DE	Department of Environment
ESA	Environmental and Social Assessment
AFS	Audited Financial Statements
ENEE	Empresa Nacional de Energía Eléctrica
ESS	Environmental and Social Strategy
GHG	Greenhouse Gases
ICF	National Institute for Forest Conservation and Development, Protected Areas and Wild Life
ESMR	Environmental and Social Management Report
IPCC	Intergovernmental Panel on Climate Change
AFM	Adaptive Forest Management
MSMEs	Micro, Small and Medium-Sized Enterprises
POM	Project Operating Manual
ESPF	Environmental and Social Policy Framework
NDAS	Normas de Desempeño Ambiental y Social
NDC	Nationally-Determined Contribution
EA	Executing Agency
NGO	Non-Governmental Organizations
PP	Procurement Plan
ICAP	Institutional Capacity Assessment Platform
FCSR	Forest Cover Plan and/or Soil Restoration Plan
ESMP	Environmental and Social Management Plan
IP	Indigenous Peoples
PSP	Permanent Sampling Plots
SEP	Stakeholder Engagement Plan
AOP	Annual Operational Plan
POD	Proposal for Operation Development
SAG	Secretariat for Agriculture and Livestock
NBS	Nature-Based Solutions
SEFIN	Secretariat of Finance

**ABBREVIATIONS**

SERNA	Secretariat of Natural Resources and the Environment
ESMS	Environmental and Social Management System
SIN	National Interconnected Grid
SPF	Safeguard Policy Filter
SSF	Safeguard Screening Form
IRR	Internal Rate of Return
PCU	Project Coordination Unit
WMU	Watershed Management Unit
NPV	Net Present Value

CONFIDENTIAL

**PROJECT SUMMARY  
HONDURAS**

**LOW-CARBON, CLIMATE-RESILIENT, AND INCLUSIVE DEVELOPMENT IN EL CAJON AND LAKE YOJOA  
WATERSHEDS IN HONDURAS  
(HO-L1243/HO-G1263)**

Financial Terms and Conditions				
<b>Borrowing Country:</b>			<b>HO-L1243 - IDB (PPCR y FIP)<sup>(a)</sup></b>	
The Republic of Honduras			<b>Amortization Period:</b>	30 years <sup>(b)</sup>
<b>Executing Agency (EA):</b>			<b>Disbursement Period:</b>	5 years
Empresa Nacional de Energía Eléctrica [National Electric Power Company] (ENEE).			<b>Grace Period:</b>	10 years <sup>(b,c)</sup>
<b>Source</b>	<b>Amount (USD)</b>	<b>%</b>	<b>Interest Rate:</b>	0.92%
<b>Reimbursable: HO-L1243 - IDB (PPCR and FIP)</b>	5,100,000	65.4	<b>Service Fee:</b>	0.00% <sup>(d)</sup>
<b>Non-Reimbursable: HO-G1263 - IDB (PPCR and FIP)</b>	2,700,000	34.6	<b>Approval Currency:</b>	United States Dollars
<b>Total<sup>(e)</sup>:</b>	7,800,000	100		
Project Outline				
<p><b>Project objective/description:</b> The overall objective is to contribute to resilient, low-carbon and inclusive development in the El Cajon and Lake Yojoa watersheds. The specific objectives are: (i) to promote the adoption of Climate Smart (CS) and/or agroecological technologies and practices by Micro, Small, and Medium-Sized Enterprises (MSMEs); and (ii) to promote the adoption of forest cover and/or soil restoration technologies or practices by key stakeholders in the target area.</p>				
<p><b>Special contractual conditions prior to the first disbursement:</b> The EA shall submit, to the satisfaction of the Bank, evidence that: (i) a subsidiary agreement has been signed and entered into force between the Secretary of State in the Office of Finance, representing the Borrower, and the ENEE, as EA for the transfer of loan resources and asocial obligations, under the previously agreed terms with the Bank; (ii) the Project Operating Manual (POM) has been approved and entered into force, under terms previously agreed with the Bank, encompassing, among others, the environmental and social requirements, and including as annexes the Environmental and Social Management System (ESMS), the Environmental and Social Management Plan, and the Stakeholder Engagement Plan; (iii) the key project team has been appointed, which includes the Coordinator, the Monitoring Specialist, the Financial Specialist, the Procurement Specialist, the Environmental Management Specialist, the Social Specialist, the Component I Specialist and the Component II Technical Advisor; and, (iv) the EA has signed and is in force an inter-institutional cooperation agreement with the ICF for the execution of activities and technical coordination between both entities.</p>				
<p><b>Special contractual conditions of execution:</b> See socio-environmental conditions in Annex B to the Environmental and Social Action Plan (ESAP).</p>				
<p><b>Exceptions to the Bank's policies:</b> None.</p>				
Strategic Alignment				
<b>Challenges<sup>(f)</sup>:</b>	SI <input checked="" type="checkbox"/>	IP <input checked="" type="checkbox"/>	EI <input type="checkbox"/>	
<b>Cross-Cutting Topics<sup>(g)</sup>:</b>	GE <input checked="" type="checkbox"/> and DI <input checked="" type="checkbox"/>	CC <input checked="" type="checkbox"/> and ES <input checked="" type="checkbox"/>	IC <input type="checkbox"/>	

(a) Pilot Program for Climate Resilience (PPCR) and Forest Investment Fund (FIP), which are part of the Strategic Climate Fund (SCX), one of the funds of the *Climate Investment Fund* (CIF). The SCX was approved through document GN-2604-3 and its Financial Procedures Agreement was signed with the World Bank on February 17, 2011.

(b) May be lower depending on the client's preferences as the negotiation progresses.

(c) As per the CIF financial terms document, after the grace period, consecutive and semiannual amortization installments will apply.

(d) The service fee is applied to the disbursed and outstanding loan balance. Principal and service fee payments are accrued semiannually to the Forest Investment Program Trust Fund.

(e) The financial terms and conditions described apply only to the loan portion; the grant is non-reimbursable. Disbursement periods are the same for both funding sources.

(f) SI (Social Inclusion and Equality); IP (Innovation and Productivity); and EI (Economic Integration).

(g) GE (Gender Equality) and DI (Diversity); CC (Climate Change) and ES (Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

## I. PROJECT DESCRIPTION AND MONITORING OF RESULTS

### A. Background, Problems, and Rationale.

- 1.1 **Macroeconomic Context.** During the 2010-2022 period, the Honduran economy was one of the most dynamic in Latin America and the Caribbean (LAC), with average annual economic growth of 3.8%, higher than the regional average (2.4%). In 2022, despite the complex international context, its Gross Domestic Product (GDP) grew by 4% and fiscal deficit stood at 0.2% of GDP (the ceiling was 4.9%), resulting in a debt level of 52.3% of GDP. In September 2023, the Board of the International Monetary Fund approved an agreement to implement a series of structural reforms that could generate fiscal space, allowing for increased social and productive investment; consequently, by 2023 and 2024, GDP is expected to grow by 3.2%. However, direct losses due to Climate Change (CC) are estimated at more than 2% of annual GDP, leading to negative impacts on crops and food security and an increase in forest fires, among others.
- 1.2 **General Background.** In Honduras, the El Cajón and Lake Yojoa watersheds are critical due to their contribution in terms of water resources, hydroelectric generation, livelihoods, and biodiversity. Despite their importance, these watersheds are undergoing a process of accelerated degradation, particularly due to the loss of forest cover and unsustainable production practices. This degradation is exacerbated by the impacts of CC, including the average increase in temperature, annual reduction in precipitation, increased incidence of pests and diseases in crops, as well as an increase in extreme weather events, among other.<sup>1</sup>
- 1.3 To address this issue, the Government of the Republic of Honduras has requested the Bank's support to contribute to resilient, low-carbon, and inclusive development in these watersheds. This development requires a comprehensive approach that considers the nexus between forest cover, water security, and energy generation, as well as the needs of people and Micro, Small, and Medium-Sized Enterprises (MSMEs) in the area that depend on these natural resources. This innovative project is the first globally to utilize resources from two funding windows of the Climate Strategic Fund (SCX) to simultaneously implement actions to improve climate resilience and reduce deforestation and forest degradation.
- 1.4 **Climate Vulnerability in Honduras.** Honduras is highly vulnerable to CC, ranking as the second country in the world most affected by extreme climate events between 1998 and 2017 (Eckstein *et al.*, 2019).<sup>2</sup> This situation is exacerbated by deforestation and the loss of ecosystem services related to forests, which intensify extreme events such as floods and droughts (Suárez and Sánchez, 2017). Additionally, water insecurity<sup>3</sup> has been identified as the primary impact of variability and CC in the country (Government of Honduras, 2017). These impacts affect local communities, compromising their food security, livelihoods, and well-being. For example, over the next decade, a reduction in yields is projected for four out of the five crops with the largest cultivated area due to the impacts of CC (World

---

<sup>1</sup> The Climate Change Analysis provides specifics ([EEO#9](#)).

<sup>2</sup> See list of Bibliographic References in [EEO#1](#).

<sup>3</sup> Water insecurity means the inability to sustainably access water to meet a diversity of needs.

Bank, 2023). Likewise, considerable impacts are expected on water availability and subsequent hydroelectric generation (Esquivel *et al.*, 2016).

- 1.5 **Context and Relevance of the Watersheds.** El Cajón and Lake Yojoa watersheds are hydrographically part of the Ulúa river basin and are located on the Caribbean slope of Honduras. They are home to protected areas and the country's two most important hydroelectric complexes. The Francisco Morazán hydroelectric plant, also known as El Cajón, is Honduras' largest and the most significant contributor to the National Interconnected Grid (SIN). El Cajón is a multipurpose dam that is also used for irrigation and flood control. Meanwhile, Lake Yojoa is the only natural freshwater lake in Honduras and a Ramsar site, as it is an internationally significant wetland. Within the lake watershed lies the Cañaverall-Río Lindo hydroelectric complex, the second-largest contributor to the SIN and the most cost-effective electricity generation facility in the country. Furthermore, the relevance of these power plants lies in hydroelectric energy being the primary source of electricity generation in Honduras, contributing 38.5% of the energy generated in 2022 (Government of Honduras, 2022). Therefore, the optimal operation of these hydroelectric plants is essential for maintaining a low Greenhouse Gas (GHG) emission factor in Honduras' energy sector. In fact, the Nationally Determined Contribution (NDC) establishes a commitment to reducing 16% of its emissions, with the largest contributions coming from the energy and agriculture sectors (56% and 31%, respectively).<sup>4</sup>
- 1.6 **Situation and Problem.** Despite their significance, deforestation and unsustainable agricultural practices are causing accelerated degradation in these watersheds (World Bank, 2023; Palacios, 2022), with a negative impact on ecosystems and the services they provide, as well as on biodiversity (Downing, 2019; Palacios, 2022). These impacts are exacerbated by CC, affecting hydroelectric generation as well as livelihoods in the area, where agriculture is the primary source of income (ICF and AMUPROLAGO, 2016), particularly in the cultivation of staple grains (corn and beans), coffee, and livestock farming.
- 1.7 **Institutional Framework.** In accordance with the Forestry, Protected Areas and Wildlife Law, the governing body of the sector is the ICF<sup>5</sup>. To fulfill its functions, the ICF is authorized to sign agreements and/or contracts with other public and private organizations, community organizations and local entities to coordinate and agree on the sustainable and rational management of a forest area or a protected area. In this context, the Empresa Nacional de Energía Eléctrica [the National Electric Power Company] (ENEE), an important user of water resources from the El Cajón and Lake Yojoa watersheds for several years has been implementing activities for the protection and sustainable management of the area. Primarily through its Watershed Management Unit (WMU), whose purpose is to ensure the protection and conservation of the natural resources from the watersheds that supply water to the country's hydroelectric plants. In this context, ENEE has been

---

<sup>4</sup> See [EEO#2](#) for the relevance of the "El Cajón" and Cañaverall-Río Lindo hydroelectric plants.

<sup>5</sup> Decree No. 98-2007. Other entities that make up the sector include the Secretariat of Natural Resources and Environment (SERNA) and the Secretariat of Agriculture and Livestock (SAG), among others. The ICF is responsible for acting as executor of the national policy on forest conservation and development, protected areas, and wildlife with the power to develop programs, projects and plans and create units necessary to comply with the objectives and purposes of the law.



coordinating and creating synergies both with the ICF and relevant sectoral entities such as the Secretariat of Natural Resources and the Environment (SERNA), the Secretariat of Agriculture and Livestock (SAG), as well as local authorities at the municipal and inter-municipal levels, community councils, Non-Governmental Organizations (NGOs), and civil society.

- 1.8 **Forest Cover and Soil Restoration.** Approximately 50% of Honduras' territory is covered by forests; however, between 2000 and 2018, this area experienced an average annual loss of over 22,000 hectares (Duarte, 2023).<sup>6</sup> Most of these forest lands have been converted to agricultural activities, a land use change that has been exacerbated by recurrent bark beetle episodes,<sup>7</sup> which affected over half a million hectares of forest between 2012-2017 (Government of Honduras, 2018). Within these areas, around 11% of the El Cajón watershed forest (Duarte, 2023) was impacted by this pest in the period 2013-2016. Specifically, in the project's area of influence, the deforestation rate during the pest period (2013-2016) was 0.65%, while, from 2016 to 2023, it was 0.24% (EEO#7). Bark beetle outbreaks are exacerbated by forest degradation (Billings, 2016) and CC (Kolb *et al.*, 2016).<sup>8</sup> For example, under a scenario where forest degradation is not reversed and with CC projections to 2050,<sup>9</sup> outbreaks will double in the central part of the country, potentially resulting in the loss of 84,000 hectares of forest (Hernández, 2019). Other contributing factors to deforestation have to do with the expansion of the agricultural frontier, unsustainable agricultural practices, as well as limited or non-existent implementation of forest management practices (¶s 1.8, 1.11, 1.14; EEO#4; EEO#5; EEO#7). This shines the spotlight on the need to implement forest management actions to improve forest resilience.
- 1.9 The loss of forest cover has significant repercussions in terms of the quality and quantity of ecosystem services provided by forests.<sup>10</sup> Deforestation affects water availability (Mompremier *et al.*, 2022) and accelerates soil erosion (Hu *et al.*, 2021; Kaura *et al.*, 2019), which, in turn, negatively impacts hydroelectric generation (Kaura *et al.*, 2019) and agricultural productivity (Mompremier *et al.*, 2022). Hence, the importance of implementing actions focused on reducing deforestation, improving forest cover, and controlling erosion is highlighted as a measure to ensure the sustainability of hydroelectric projects (*International Hydropower Association*, 2019). In fact, the reliability of these projects as an energy source must consider their dependence on forests (Stickler *et al.*, 2013).
- 1.10 As to El Cajón, by 2030, CC projections indicate a reduction of over 20% in annual hydroelectric generation at the dam due to decreased water availability, increased temperature, and high sediment flows (Esquivel *et al.*, 2016). Similarly, climate scenarios report a reduction of up to 19% in water flow in Lake Yojoa by 2050, which directly affects energy availability in the Cañaveral-Río Lindo hydroelectric

---

<sup>6</sup> EEO#3 and EEO#7 (Annex 4 – Land Use and land use change in the project's area) offer an analysis of deforestation.

<sup>7</sup> The pine bark beetle (*Dendroctonus frontalis*) is an endemic pest in Honduras.

<sup>8</sup> The literature reports a correlation between climate conditions and the incidence, as well as severity, of the bark beetle episode. For example, drought periods are associated with heightened susceptibility of the trees.

<sup>9</sup> A scenario with an average temperature increase of 2.5°C compared to the baseline.

<sup>10</sup> Ecosystem services such as water (quality and quantity), carbon sequestration and storage, air filtration, biodiversity, social and cultural values.

complex and the amount of water available for domestic and agricultural use (Utrecho, 2022).

- 1.11 **Resilience and Sustainability.** Environmental degradation and limited productivity are caught in a vicious cycle, which is why addressing the issue is essential for improving the living conditions of the population and the area's sustainability. Agriculture is the main source of livelihood; however, it is characterized by low yields and profitability due to degraded soils and limited implementation of sustainable and resilient agricultural technologies in the watersheds (Palacios, 2022; Perdomo, 2022). In some micro-watersheds, maize and bean yields can fall below 80% of the national average.<sup>11</sup> These yields are expected to be significantly impacted by CC, such as an 18% reduction in the national average maize yield and a 63% decrease in the area suitable for the cultivation of Arabica coffee (Prager *et al.*, 2018). Among the main factors affecting Lake Yojoa are inadequate agricultural practices that contribute to pollution and advanced eutrophication, where high nutrient concentrations have favored the proliferation of water lilies (Chirinos, 2023), impacting biodiversity (Stohlgren *et al.*, 2013), as well as the quantity and quality of water (Rodríguez-Lara *et al.*, 2012). Commonly employed practices, such as the slash-and-burn production system, extensive livestock farming, and the use of fire for pasture renewal and parasite control have led to loss of vegetation cover (Palacios, 2022; Perdomo 2022). The main determinants of unsustainable agricultural practices are numerous, including the limited adoption of CS or agroecological technologies, influenced by low access to information, lack of technical assistance, financial resources, and seed capital (¶¶ 1.12, 1.14, 1.15; [EEO#4](#)). These inadequate agricultural practices also favor erosion, which is why the implementation of a comprehensive watershed management strategy that incorporates agricultural and forestry aspects is recommended (Díaz Díaz, 2021).
- 1.12 **MSMEs.** Micro, Small, and Medium-Sized Enterprises (MSMEs) are significant actors in the watersheds, and it is estimated that they are the main source of employment in the country (Chirinos, 2023). Based on data collected from 228 MSMEs in the project target area, Chirinos (2023) finds that a high percentage of these engage in productive activities that are dependent on natural resources, particularly in agriculture and livestock farming; however, they lack knowledge of appropriate productive practices and have limited use of CS or agroecological technologies that could improve their profitability while contributing to natural resource conservation. Therefore, fostering their sustainability and resilience is key for development (COHEP *et al.*, 2020), requiring the promotion of environmentally friendly businesses (Perdomo, 2022) and strengthening local development through the implementation of sustainable practices (ICF and AMUPROLAGO, 2016; Perdomo, 2022). Local capacity building through producer and MSME associations is essential for implementing Climate-Smart (CS) actions that help reverse environmental degradation in the area (Chirinos, 2023). In this context, MSMEs face challenges, particularly in terms of technology use, capabilities, and market orientation (Revista Summa, 2015). For example, MSMEs in the area are primarily individual traders (60%), with limited access to technical assistance (18%) and a restricted percentage of formalization (22%) (Romero and

---

<sup>11</sup> Estimates based on values reported by Palacios (2022).

Zerón, 2021).<sup>12</sup> <sup>13</sup> The limited adoption of technology is one of the main factors influencing the low profitability and yields of crop-livestock activities in the area (Perdomo, 2022). Furthermore, limited access to financial resources reduces the implementation of sustainable and resilient technologies and practices (Chirinos, 2023).

- 1.13 **Lines of Action.** Accordingly, to address the main factors contributing to the degradation of El Cajón and Lake Yojoa watersheds, this operation focuses on: (i) conservation and improvement of forest cover and soil; and (ii) implementation of sustainable practices to improve resilience.
- 1.14 **Solutions and Evidence.** Nature-Based Solutions (NBS)<sup>14</sup> have been shown to be an important alternative for the recovery of ecosystem services (e.g., carbon sequestration, regulation of water quantity and quality, soil protection, among others), with their cost-effectiveness also being a significant factor (Keesstra *et al.*, 2018). Indeed, forest restoration has been identified as an adaptation measure for the El Cajón dam, where reforestation of 3% of the total watershed area would improve firm power (between 11 and 16 MW) and increase total annual production (an increase between 21 and 27 GWh/year) (Esquivel *et al.*, 2016). Likewise, Adaptive Forest Management (AFM)<sup>15</sup> activities are key to conserving and/or increasing forest cover and its ecosystem services (Holmes *et al.*, 2014). Despite this potential, in Honduras, the limited or non-existent implementation of AFM practices—affected by the availability of resources and technical assistance—is one of the main causes of forest degradation (Navarro *et al.*, 2016).
- 1.15 CS<sup>16</sup> technologies and practices can contribute to resilient and low-carbon development, also increasing productivity (IDB, 2023). There is a wide range of effective CS technologies and practices in Honduras (CIAT, 2022).<sup>17</sup> However, delayed adoption of CS technologies and practices in the country increases vulnerability (World Bank, 2023). Adoption can be increased by facilitating access to information and working with organizations/associations (Sabando Yáñez, 2019), as well as by providing technical assistance and access to financing, with a special focus on MSMEs (World Bank, 2023). In fact, MSMEs in the project area identify access to seed capital as an essential element for the implementation of CS technologies and practices (Chirinos, 2023).
- 1.16 There is empirical evidence with impact evaluations on the effectiveness of the proposed measures, including in projects and programs funded by the Bank.

---

<sup>12</sup> Data from the Department of Santa Bárbara.

<sup>13</sup> The characterization of MSMEs in the project's area of influence is specified in [EEO#4](#).

<sup>14</sup> NBS are based on the protection, conservation, restoration, management, and sustainable use of ecosystems to address challenges such as climate change and water and food security, while simultaneously providing benefits in terms of human well-being, ecosystem services, resilience, and biodiversity. In fact, the United Nations Environment Assembly has recognized the importance of NBS as a global response to climate change and the achievement of sustainable development goals.

<sup>15</sup> Adaptive Forest Management (AFM), a dynamic and forward-looking concept, entails forest management that takes into account changing conditions (particularly in terms of climate) for the preservation and development of forested areas with a view to ensuring the future provision of ecosystem services (Spathelf *et al.* 2018).

<sup>16</sup> These technologies and practices contribute, where possible, to sustainably increasing income and productivity, to adaptation to climate change, and to the mitigation or removal of greenhouse gases (FAO, 2021).

<sup>17</sup> These include agroforestry systems and crop associations, among others.

These operations were based on an approach similar to the one proposed in this project: (i) prioritization of watersheds; (ii) development of farm plans in collaboration with beneficiaries; and (iii) non-reimbursable grants and technical assistance for the implementation of farm plans. In Honduras, the “Natural Resources Management in Priority Watersheds” project (MARENA, [1077/SF-HO](#)) promoted the adoption of CS practices (agroforestry, soil conservation, and sustainable forest protection and use), increasing the average value of annual production of beneficiary households (USD 263-\$331) (Bravo-Ureta *et al.* 2011). The “Environmental Program for Disaster Risk and Climate Change Management” (PAGRICC, [2415/BL-NI](#)) focused on the adoption of environmental restoration systems (agroforestry and silvopasture systems, among others), increased the value of annual crop production (USD 195/ha), tree cover (3 hectares), and milk sales volume during the dry season (2.4-7.5 liters per day) (González Flores and Le Pommellec, 2019).<sup>18</sup> Internal rates of return between 32% -49% and 21% were reported for MARENA and PAGRICC, respectively. These results are in line with an analysis conducted for western Honduras, which identifies effective CS technologies and practices from a financial, environmental, and/or job creation perspective (CIAT, 2022).

- 1.17 The link between forest cover, soil quality, and water availability for hydroelectric generation is well-documented. In Nicaragua, the implementation of environmental restoration systems is reported to have contributed to a reduction in total sediment runoff (32%), soil loss (between 50 and 200 tons per hectare), and erosion (10%).<sup>19</sup> This study also finds a positive relationship between forest area and streamflow, which impacts hydroelectric generation: a 10% increase in streamflow increases hydroelectric generation by 3.5%. In Calima, Colombia, it is indicated that restoration of less than 35% of the watershed area can increase energy production by around 5% (Sáenz *et al.*, 2014).
- 1.18 A systematic review of interventions in small and medium-sized enterprises in low- and middle-income countries—particularly in Latin America—suggests that support through grants/subsidies and technical assistance helps improve sales, value added, and productivity (Piza *et al.*, 2016). Furthermore, for these measures to be effective, an approach where capacity building is factored in is required (Grimm and Paffhausen, 2014). The full summary of the evidence is found in the [EER#2](#).
- 1.19 **Gender Gaps and Diversity.** Studies conducted in rural Honduras<sup>20</sup> indicate that there are gender gaps in MSMEs. Female-led enterprises are more vulnerable to external shocks (Arias-Granada, 2022). It is also noted that companies led by women, compared to their male-led counterparts, have less access to technical assistance (21% vs. 33%), and the annual net profits of MSMEs led by women are equivalent to 33% of the average of those led by men (Romero and Zerón, 2021). Regarding technical assistance for women, there is a need for assistance focusing specifically on training for the adoption of new technologies and practices, including those for soil and water conservation, as well as value-added generation

---

<sup>18</sup> For more information, see the project completion report (PCR) issued by the Environmental Program for Disaster Risk and Climate Change Management ([EEO#11](#)).

<sup>19</sup> “Integral Management of the Apanas and Asturias Watershed” project completion report ([GRT/FM-12993-NI](#)).

<sup>20</sup> An analysis conducted for western Honduras; it includes the Department of Santa Bárbara, which is located within the project’s target area.

- (Rios *et al.*, 2023). Specifically, in the forestry sector, women's participation is limited, with only 25% participating in forestry activities (nurseries, plantations, and forest protection) and around 30% as members of agroforestry cooperatives (FAO, 2023). Disparity in land titling and property size is also highlighted: only one in three land titles was granted to women between 2011-2020 (Ordóñez and Pacheco, 2020), with men holding larger plots (FAO, 2023).
- 1.20 There are significant disparities among indigenous populations: 75% are unable to cover the costs of the basic food basket (as compared to 42% nationally), with average incomes at around 37% of the national average (Lenca Indigenous Movement of Honduras, 2020). Additionally, most protected areas in Honduras are located within indigenous territories (Del Cid, 2009). In the project area, there is a presence of producers who self-identify as Lenca. The Lenca population has been characterized as subsistence farmers with a high level of poverty and exclusion (Acosta Pineda, 2022), facing the challenge of losing aspects of their identity such as agricultural practices, among other things (Mejía López, 2019).
- 1.21 **Knowledge of the Sector and Value Added by the Bank.** The Bank has been supporting the development of sustainable and inclusive productive opportunities by promoting the adoption of good practices and reinforcing innovation, with a particular emphasis on climate action. This is in line with the country's vision of environmental protection and agroforestry development. For example, in the period 1993-2001, the Bank approved two projects in the target area [1077/SF-HO](#) and the "Program for the Management of Renewable Natural Resources in the El Cajón Reservoir Basin" ([787/OC-HO](#), [787/OC-HO-CPS](#), [918/SF-HO](#))<sup>21</sup>. The before mentioned financed territorial planning plans, forest management activities, climatological and hydrometric stations, reservoir bathymetry study and identification of landslide risk areas, among others.
- 1.22 Currently, the "Sustainable Forest Management Project ([3878/BL-HO](#)) and the "Program for the Restoration of Climate-Resilient Forests and Forestry for Sustainable Water-Related Ecosystem Services" ([4926/GN-HO](#) and [GRT/GN-17771-HO](#)), are being executed. These projects contribute to achieving over 20% of Honduras' NDC's forest restoration target by providing technical and financial support to key stakeholders. They also strengthen forest health, research on CC impacts, and access to climate financing for forest management. Additionally, the "Comprehensive Rural Development and Productivity Project" ([4936/BL-HO](#) and [4940/BL-HO](#)), along with non-reimbursable funding for the "Adoption of Climate-Smart Technologies in Women-Led Agricultural MSMEs" ([GRT/WE-20251-HO](#)), provides technical and financial support to MSMEs for the implementation of CS technologies and practices in the western region of the country.
- 1.23 The WMU developed the Comprehensive Watershed Management Strategy, which includes agronomic, forestry, and social components. To engage with producers, it implements the "Methodological Guide for Subsistence Producers" and the "Farm Use Plan" and provides incentives for forest protection and conservation through the "Environmental Barter" system. These experiences developed by the WMU were documented with the support of the Bank, collecting

---

<sup>21</sup> See PCR ([EEO#12](#)).

lessons learned and recommendations for improvement.<sup>22</sup> Notably, these include the importance of working with livestock, creating self-sustaining enterprises, prioritizing a market approach, increasing technical assistance in the communities, and reinforcing the use of biological products. In addition, as an achievement of the WMU's actions, local empowerment in activities for the comprehensive management of natural resources is noted.

1.24 **Lessons learned.** Through the investments made by Honduras and the Bank-financed projects mentioned above (¶¶1.21-1.23), as well as [2415/BL-NI](#) and [GRT/FM-12993-NI](#), lessons have been learned and integrated into the design of the current operation, as summarized in Table 1.

**Table 1. Lessons Learned and Project Design Considerations**

<b>Lesson learned</b>	<b>Consideration</b>
<p><b>1. Target area</b></p> <p>The identification of areas for implementation is a critical element for progress in executing and achieving the proposed objectives.</p>	<p>a. Prioritization of areas taking into account the proposed activities and critical variables associated with the expected outcomes.</p> <p>b. Identification of beneficiaries in the field prior to the start of the project.</p>
<p><b>2. Local empowerment</b></p> <p>Involvement of local stakeholders is essential for the execution and sustainability of the project.</p>	<p>a. Incorporation of local stakeholders, including broad participation in the design.</p> <p>b. Information sharing, communication, and gathering activities through focus groups.</p>
<p><b>3. Execution plan</b></p> <p>The Bank's experience highlights the importance of the executing agency's focus or mission being in line with the project's objectives.</p> <p>Inter-institutional coordination is key for projects with a multi-sectoral approach..</p>	<p>a. An entity with an Environmental Affairs Department and a watershed management unit whose purpose is ensuring the protection and conservation of natural resources in the water supply basins for hydroelectric plants.</p> <p>b. An entity with extensive presence in the area and experience in environmental/productive work with the community.</p> <p>c. Creation of a multi-sectoral and inter-institutional committee that has been involved since the beginning of the project design.</p>
<p><b>4. Action strategy</b></p> <p>An intervention strategy considering the entire watershed is crucial for achieving results and addressing factors causing the problems.</p> <p>Similar interventions have implemented a non-reimbursable grant covering up to 60-80% of the cost of the selected technology/practice.</p> <p>Insecurity in land tenure can be a barrier to adopting sustainable technologies/practices.</p>	<p>a. Comprehensive approach to watershed management, considering also the provision of technical assistance and support for the adoption of appropriate practices and technologies..</p> <p>b. Non-reimbursable grant provided and requirement of direct contribution from the beneficiary in kind and/or cash.</p> <p>c. Subcomponent that includes the development of a pilot proposal to address land tenure.</p>
<p><b>5. Monitoring, reporting, and verification</b></p> <p>Strengthening local capabilities in using monitoring and evaluation methodologies from the Intergovernmental Panel on</p>	<p>a. The project's monitoring and evaluation plan employs methodologies and guidelines established by the IPCC.</p> <p>b. Establishment of plots to quantify the carbon stored in forests.</p>

<sup>22</sup> Perdomo (2022).

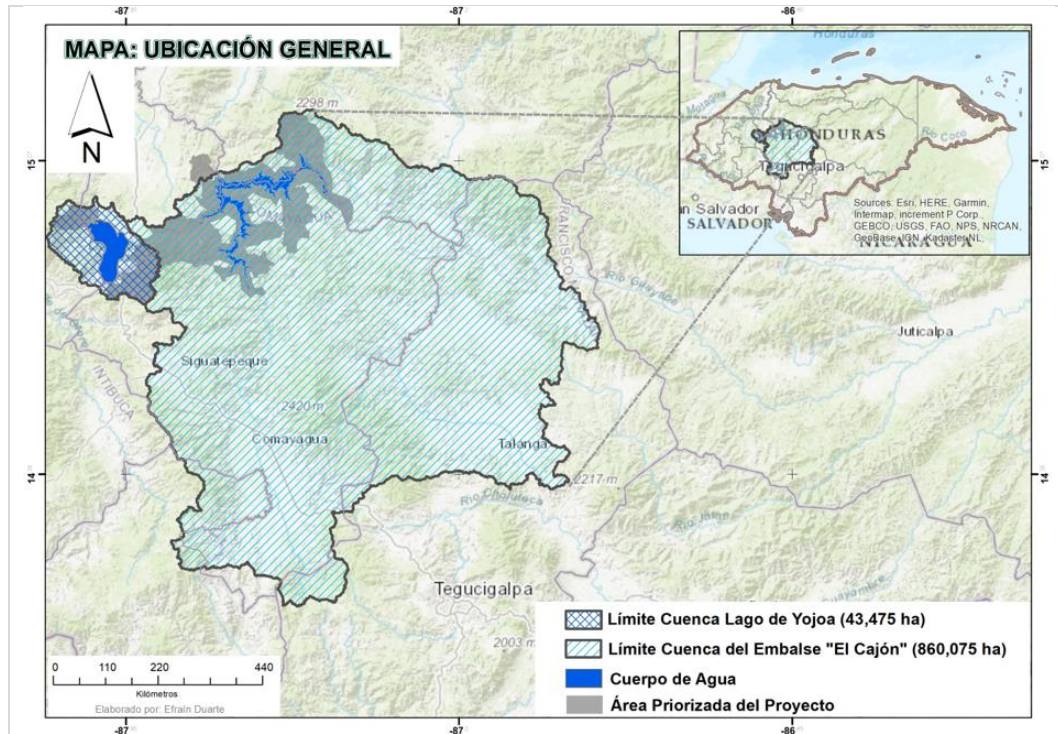
Lesson learned	Consideration
Climate Change (IPCC) is a good practice.	
<p><b>6. Sustainability</b></p> <p>Promoting plans that allow for the implementation of activities after the project is completed.</p>	<p>a. Implementation by an entity with a presence in the area, which has created synergies with stakeholders (governmental and non-governmental) for the implementation of watershed management activities.</p> <p>b. Coordination with and participation of local stakeholders.</p>

- 1.25 **Synergies.** To maximize impact, synergies will be reinforced with projects and initiatives from the IDB Group. Among these are [3878/BL-HO](#), “Renovation of the Francisco Morazán Hydroelectric Plant to Facilitate the Integration of Renewable Energies” ([5132/BL-HO](#), [5133/TC-HO](#)), “Improving the Climate Resilience of Micro, Small and Medium-Sized Forestry and Agroforestry Enterprises in Honduras” ([HO-O0011](#)), [4936/BL-HO](#), [GRT/WE-20251-HO](#), [4926/GN-HO](#) and [GRT/GN-17771-HO](#). These complementarities encompass elements related to access to credit, compensation programs for environmental services, and capacity building including methodologies for measuring, reporting, and verifying GHG emissions.<sup>23</sup>
- 1.26 **Target Area.** The proposed target area includes El Cajón and Lake Yojoa watersheds (860,075 and 43,476 hectares, respectively). The project’s focus prioritizes: (i) in El Cajón watershed, the micro-watersheds of Chilistagua, Yunque, Yure, Maragua, El Chamo, Quirima, El Cajón creek, and the Protected Forest Zone of the Reservoir (PFZR); and (ii) in the Lake Yojoa watershed, the micro-watersheds of Varsovia, Yure, La Pita, Quebradona, and Lake Yojoa (see Figure 1.)<sup>24</sup> If necessary and if resources are available, additional areas within the two selected watersheds may be incorporated based on the same criteria used for prioritization, such as vulnerability to CC, carbon sequestration potential, opportunities for ecosystem recovery, extent of intervention, sustainable livelihoods, and social and gender inclusion.

Figure 1. Prioritized Target Area

<sup>23</sup> See [EEO#13](#).

<sup>24</sup> The PFZR comprises the water surface up to the 301-meter mark; Varsovia includes the diversion channel and related works; Yure encompasses the reservoir, the diversion channel, and related works; and Lake Yojoa includes the water surface and wetlands.



Source: Duarte (2023)

- 1.27 **Interinstitutional coordination.** The development of the intervention and its activities requires inter-institutional coordination and involvement of various entities. To facilitate coordination and synergies among entities, a multi-sectoral and interinstitutional committee has been formed comprising the ENEE, the Secretariat of Finance (SEFIN), SERNA, SAG, and ICF. This is aimed at avoiding duplications and generating complementarities with ongoing interventions from various donors and financiers.
- 1.28 **Strategic Alignment.** The project is consistent with the Second Update to the Institutional Strategy (AB-3190-2) and in line with the development challenges of: (i) Social Inclusion and Equality, by supporting MSMEs with non-reimbursable grants and technical assistance to improve their net profits and food security; and (ii) Innovation and Productivity, by promoting the adoption of CS technologies and practices that will increase productivity and income levels. The project also aligns with the cross-cutting themes of: (i) Gender Equality, by allocating specific funds to support MSMEs led by women; and with diversity, specifically Indigenous Peoples (IP) through support for indigenous producers that promote the adoption of culturally relevant technologies and practices; and (ii) CC and Environmental Sustainability, by promoting activities for low-carbon and resilient development. Additionally, it contributes to the Corporate Results Framework (GN 2727 12), through indicators of: companies receiving technical assistance (#), emissions avoided (annual tons of CO<sub>2</sub> equivalent), and sustainably managed habitats using ecosystem-based methods (hectares). It is consistent with the Sector Framework Document on Agriculture (GN-2709-10) and Climate Change (GN-2835-13), focusing on the line of action of promoting sustainable agriculture, which reduces and offsets its impact on the environment, and managing climate impacts on the sector. By mainstreaming the gender approach in MSMEs, it is in line with the



Gender Perspective Employment Action Framework (GN-3057). The operation aligns with the strategic objectives of the IDB Country Strategy with Honduras 2019-2022 (GN-2944-2), extended until 2024, to “expand access to financing for agricultural MSMEs” and “expand the country’s forest cover and resilience to climate change.”

- 1.29 The project is in line with multiple objectives of Honduras’ NDC, contributing to mitigation goals (e.g., implementation of NBS for the conservation and functional restoration of the rural landscape) and adaptation priorities (water resources sector, biodiversity and ecosystem services, agri-food sector, and food sovereignty). Additionally, it is consistent with the National Adaptation Plan, which emphasizes the relevance of implementing actions that promote the protection, proper management, and restoration of ecosystems. It is also in line with the 2022-2026 Government Plan, which emphasizes the priority of mitigation of and adaptation to CC.
- 1.30 **Climate Finance.** According to the Joint Multilateral Development Banks Approach for Climate Finance Reporting, under these activities, operations HO-L1243 and HO-G1263 have 70.79% and 95.19% of climate finance, respectively. According to the IDB Group’s green financing tracking methodology, these operations contribute to the objectives of ‘Sustainable use and protection of water and marine resources’ and ‘Protection and sustainable use of biodiversity’. The aggregate sum of climate and green finance for HO-L1243 and HO-G1263 is 71.71% and 95.93%, respectively.
- 1.31 **Alignment with the Paris Agreement.** This operation has been reviewed using the [Joint MDB Methodological Principles for Assessment of Paris Agreement Alignment](#) and the IDB Group’s PAIA ([GN-3142-1](#)); it has been found to be: (i) aligned with the adaptation goal of the Paris Agreement (PA); and (ii) universally aligned with the mitigation goal of the PA.

## **B. Objectives, Components, and Cost**

- 1.32 **Objective.** The overall objective is to contribute to resilient, low-carbon, and inclusive development in El Cajón and Lake Yojoa watersheds. The specific objectives are: (i) to promote the adoption of Climate-Smart (CS) technologies and practices and/or agroecological practices by MSMEs; and (ii) to promote the adoption of forest cover and/or soil restoration technologies or practices by key stakeholders in the intervention area.

### **1. Component I. Resilient MSMEs (USD 3,363,000 Loan, USD 1,300,000 Grant)**

- 1.33 Focused on strengthening resilience to the impacts of CC and the sustainability of MSMEs engaged in agricultural, forestry, fishing, aquaculture, agrotourism/ecotourism, and circular economy activities. This is achieved through the promotion of CS technologies and/or agroecological practices.
- a. **Subcomponent I.1. Support for the Resilience of MSMEs (USD 3,035,000 Loan, USD 1,300,000 Grant)**

- 1.34 This subcomponent will provide Technical Assistance (TA) and direct Grant Funding (GF) in kind for the adoption of CS and/or agroecological technologies/practices by eligible MSMEs.<sup>25</sup> The GF will be determined based on a business plan, providing support of up to 60% of its cost, with a maximum of USD 2,000 per MSME member<sup>26</sup> and a total of USD 10,000 per MSME. The remaining 40% will be in-kind and/or cash contributions from the beneficiary, including the option for contributions from other stakeholders (e.g., strategic partners.<sup>27</sup>) In-kind contributions encompass labor and valuation of conservation and/or environmental management activities. The business plan will be market-oriented, considering technical, economic, and financial viability, as well as progress towards increased resilience and emission reduction.
- 1.35 The provision of TA will be comprehensive, covering production, market analysis, nutrition, value-added generation, and business aspects (identification and support in accessing financing, licenses, and legal status, among others). This TA will assist in the design and implementation of business plans, incorporating specific elements to address the needs and interests of MSMEs, with actions planned for communication, environmental awareness, and promotional events, emphasizing the identification of women-led enterprises. It is estimated that around 25% of the 300 MSMEs served will be led by women. Additionally, the TA will also be culturally relevant to consider the sustainable practices, worldview, and interests of IP, as well as communication and awareness-raising activities.

**b. Subcomponent I.2 Capacity Building for Resilience (USD 328,000 Loan)**

- 1.36 Encompasses the development of capacity-building activities for ENEE, sectoral entities, and local stakeholders<sup>28</sup> to guide the design, planning, and implementation of resilience and sustainability actions in the target area. This involves technical aspects and equipment (hydrometeorological and computer equipment, among others). Technical elements include training sessions, as well as the development of studies and analyses (e.g., water quality assessment, identification of main sources of contamination/sedimentation, options for the management and control of water lilies, considering options for processing and use). A gender and IP cultural relevance approach will be applied in the implementation of these actions.

**2. Component II. Forest Cover and Soil Restoration (USD 895,300 Loan, USD 1,400,000 Grant)**

- 1.37 Focused on increasing carbon stocks in the target area and reducing vulnerability to CC through the adoption of forest cover and/or soil restoration technologies or practices.

---

<sup>25</sup> Detailed criteria regarding the eligibility and prioritization of MSMEs, as well as CS practices or technologies, are defined in the Project Operating Manual ([EEO#6](#)).

<sup>26</sup> Individuals from different households are counted as members.

<sup>27</sup> Such as those mentioned in ¶1.27.

<sup>28</sup> Mentioned in ¶1.27.

**a. Subcomponent II.1. NBS Implementation (USD 651,300 Loan, USD 1,400,000 Grant)**

1.38 Considers the provision of TA and GF for the implementation of NBS focused on improving forest cover and soil restoration. Eligible practices include forest restoration, agroforestry and silvopasture systems, conservation through FMA (e.g., thinning, fire prevention and control, forest enrichment, etc.), practices for soil stability and erosion control, among others. The TA will support the definition and implementation of the solution to be implemented under a Forest Cover Plan and/or Soil Restoration Plan (FCSR), incorporating adjustments to address the profiles of women and IP.<sup>29</sup> Outreach and recruitment efforts will promote the inclusion of women and IP as project beneficiaries. The GF, which will be in-kind, will amount to a maximum of 60% of the cost of the solution outlined in the FCSR.<sup>30</sup> The remaining amount will be contributed by the beneficiary, which may be in-kind and/or cash, including the option of contributions from other stakeholders. In-kind contributions include labor and valuation of conservation and/or environmental management activities by the beneficiary. The implementation of NBS will also be facilitated through the establishment and maintenance of demonstration farms.

**b. Subcomponent II.2. Capacity Building for NBS Implementation (USD 244,000 Loan)**

1.39 This involves financing activities and equipment to strengthen ENEE, sectoral entities, and key stakeholders in the planning, design, and implementation of NBS. The activities to be financed include training and technical studies. These technical studies include, for example, the identification and analysis of areas with soil instability, the analysis of the issues, and based on this, the development of a pilot proposal to address land use planning and/or land tenure with a gender perspective,<sup>31</sup> and the evaluation of sediment sources.

1.40 **Administration, Monitoring, and Evaluation (USD 685,700 Loan).** The project will also finance monitoring, administration, evaluations, and audits.

1.41 **Eligibility.** The Project Operating Manual (POM, [EEO#6](#)) will detail the eligibility criteria, including, for example: (i) the type of beneficiary, which will be MSMEs for Component I<sup>32</sup> and individuals, municipalities, local organizations, and state institutions, among others, for Component II; (ii) eligible CS and NBS technologies and practices, taking into account contributions to adaptation and mitigation; and (iii) the availability of contributions from the beneficiary. In any event, activities and financial support will be in line with the scope, uses, and land management envisaged in national legislation/regulations, particularly regarding protected areas.

---

<sup>29</sup> Including TA methodology and provision approach, among other things.

<sup>30</sup> For conservation and protection activities, the grant can total up to 80% of the estimated cost.

<sup>31</sup> The pilot design will consider the inclusion of disaggregated information and identification of gender-specific barriers/gaps, as well as requirements and procedures for access, use, and land tenure in line with the profile and capabilities of women, among other criteria.

<sup>32</sup> Encompassing subsistence microenterprises.

## C. Key Performance Indicators

- 1.42 **Beneficiaries.** Component I is expected to directly benefit 300 MSMEs, equivalent to 1,500 families and 6,000 individuals.<sup>33</sup> Component II is expected to benefit different key stakeholders in the target area (¶1.41), who will carry out activities on 2,601 hectares.
- 1.43 **Main Results.** At the outcome level, an increase in the adoption rate of CS or agroecological technologies or practices and of forest cover and/or soil restoration technologies or practices in the prioritized area is expected. At the impact level, an increase in tree cover, the water infiltration index, and carbon capture; improvement in net income and food security for MSME households; and the effective energy production ratio with reforestation compared to projected production without reforestation is anticipated.

## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing Instruments

- 2.1 The project is structured as a specific investment loan operation and a non-reimbursable investment grant (*investment grant*). The total cost amounts to USD 7.8 million, financed by the SCX through the Pilot Program for Climate Resilience (PPCR) and the Forest Investment Fund (FIP) (Table 2). Globally, it is the first time that PPCR and FIP resources are combined in the same project; this innovation allows for a comprehensive and cost-effective approach focusing on resilience and forestry actions, which are priority elements for Honduras' development. The possibility of incorporating additional resources from the European Union is under consideration.

---

<sup>33</sup> Assuming 5 families per MSME and 4 members per family.

**Table 2. Estimated Program Costs (thousands of USD)\***

Component	PPCR		FIP		Total	%
	HO-L1243	HO-G1263	HO-L1243	HO-G1263		
<b>Component I. Resilient MSME</b>	<b>3,363</b>	<b>1,300</b>	-	-	<b>4,663</b>	<b>60</b>
Subcomponent I.1. Support for MSME resilience	3,035	1,300	-	-	4,335	56
Subcomponent I.2. Capacity Building for Resilience	328	-	-	-	328	4
<b>Component II. Forest Cover and Soil Restoration</b>	-	-	<b>895</b>	<b>1,400</b>	<b>2,295</b>	<b>29</b>
Subcomponent II.1. NBS Implementation	-	-	651	1,400	2,051	26
Subcomponent II.2. Capacity Building for NBS Implementation	-	-	244	-	244	3
<b>Administration, Monitoring, and Evaluation</b>	<b>231</b>	-	<b>455</b>	-	<b>686</b>	<b>9</b>
<b>Contingencies</b>	<b>106</b>	-	<b>50</b>	-	<b>156</b>	<b>2</b>
<b>Total</b>	<b>3,700</b>	<b>1,300</b>	<b>1,400</b>	<b>1,400</b>	<b>7,800</b>	<b>100</b>

\* Costs per activity within each component are estimates.

- 2.2 **Projected disbursement period.** The disbursement period will span five years, considering the nature of the proposed intervention involving field implementation by the beneficiaries. Table 3 presents the projected disbursements during this period.

**Table 3. Projected Disbursement Schedule (thousand USD)**

Source	2024*	2025	2026	2027	2028	2029*	TOTAL
PPCR – HO-L1243	110	500	900	1,100	950	140	3,700
PPCR – HO-G1263	-	100	400	600	200	-	1,300
FIP – HO-L1243	40	100	300	600	300	60	1,400
FIP – HO-G1263	-	100	300	600	400	-	1,400
<b>Total</b>	<b>150</b>	<b>800</b>	<b>1,900</b>	<b>2,900</b>	<b>1,850</b>	<b>200</b>	<b>7,800</b>
<b>%</b>	<b>2</b>	<b>10</b>	<b>24</b>	<b>37</b>	<b>24</b>	<b>3</b>	<b>100</b>

\* Partial year.

- 2.3 **Economic feasibility.** A cost-benefit analysis (CBA) was conducted for the two components separately and collectively. The CBA considers the situation with and without the project, including investment costs and additional costs from a social perspective. The main benefits come from the adoption of technologies and practices promoted by the project: for Component I, improvements in net profits for MSMEs; for Component II, through increased carbon sequestration, reduction of GHG emissions, income improvements for beneficiaries of agroforestry and silvopasture systems, and hydroelectric generation at El Cajón. Overall, the Internal Rate of Return (IRR) is 14.5%, with a Net Present Value (NPV) of USD

2,038,312 and a benefit-cost ratio of 1.16. Sensitivity analyses were conducted for key variables that could affect the project's profitability; results remain stable and do not change significantly.

## **B. Environmental and Social Risks**

- 2.4 According to the Environmental and Social Policy Framework (ESPF), the project is classified as a Category B project because the activities to be carried out will generate moderate to insignificant, localized, and short-term negative environmental and social impacts. To address the requirements established in the ESPF and the 10 Environmental and Social Performance Standards (ESPS), ENEE submitted the Environmental and Social Assessment (ESA) and the Environmental and Social Management Plan (ESMP) for the type of activities and programs to be financed and is devising a specific Environmental and Social Management System (ESMS) for the project. The ESA confirmed the socio-environmental classification of the project activities and concluded that, overall, the project brings positive impacts by improving ecological conditions, environmental goods, and ecosystem services in the watersheds. Additionally, the ESA identifies the following as potential negative impacts or risks: (i) alteration of the landscape and flora of the area; (ii) generation of particulate matter and noise during land preparation works (due to soil removal or vehicle/equipment traffic); (iii) generation of solid and liquid waste from workers' activities; (iv) soil removal during land preparation works; and (v) generation of dust and air pollutants from the use of small machinery.
- 2.5 The project is environmental and social risk-rated Substantial, because of: (i) ENEE's experience in implementing the Bank's environmental and social policies under OP-703, but not under the ESPF; and (ii) the context of nationally protected areas in the target area. A moderate rating for disaster and climate change risk is due to the threat of earthquakes and landslides in the area of influence, and between moderate and high risk due to flooding from river overflow and hurricanes. Additionally, based on the Bank's DRM methodology, the criterion for physical characteristics is low. This is because there are no retention structures, the negative impact on services is low (the area of the smallest applicable independent analysis unit is less than 500 Ha), and there is a moderate negative impact on the population, since the failure of critical system structures would result in moderate material or environmental damage. Additionally, the project focuses on increasing resilience, ensuring that appropriate measures for risk and climate change management will be implemented.
- 2.6 The public consultation process took place in accordance with the Stakeholder Engagement Plan (SEP) on November 22 and 23, 2023, in Lake Yojoa and El Cajón. During these consultations, local stakeholders emphasized the significance of the project and expressed an interest in participating. The consultation report, along with the updated environmental and social documents, will be published before submission to the Bank's Board of Directors.

## **C. Fiduciary Risks**

- 2.7 A medium to high risk of delays in procurement processes has been identified, which could affect the start and duration of activities. Mitigation measures include

the preparation of terms of reference and technical inputs for key processes before the project's beginning of implementation, retroactive financing for any payments related to key contracts, and ongoing and efficient monitoring of procurement timelines. Additionally, there is a medium to high risk that the established counterpart contribution from beneficiaries may become a barrier. To mitigate this risk, investment plans will be based on the capacities of the beneficiaries, and strategic partnerships will be sought to provide additional resources.

#### **D. Other Risks and Key Issues**

- 2.8 **Additional Risks.** There were identified as medium to high risk: (i) the beneficiaries losing interest in continuing to participate in the project; and (ii) the transition process due to the expected change in government administration in 2026. In response, the plan includes, among other measures: (i) the phased delivery of GF and personalized TA; and (ii) ensuring that key consultancies are contracted and underway before the change in government administration, respectively.
- 2.9 **Institutional Capacity Analysis.** The Bank applied the Institutional Capacity Assessment Platform (ICAP) methodology to the executing agency. This evaluation highlights strengths such as extensive experience in project management, a medium to high level of execution, and the existence of an IDB-approved project operating manual for five ongoing operations. Additionally, for project implementation, it notes the need to hire personnel for technical quality management and allocate resources for the acquisition of required monitoring and supervision equipment.
- 2.10 **Sustainability.** The EA will be reinforced, and synergies will be created with projects and initiatives in the area, as well as with sectoral entities and local actors (such as municipalities, associations, and NGOs) to enhance impact, complement actions, and ensure the sustainability of interventions. These aspects are elaborated on in ¶¶1.27 and 3.11. The sustainability of investments is also reinforced by the technical presence of the WMU in the project area, with extensive experience working with stakeholders including communities<sup>34</sup>

### **III. IMPLEMENTATION AND MANAGEMENT PLAN**

#### **A. Summary of Implementation Arrangements**

- 3.1 The borrowing country will be the Republic of Honduras and the project's Executing Agency (EA) will be Empresa Nacional de Energía Eléctrica (ENEE), through the Project Coordination Unit (PCU); technical responsibility will lie with the Department of Environment (DA) and the Watershed Management Unit (WMU). The PCU, which currently manages several operations financed by the Bank, will be responsible for the execution, administration, monitoring, and evaluation of the project. The DA, as the technical environmental arm of ENEE, will oversee technical responsibilities in coordination with the WMU.

---

<sup>34</sup> The WMU has been involved in the implementation of projects in the area funded by JICA, German cooperation, and the Bank, among others.

- 3.2 Through the PCU, ENEE will be responsible for implementing and supervising the project, defining and approving Annual Operating Plans (AOP) ([EER#1](#)), providing information to the Bank that will enable it to monitor and evaluate project results, coordinating and managing disbursements, and maintaining accounting and financial records, including the required annual financial statements. The PCU will be responsible for the fiduciary management of the two sources of financing (FIP and PPCR). The project will finance the hiring of technical staff to support the DA and the WMU in implementing Component I and Component II activities. For its part, regarding the forestry sector, protected areas, and wildlife, the ENEE will work in close coordination with the ICF, the governing body of the subject, for which there will be an interinstitutional cooperation agreement which will detail the role of each one and the technical coordination necessary for the execution of the activities. Additionally, a Multisectoral and Interinstitutional Committee will be formed in which the required national and local entities will participate to ensure due technical and strategic coordination and complementarity in the development of activities.
- 3.3 **Project Operating Manual (POM).** The project will have a POM, previously agreed upon with the Bank, which is necessary to ensure the proper execution of the project. This manual will encompass all procedures to be used during project execution and may be modified with the Bank's written non-objection. The POM will include, at least: (i) project execution organization chart; (ii) detailed execution schedule and institutional and operational roles and responsibilities; (iii) details of procedures for the selection and procurement of works, goods, and services; (iv) rules and procedures for administrative and financial management; (v) procedures for monitoring and evaluation; (vi) environmental and social requirements and will include as annexes the ESMS, ESMP, ESA and the Participation Plan for Interested Parties; and (vii) operational breakdown of components, including, among others, eligibility criteria for beneficiaries and technologies/practices, business plan, and FCSR. P.
- 3.4 **Prior to the first disbursement, as special contractual conditions, the EA shall submit, to the satisfaction of the Bank, evidence that: (i) a subsidiary agreement has been signed and entered into force between the Secretary of State in the Office of Finance, representing the Borrower, and the ENEE, as EA for the transfer of loan resources and asocial obligations, under the previously agreed terms with the Bank; (ii) the POM has been approved and entered into force, under terms previously agreed with the Bank, encompassing, among others, the environmental and social requirements and including as annexes the Environmental and Social Management System (ESMS), the Environmental and Social Management Plan, and the Stakeholder Engagement Plan; (iii) the key project team has been appointed, which includes the Coordinator, the Monitoring Specialist, the Financial Specialist, the Procurement Specialist, the Environmental Management Specialist, the Social Specialist, the Component I Specialist and the Component II Technical Advisor<sup>35</sup>; and, (iv) the EA has signed and is in force an inter-institutional cooperation agreement with the ICF for the execution of activities and technical coordination between both entities. The purpose is**

---

<sup>35</sup> Technical support focused on Component II activities.



- to establish the guidelines and procedures to be followed, with the necessary technical team in place for the successful implementation of the project.
- 3.5 **Procurement of works, goods, and services other than consulting services.** Procurement financed in whole or in part by Bank funds shall be conducted in accordance with the Policies for the Procurement of Goods and Works Financed by the IDB (GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the IDB (GN-2350-15). The Procurement Plan ([EER#4](#)) contains an itemized list of the procurements to be implemented during execution, as well as the procedures applied by the Bank for their review.
- 3.6 **Fiduciary Arrangements and Requirements.** Annex III establishes the framework for financial management and planning, as well as for the supervision and execution of applicable acquisitions for project implementation. The Superior Court of Accounts may be hired to carry out the audit of the project, based on the provisions contained in the Consulting Policies GN 2350-15 for the selection of specialized agencies. This direct contracting is because ENEE has signed an agreement with this entity. Regarding the main financial management instruments, the National Treasury, Budget, Accounting, and Reporting Systems will be used through the Financial Management System (SIAFI/UEPEX). The rules, procedures, and systems will be governed by the Financial Management Guidelines for IDB-Financed Projects (OP-273-12) and its supplementary instructions.
- 3.7 **Disbursements.** The main disbursement method will be advance payments based on actual liquidity needs. Preferably, these advances will be made semi-annually, once at least 80% of the anticipated amount has been accounted for, and documentation including accountability forms and financial planning spreadsheets will be required. Documentation review will be conducted *ex post*.
- 3.8 **Audits.** During implementation, the PCU will annually submit the Audited Financial Statements (AFS) of the project, as required by the Bank. The AFS will be submitted within 120 days after the end of the fiscal year and at the closure of the operation, within 120 days after the last disbursement.
- 3.9 **Retroactive Financing.** It is anticipated that the project will retroactively finance, using project funds, sums expended for the hiring of: (i) a specialist in business plans for productive systems; (ii) a technician in forest cover and soil restoration; and (iii) field technicians, up to USD 78,000 (1% of the financing). This is provided that requirements substantially similar to those established in the Agreement(s) have been met and that the procurement procedures, including announcements, comply with the Bank's basic procurement principles. These expenses must have been incurred following approval of the project profile (November 7, 2023), but in no case will expenses incurred more than 18 months before the loan and non-reimbursable investment financing approval be included.
- B. Summary of Performance Monitoring Arrangements**
- 3.10 The project has a Monitoring and Evaluation Plan ([EER#2](#)), agreed upon with the EA and considered in the budget, which includes detailed information on indicators and means of verification, critical path of activities and outputs, monitoring

instruments, responsible parties, as well as methodology and budget for implementation of the plan.

- 3.11 **Monitoring.** The PCU, in coordination with the DE and the WMU, will prepare and submit to the Bank, no later than 60 days after the end of each half-year during project implementation, the Semi-Annual Progress Reports. These reports will indicate the level of physical and financial progress for the indicators and activities of the Results Matrix, Annual Operational Plan (AOP, [EER#1](#)), and Procurement Plan (PP), analyzing the problems encountered and presenting corrective measures to address them. The monitoring reports for the second half-year will include the AOP for the following year, the updated PP, as well as compliance with the environmental and social requirements of the project established in the ESMP.
- 3.12 **Evaluation.** The PCU will submit two evaluation reports: (i) mid-term, following the Bank's PCR format, at the earliest of: 90 days from the commitment date of 50% of the loan funds or when 50% of the disbursement period has elapsed; and (ii) final, within 90 days from the disbursement date of 95% of the funds. These reports, prepared independently and financed with loan funds, will include: (i) financial execution by subcomponent and financing source; (ii) progress in achieving products, results, and impacts of the Results Matrix; (iii) compliance with the ESMP; and (iv) summary of financial statements, procurement, disbursements, and internal control.
- 3.13 **Impact Evaluation.** The EA will conduct a reflective evaluation (before and after) for all performance and impact indicators associated with the specific objectives and the overall objective, respectively. This will be complemented by an impact assessment using big data from remote sensing and a combination of machine learning models and difference-in-differences econometric models to evaluate the project's impact on indicators such as forest cover, erosion index, water infiltration, and carbon stock increase, among others. For carbon sequestration, the IPCC 2019 methodology will be employed, where models will be calibrated combining field data and remote sensors. Field data will come from the existing Permanent Sampling Plots (PSP) in the project area. These PSPs will be used to estimate forest growth, utilizing carbon data from both National Forest Inventory plots and plots established by the project.

### C. Post-Approval Design Activities

- 3.14 It is anticipated that, using technical cooperation resources for operational support<sup>36</sup>, activities will be financed to make it possible for the operation to start quickly. These activities include pre-identification in the field of potential beneficiaries and specific intervention areas for the activities of both components of the project.

---

<sup>36</sup> HO-T1438 in preparation.