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Report No: PAD5476

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED RESTRUCTURING

AND A

PROPOSED ADDITIONAL GRANT

IN THE AMOUNT OF US\$15 MILLION

FROM

GLOBAL AGRICULTURE AND FOOD SECURITY PROGRAM (GAFSP)

TO

REPUBLIC OF NICARAGUA

FOR AN

ADDITIONAL FINANCING TO THE NICARAGUA HURRICANES ETA AND IOTA
EMERGENCY RESPONSE PROJECT

June 16, 2023

Agriculture and Food Global Practice
Latin America and Caribbean Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective June 16, 2023)}

Currency Unit = Nicaragua Cordoba
(NIO)

NIO 36.54 = US\$1

FISCAL YEAR

January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
BICU	Bluefields Indian & Caribbean University
COVID-19	Coronavirus Disease 2019
CPF	Country Partnership Framework
CSA	Climate Smart Agriculture
ERR	Economic Rate of Return
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social Standards
E&S	Environmental and Social
FAO	Food and Agriculture Organization of the United Nations
FM	Financial Management
FNS	Food and Nutrition Security
FRR	Financial Rate of Return
GAFSP	Global Agriculture & Food Security Program
GBV	Gender Based Violence
GDP	Gross Domestic Product
GM	Grievance Mechanism
GoN	Government of Nicaragua
GRS	Grievance Redress Service
ICR	Implementation Completion Report
IDA	International Development Association
IPADs	Indigenous Peoples and Afro-Descendants
IPADP	Indigenous Peoples and Afro-Descendants Plan
IPF	Investment Project Financing
ITC	Implementation Technical Committee
LMP	Labor Management Procedures
LIDP	Local Innovation Development Plan
MEFCCA	Ministry of Family, Community, Cooperative and Associative Economy (<i>Ministerio de Economía Familiar, Comunitaria, Cooperativa y Asociativa</i>)
MHCP	Ministry of Finance and Public Credit (<i>Ministerio de Hacienda y Crédito Público</i>)
M&E	Monitoring and Evaluation
NIO	Córdoba (Nicaraguan currency)
NPV	Net Present Value
PDO	Project Development Objective
PIC	Project Interinstitutional Committee
PMU	Project Management Unit
POM	Project Operations Manual
PPSD	Project Procurement Strategy for Development
PwD	Persons with Disabilities

RACCN	North Caribbean Autonomous Region (<i>Región Autónoma de la Costa Caribe Norte</i>)
RACCS	South Caribbean Autonomous Region (<i>Región Autónoma de la Costa Caribe Sur</i>)
SEP	Stakeholder Engagement Plan
TRT	Technical Round Table
UN	United Nations
UNOPS	United Nations Office for Project Services
URACCAN	University of the Autonomous Regions of the Nicaraguan Caribbean Coast
WB	World Bank
WFP	World Food Program

TABLE OF CONTENTS

I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING	8
II. DESCRIPTION OF ADDITIONAL FINANCING	12
III. KEY RISKS	23
IV. APPRAISAL SUMMARY	24
V. WORLD BANK GRIEVANCE REDRESS	30
VI SUMMARY TABLE OF CHANGES.....	31
VII DETAILED CHANGE(S).....	31
VIII. RESULTS FRAMEWORK AND MONITORING	34
ANNEX 1 – DETAILED DESCRIPTION OF AF ACTIVITIES	52
ANNEX 2 – UPDATED ECONOMIC AND FINANCIAL ANALYSIS	55



BASIC INFORMATION – PARENT (Nicaragua-Hurricanes Eta and Iota Emergency Response Project - P175878)

Country Nicaragua	Product Line IBRD/IDA	Team Leader(s) Anna-Maria Bogdanova		
Project ID P175878	Financing Instrument Investment Project Financing	Resp CC SLCUR (9351)	Req CC LCC2C (1308)	Practice Area (Lead) Urban, Resilience and Land

Implementing Agency: United Nations Office for Project Services (UNOPS), Ministry of Finance and Public Credit (Ministerio de Hacienda y Credito Publico (MHCP))

Is this a regionally tagged project? No	
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Bank/IFC Collaboration No	
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Approval Date 22-Jan-2021	Closing Date 31-Mar-2025	Expected Guarantee Expiration Date	Environmental and Social Risk Classification High
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Financing & Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach [MPA]	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input checked="" type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Expanded Implementation Support (HEIS)



Development Objective(s)

The Project Development Objective is to support Nicaragua’s emergency response and restoration of services and economic activities in critical sectors in the Project area.

Ratings (from Parent ISR)

	Implementation			Latest ISR
	14-May-2021	07-Jan-2022	30-Jun-2022	09-Jan-2023
Progress towards achievement of PDO	S	S	MS	MS
Overall Implementation Progress (IP)	S	S	MS	MS
Overall ESS Performance	S	MS	MS	MS
Overall Risk	S	S	S	S
Financial Management	S	S	S	S
Project Management	S	S	MS	MS
Procurement	MS	MS	MS	MS
Monitoring and Evaluation	S	S	S	S

BASIC INFORMATION – ADDITIONAL FINANCING (Additional Financing to the Nicaragua Eta and Iota Emergency Response Project - P181157)

Project ID P181157	Project Name Additional Financing to the Nicaragua Eta and Iota Emergency Response Project	Additional Financing Type Restructuring	Urgent Need or Capacity Constraints Yes
Financing instrument Investment Project Financing	Product line Recipient Executed Activities	Approval Date 16-Jun-2023	



Projected Date of Full Disbursement 30-Sep-2026	Bank/IFC Collaboration No		
Is this a regionally tagged project? No			

Financing & Implementation Modalities

<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Performance-Based Conditions (PBCs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a Non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input checked="" type="checkbox"/> Responding to Natural or Man-made disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Expanded Implementation Support (HEIS)
<input type="checkbox"/> Contingent Emergency Response Component (CERC)	

Disbursement Summary (from Parent ISR)

Source of Funds	Net Commitments	Total Disbursed	Remaining Balance	Disbursed
IBRD				%
IDA	80.00	39.60	40.40	50 %
Grants				%

PROJECT FINANCING DATA – ADDITIONAL FINANCING (Additional Financing to the Nicaragua Eta and Iota Emergency Response Project - P181157)

FINANCING DATA (US\$, Millions)

SUMMARY (Total Financing)

	Current Financing	Proposed Additional Financing	Total Proposed Financing
Total Project Cost	80.00	15.00	95.00



Total Financing	80.00	15.00	95.00
Financing Gap	0.00	0.00	0.00

DETAILS - Additional Financing

Non-World Bank Group Financing

Trust Funds	15.00
Global Agriculture and Food Security Program	15.00

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

Yes No

Does the project require any other Policy waiver(s)?

Yes No



Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

INSTITUTIONAL DATA

Practice Area (Lead)

Agriculture and Food

Contributing Practice Areas

Urban, Resilience and Land

PROJECT TEAM

Bank Staff

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I. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING

A. Introduction

1. **This Project Paper seeks the approval of the Vice President of the Latin America and the Caribbean Region to provide Additional Financing (AF) in the amount of US\$15 million to the Nicaragua Eta and Iota Emergency Response Project (P175878) and a project restructuring to extend the closing date by 14 months to May 31, 2026, add a new sub-component under Component 2 to be financed by the AF, and adjust the Project's results framework. The resources for the AF were approved by the Global Agriculture and Food Security Program (GAFSP) on June 8, 2023 a multi-donor trust fund managed by the World Bank.¹ Activities under the AF will allow the inclusion of new activities to address the increase in food insecurity risks and challenges encountered by farmers after recent hurricanes in the short-term.**
2. **The AF and associated restructuring are being processed in line with the special considerations of paragraph 12 of Section III of the Bank's Investment Project Financing (IPF) Policy on Situations of Urgent Need of Assistance or Capacity Constraints.** Triggering paragraph 12 is justified because there is an urgent need for improving food security in the Project's intervention area² due to substantial damage to food production capacity caused by three recent hurricanes³ affecting the Nicaragua's Caribbean regions.

B. Country context

3. **Nicaragua's robust growth and poverty reduction through 2017 was followed by three years of economic contraction** brought on by the social unrest in 2018, the COVID-19 pandemic, and hurricanes Eta and Iota (November 2020) which affected the fight against poverty. In 2021 and 2022, Nicaragua recovered strongly from the impacts of these multiple shocks with real Gross Domestic Product (GDP) having grown by 10.3 percent and 4.0 percent respectively. The main growth drivers in 2021 and 2022 were net exports, public investment aimed at addressing the impacts of the COVID-19 pandemic and the hurricanes, and remittance-fueled private consumption. GDP growth is projected to slow to approximately 3 percent in 2023 amid fiscal consolidation, slowing external demand, and elevated inflation.⁴
4. **Nicaragua is highly vulnerable to major geophysical and hydrometeorological events, including hurricanes, floods, earthquakes, and droughts.** It is estimated that between 1994 and 2013 hydrometeorological disasters were associated with annual losses of US\$302 million (equivalent to 1.7 percent of annual GDP).⁵ Since 2009 Nicaragua has experienced six El Niño and La Niña events, causing droughts and floods while deepening food insecurity. More recently, hurricanes Eta (Category 4) and Iota

¹ The GAFSP approval letter defines June 18, 2023, as the deadline for AF approval by the World Bank.

² The Project's intervention area consists of 11 municipalities in the Caribbean regions. The latter comprise the North Caribbean Autonomous Region (*Región Autónoma de la Costa Caribe Norte - RACCN*) and the South Caribbean Autonomous Region (*Región Autónoma de la Costa Caribe Sur – RACCS*).

³ These include Eta and Iota in November 2020 and Julia in October 2022.

⁴ Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.

⁵ World Bank. 2019. Modernization Plan for the Hydrometeorological and Climate Services of Nicaragua. Washington, D.C.



(Category 5) caused losses amounting to US\$919 million, equivalent to 8.0 percent of GDP.⁶ Another hurricane (Julia, Category 1) that hit Nicaragua in October 2022 caused damages of US\$400 million, equivalent to 2.5 percent of GDP.⁷ In addition, the negative effects of climate change are expected to exacerbate the damage caused by disasters in Nicaragua due to its geographical position and production systems dependent on natural resources. Nicaragua's high vulnerability to natural disasters is a key constraint to its development.⁸

5. **The COVID-19 pandemic followed by the global food and fertilizer prices crisis have resulted in a substantially increased price inflation in Nicaragua, especially food.** Inflation (y-o-y) in January 2023 was 10.7 percent. However, food price inflation in that same month reached 15.7 percent.⁹

C. Sector context

6. **Agriculture remains one of the main sources of income and livelihoods in Nicaragua.** Agriculture in Nicaragua has the highest share in GDP (16.8 percent in 2022)¹⁰ of all Central American countries, represents 28.5 percent of jobs¹¹ and is responsible for most of the GDP growth during 2021-2022. Agriculture is the primary source of livelihoods for 90 percent of the rural population, with smallholder producers accounting for more than 80 percent of the total food production.¹²
7. **Food insecurity in Nicaragua is primarily a rural phenomenon, is closely related to agricultural production and affects nearly 1 million people.** According to estimates of the World Food Program (WFP) 0.82 million people in Nicaragua (or 12 percent of the total population) are currently suffering from insufficient food consumption.¹³ Four out of every five food insecure households live in rural areas and two-thirds of rural households in Nicaragua use crisis or emergency coping strategies. Approximately 60 percent of rural households in severe food insecurity are highly dependent on agricultural production and are facing challenges caused by higher input prices.¹⁴ The increased vulnerability of rural families' subsistence farming systems limits their capacity to build back better and recover with greener, resilient farming systems at the center of their livelihoods strategy.
8. **Despite some progress over time, malnutrition in Nicaragua remains a concern.** Acute malnutrition among children under 6 months has decreased from 5.8 percent in 2016 to 4.6 percent in 2020. Between 2016 and

⁶ Research Center on the Epidemiology of Disasters. 2021. The International Disaster Database.

<https://www.emdat.be/>

⁷ https://www.nhc.noaa.gov/data/tcr/AL132022_EP182022_Julia.pdf

⁸ Nicaragua Systematic Country Diagnostic, Report Number 116484-NI, World Bank.

⁹ The current minimum wage in the agricultural sector is only enough to purchase 27 percent of the official basic food basket.

¹⁰ Banco Central de Nicaragua. Anuario de Estadísticas Macroeconómicas (2020).

¹¹ National Institute of Information and Development of Nicaragua. Employments and Jobs report based on Continuous Household Surveys for the Third Trimester of 2021.

¹² Nicaragua Systematic Country Diagnostic, Report Number 116484-NI, World Bank.

¹³ <https://dataviz.vam.wfp.org/version2/>. Accessed on May 23, 2023.

¹⁴ According to the household survey conducted in December 2021-January 2022 as part of the SMART study (Action Against Hunger- United Nations International Children's Emergency Fund), 56% of households in the Caribbean Coast face moderate or severe food insecurity (as opposed to 15% nationwide) and 30% of all households in this region use crisis or above-crisis coping strategies.



2020, chronic malnutrition, overweight and obesity decreased from 13.7 to 10.0 percent, 8.5 to 6.1 percent, and 4.2 to 2.6 percent, respectively. The most recent National Nutrition Censuses (Ministry of Health, 2018 and 2019) show that both Caribbean regions are hotspots from a malnutrition perspective, with malnutrition rates double or more those at the national level in some municipalities.

9. **The proposed AF contributes to the World Bank’s Food and Nutrition Security (FNS) response.** The AF will provide support to production and producers (Theme 1 of the WB FNS response) that belong to vulnerable households (Theme 2 of the WB FNS response). It will also invest in sustainable food and nutrition security and build long-term resilience of food supply chains (Theme 4 of the WB FNS response).

D. Original Project Objectives and Design

10. **Project background.** The Nicaragua Hurricanes Eta and Iota Emergency Response Project (P175878), financed by an International Development Association (IDA) credit of US\$80 million, was approved by the World Bank’s Board on January 22, 2021. The Project became effective on July 14, 2021 and the current closing date is March 31, 2025. The Project Development Objective (PDO) is to support Nicaragua’s emergency response and restoration of services and economic activities in critical sectors in the Project area. Project activities include rehabilitation and reconstruction of critical infrastructure, housing, and community-level social infrastructure and livelihood recovery of fishing communities due to the combined impacts of hurricanes. The Project’s intervention area (target area) consists of 11 municipalities on the Caribbean coast.
11. **The Nicaragua Hurricanes Eta and Iota Emergency Response Project has three components:** Component 1: Recovery, rehabilitation, and resilient reconstruction (US\$69 million); Component 2: Livelihood recovery (US\$10 million); and Component 3: Monitoring, evaluation, and audit of the Project (US\$1 million). The project is implemented by the United Nations Office for Project Services (UNOPS) following the Implementation Agreement signed between the GoN and UNOPS on July 13, 2021. According to this agreement, UNOPS bears the responsibility for all procurement processes, financial management and the application of the environmental and social standards under the Project. The Project Management Unit (PMU in the Ministry of Finance and Public Credit (MHCP) is responsible for managing the agreement with UNOPS and providing implementation oversight, including the technical quality and on-site supervision of all Project activities.
12. **The project was restructured twice before.** A first restructuring of the Project was approved following hurricane Julia in October 2022¹⁵ to maximize the use of Project funding for Nicaragua’s emergency response and restoration of services and economic activities in the Project’s intervention area. In January 2023 the Project underwent a restructuring to amend the term “Hurricanes” to allow response by the Project to damages caused by hurricane Julia and events similar to Hurricanes Eta and Iota that may happen during the period of project implementation.

¹⁵ The geographic areas and populations affected by Hurricane Julia are a subset of the targeted area and population of the Project.



E. Project performance

13. **Progress towards the Project Development Objective (PDO) and Implementation Progress have been rated as Moderately Satisfactory.** The Project remains fully compliant with all financial requirements and ESF policies with no outstanding issues. As of March 27, 2023, US\$39.6 million (49.5 percent) of the total Project amount has been disbursed from the Bank to UNOPS. The first audit report is expected by June 30, 2023. Progress under each component is rated moderately satisfactory.
14. The **Mid-Term Review** of the project is planned for September 2023. A thorough assessment of the progress of actual works under Component 1 and activities under Component 2 is likely to be followed by a project restructuring to reflect possible changes in the scope of components and target indicators.

F. Rationale for Additional Financing

15. **Food insecurity is particularly high in the Caribbean regions and has worsened as a result of the increase in international food and fertilizer prices, and frequent natural disasters.** Besides damaging critical public infrastructure, private housing and the artisanal fishing sector, the three recent hurricanes also caused extensive damage to agricultural production, particularly in the Caribbean regions home to approximately 30,000 family farmers. The damage to productive infrastructure for food production presents a significant additional threat to food security in the target area, which is being further exacerbated by the increases in global food and fertilizer prices.¹⁶
16. **Malnutrition rates in the Caribbean region substantially exceed the already considerable malnutrition rates at the national level.** According to the most recent National Nutrition Censuses (Ministry of Health, 2018, 2019 and 2023), acute malnutrition among children in the age between 0 and 60 months is 4.3 percent, against 10.7 percent in the municipalities attended by the project in RACCA and 11.7 percent in the municipalities attended by the project in RACCS. Whereas irreversible chronic malnutrition stands at 8.5 percent, several municipalities in the Caribbean region exhibit rates that exceed 15 percent.
17. **The AF would fill an important investment gap to complement ongoing investments in the Caribbean regions and address urgent needs in the agriculture sector.** Hurricanes Eta, Iota and Julia have impacted 30,000 family farmers in the 11 target municipalities of the Project. Providing support to all those families would require US\$62 million in total financing. With the ongoing efforts of GoN and development partners (FAO, WFP), 7,000 food insecure family farmers (23 percent of total farmers affected) are being targeted

¹⁶ Nicaragua has been hit hard by the world-wide explosion in inflation of food prices and agriculture inputs. Food price inflation stood at 15.17% y-o-y in January 2023 (<https://www.inide.gob.ni/Home/ipc?Length=4>). Although the price of basic grains has currently stabilized, they are still above the average of the last 5 years (National Institute of Information and Development of Nicaragua (INIDE). Price Statistics 2022), <https://www.inide.gob.ni/Home/ipc> <https://www.inide.gob.ni/Home/ipc>). Additionally, Nicaragua's Institute for Agricultural Protection and Safety (IPSA) reports that the average price of fertilizers, which Nicaragua imports mostly from China, Russian Federation, United States, El Salvador, Finland, and Mexico, has seen a sharp increase of 120% (from US\$19.1/quintal in 2020 to US\$42.1/quintal in 2021). By November 2022, the average price remains around US\$41.4/quintal. The steep increases in fertilizer prices have led to reductions in the amount of fertilizer used and/or decreases in planted area which will negatively affect yields and total production while potentially contributing to even higher food price inflation.



with climate and nutrition-smart farm innovations to build a more resilient agri-food system. The AF will finance a new subcomponent that will implement activities to support climate and nutrition-smart agri-food innovations to enhance food and nutrition security, production, and marketing capacity of 10,000 additional beneficiaries (family farmers, 33 percent of the total number of impacted farmers). The remaining gap, after the AF, will be US\$32.5 million required to provide support to the last batch of 13,000 food insecure family farmers, which can be done with the strong local ownership of the response to the food crises, based on the existing implementation capacity. The GoN stands ready to achieve more results with the proposed approach and additional resources will be sought from other development partners to close the financing gap.

18. **The AF is consistent with existing broader country strategies and national priorities to face climate change and climate vulnerability**, especially the following documents: Caribbean Coast, Alto Wangki and Bocay Development Plan 2019-2029¹⁷, and the National Climate Change Policy.¹⁸

II. DESCRIPTION OF ADDITIONAL FINANCING

A. Summary of Proposed Changes

19. **No change is proposed to the PDO as a result of the AF.** The Project Development Objective is to support Nicaragua's emergency response and restoration of services and economic activities in critical sectors in the Project area.
20. **The AF will be used to introduce new activities under Component 2 Livelihoods Recovery** through the preparation and implementation of agri-food Local Innovation Development Plans (LIDPs) with groups of food insecure smallholder family farmers. Specifically, a new subcomponent (2.2) "Agri-food Local Innovation Development Plans for Enhancing Food and Nutrition Security" (US\$14.25 million) will provide support to 10,000 food insecure family farmers with climate and nutrition-smart agri-food innovations, with a focus on the recovery of populations affected by hurricanes Eta, Iota and Julia and similar events impacting the target areas. **In addition, the AF will be used to increase the amount of Component 3 Monitoring and Evaluation and Audit by US\$0.75 million.**
27. **The AF will finance short-, medium- and long-term interventions towards sustainability, in a mix of investments and technical assistance under the Agri-food LIDPs.** Short-term agricultural production investments will focus on fast-cycle crops such as basic grains, horticulture, tubers, and vegetables, introducing climate-resistant varieties, bio-fortified seeds, and other farm innovations for the recovery of production of more nutritious and diversified food for households' and surpluses for local markets. Mid-term investments to promote food availability and additional income (reinforcing households' food access

¹⁷ Government of Nicaragua. Caribbean Coast, Alto Wangki and Bocay Development Plan 2019-2029 (*Plan de Desarrollo de la Costa Caribe y el Alto Wangki y Bocay 2019-2029*). Available at <http://www.marena.gob.ni/Enderedd/wp-content/uploads/2020/10/02-plan-desarrollo-estrategia-enderedd-costa-caribe-2019.pdf>

¹⁸ National Climate Change Policy (*Política Nacional de Cambio Climático, Decreto Presidencial 04-2022*). Government of Nicaragua. La Gaceta, Diario Oficial. February 22, 2022. Available at <http://extwprlegs1.fao.org/docs/pdf/nic209012.pdf>



capacity) will promote production diversification through perennial crops and the introduction of quality seeds and genetic materials, as well as investment in post-harvest storage and agro-processing. Long-term investments will promote agro-forestry production systems with, for instance, fruit trees with commercial value and locally endemic timber species. At the same time, the AF will promote nutrition-smart considerations and awareness among family farmers, foster self-consumption of high-quality nutritious food, in addition to commercialization, and introduce gender-sensitive labor-saving technologies. On-farm investments and technical assistance will promote climate and nutrition-smart innovations¹⁹ for rural producers' integration into resilient agri-food value chains, connecting to the broader government's agriculture and extension programs' ongoing support and after the Project.

28. **Investments in LIDPs will be supported by linking up with the network of technology development centers, experimental family farms, and agriculture promoters (Farmer Field Schools). In this way, agricultural public sector actors in the Caribbean Coast regions will contribute to further sustainability of the investments and promotion of locally tested and adapted technologies.** Given that 89 percent of Nicaragua's forests are found in the Caribbean region²⁰, the AF will also include actions to help halt the expansion of the agricultural frontier in the region. The AF will build on the good results and experiences²¹ achieved by the GAFSP-funded Nicaragua – Caribbean Coast Food Security Project – P148809 (2015-2019), which followed an identical short to long-term approach with excellent results as confirmed in the Project Impact Evaluation²², Implementation Completion Report (ICR)²³, and the ICR Review prepared by the Independent Evaluation Group of the World Bank Group.²⁴
29. **Closing date.** The current closing date of the parent Project is March 31, 2025. The restructuring will include a first extension of the parent project's closing date by 14 months to May 31, 2026, to match it with the AF and to allow sufficient time for the implementation of activities under the AF.

B. Relation between existing Project activities and new activities financed by the AF

30. The Project currently aims to benefit: (a) indirectly from emergency disaster recover activities, approximately 80,000 inhabitants; (b) indirectly from the rehabilitation and reconstruction of critical infrastructure, approximately 195,000 inhabitants; (c) directly from housing rehabilitated or rebuilt in accordance with climate and disaster-resilient standards, approximately 17,500 beneficiaries; and (d) directly from the restoration of income as a result of Project support to critical economic activities in the

¹⁹ Climate Smart Agriculture (CSA) is an approach to developing the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change. The approach is designed to identify and operationalize sustainable agricultural development within the explicit parameters of climate change. Nutrition Smart Agriculture can contribute to the dual objective of improving human nutritional status while achieving the objective of increasing agricultural productivity and income.

²⁰ Source: Nicaragua - Caribbean Coast, Alto Wangki, and Bocay Development Plan (2019-2029).

²¹ According to the Caribbean Coast Food Security Project's project's Implementation Completion Report (ICR), the project was innovative for Nicaragua and its Caribbean regions, using an integrated approach through the implementation of LIDPs to address food and nutritional security.

²² World Bank. Caribbean Coast Food Security Project Evaluation Report (June 2020).

²³ Report Number: ICR5055. Available at <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/936351593402932887/nicaragua-caribbean-coast-food-security-project>

²⁴ Report Number: ICRR0022189. Available at <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/409991616512210514/nicaragua-ni-caribbean-coast-food-security-project>



subsistence artisanal fishery sector, approximately 4,320 beneficiaries. The Project currently has three Components:

- **Component 1. Recovery, rehabilitation, and resilient reconstruction (US\$69 million).** Focuses on rehabilitation of damaged infrastructure and is not directly related to the AF. Nevertheless, beneficiaries reached by additional activities proposed under the AF will benefit from the new or rehabilitated public infrastructure in the Project area.
- **Component 2: Livelihood recovery (US\$10 million).** Focuses on restoring livelihoods of communities, supporting LIDPs for artisanal fishing through provision of fishing equipment, supplies and training. The AF will expand this Component to also benefit food insecure family farmers.
- **Component 3. Monitoring, evaluation, and audit of the Project (US\$1 million).** The AF will reinforce this Component to ensure the implementation of the incremental activities for Project monitoring, evaluation, and auditing.

31. **The AF will add a new subcomponent on Agri-food LIDPs to Component 2** (additional 10,000 beneficiaries) for enhancing food and nutrition security, resulting in the new Component 2 to consist of the following two subcomponents:

- (i) **Subcomponent 2.1: Local Innovation Development Plans for Livelihood Recovery in the Artisanal Fishing Sector (US\$10 million already being implemented by the Project).** Currently under implementation, beneficiaries are selected based on existing LIDPs that were designed for informal and formal groups of small-scale fishermen to benefit from the GAFSP-funded Caribbean Coast Food Security Project (2015-2019) and other criteria as detailed in the Project Operational Manual (POM). Beneficiaries are prioritized based on participatory approaches with affected populations as described in the Project's Environmental and Social instruments.
- (ii) **Subcomponent 2.2 (New): Agri-food Local Innovation Development Plans for Enhancing Food and Nutrition Security (US\$14.25 million from the AF).** This is the main additional activity of the AF, and will enhance the productive and marketing capacities of family farmers (subsistence agriculture; commercial agriculture) and small-scale rural agribusiness by (a) providing technical assistance (consultancy services, goods, training, non-consultancy services, operational costs) to support the participatory (demand-driven) identification and design of climate and nutrition-smart agri-food LIDPs; and (b) grants²⁵ to finance their implementation (goods, consultancy services, non-consultancy services, small works, training, and operational costs) alongside the beneficiaries. The agri-food LIDPs will support formal and informal groups of beneficiaries (i.e., cooperatives, producers' associations, farmers groups, women farmer groups, small-scale young agri-entrepreneurs, indigenous communities, afro descendants) to achieve improvements and innovations in production and processing and consolidate market opportunities. The grants will approximately range between US\$1,250 and US\$2,000 per beneficiary, while the beneficiaries will contribute with in-kind counterpart funding. Details will be further indicated in the updated POM and LIDP Manual.

²⁵ The term "grants" used throughout this document is to be interpreted as financing of LIDPs by the Project without handing over of funds to the beneficiaries.



C. Detailed Description of AF Activities

32. A detailed description of the additional activities under the new subcomponent 2.2 can be found in Annex 1.
33. **In addition, the AF will be used to scale up ongoing activities under Component 3 - Monitoring, evaluation, and audit of the Project (US\$1.75 million, of which US\$0.75 million from the AF).** The AF will reinforce this Component to ensure the implementation of the incremental activities for Project auditing, monitoring, and evaluation, including, inter alia, the development of baselines as needed to measure project results, a final evaluation of the Project, rapid impact assessments, technical audits, and independent inspections.

D. Beneficiaries

34. **The AF will reach 10,000 food insecure direct beneficiaries, including at least 3,000 indigenous and afro descendants in the same 11 municipalities. The AF will reach approximately 40,000 indirect beneficiaries²⁶ (50,000 persons in total).** The AF will support formal and informal groups of beneficiaries such as cooperatives, producers' associations and farmers' groups, women farmer groups, and small-scale young's agri-entrepreneurial activities. Beneficiaries will include female and male small- and medium-size family farmers (at least 40 percent women), male and female rural laborers, and young adults (ages 18-30, at least 25 percent) with limited or no productive assets and equipment. The AF will be implemented in selected food insecure communities in eight RACCN municipalities (Bonanza, Mulukuku, Puerto Cabezas, Rosita, Waslala, Waspam, Prinzapolka, and Siuna), and three RACCS municipalities (Corn Island, La Desembocadura de Rio Grande, and Laguna de Perlas).
35. **Targeting methodology.** The beneficiary communities within 11 target municipalities will be prioritized based on a combination of the level of poverty, malnutrition, agricultural potential, and the lack of coverage by similar actions by other programs. The same criteria and other criteria of more vulnerable families within the community (e.g., female-headed households, families with children under 5-year age, pregnant woman in the household, persons with disabilities (PWD) in the household) will guide the selection of the beneficiaries at the community level, in consultation with local community authorities and assemblies (e.g., indigenous, and afro-descendant territories, communal leaders). AF beneficiaries will not have received direct benefits from component 2.1 of the Project (artisanal fisheries). The detailed eligibility and selection criteria will be outlined in the updated POM and LIDP manual.

E. Expected Results and Adjustments to the Project

36. **The incremental results expected through the AF will be as follows:**
- (i) **Increased number and type of vulnerable beneficiaries.** The AF will add 10,000 poor, vulnerable and food insecure farmers and their families (50,000 persons in total), including 3,000 direct beneficiaries from indigenous and afro descendant communities. At least 40 percent of the beneficiaries will be women, and 25 percent will be young farmers (ages 18-30). Moreover, at least 200 of the total of 10,000 beneficiaries will have one or more household members with a disability (PWD).

²⁶ Households in the Caribbean regions have an average of 5 members.



- (ii) **Increased food production, productivity, nutritional quality, agricultural diversification, and access to markets.** The improved agri-food system will ensure that enough food is available from the beneficiaries' own farms and, whenever possible, that additional income from selling agricultural surpluses is obtained to increase the purchase capacity of other foods.
- (iii) **Improved provision of climate and nutrition-smart agriculture innovations to vulnerable and food insecure rural families.** The AF will expand activities into vulnerable and isolated rural communities with limited access to farm innovation services, bringing a package of climate and nutrition-smart agriculture innovations to diversify the availability of more and more nutritious food; the package will be delivered by providers of technical assistance and training through the LIDPs.
- (iv) **Capacity development to unleash a process for transformation of the current subsistence farming system into more productive, diversified, and resilient agri-food system.** The AF will help beneficiary families to materialize their potential to transition to more productive, climate resilient, commercially oriented farming, with linkages to local stakeholders that are key for sustainability of their agri-food systems.
- (v) **More resilient agri-food systems and food secure families.** The AF will help farmers and their families to cope with current crises by adopting a mix of innovative climate and nutrition-smart technologies and practices, as well as investments to improve food security in the short term and be more prepared and resilient for future shocks in the mid to long term.

37. **The Project's original theory of change remains largely unchanged but has been adjusted to demonstrate how the AF outputs and intermediate outcomes contribute to the PDO.**



Theory of Change (adjusted)



ACTIVITIES	INTERMEDIATE OUTCOMES	OUTCOMES	PDO	LONG-TERM OUTCOME
<p>Component 1: Recovery, rehabilitation and resilient reconstruction</p> <ul style="list-style-type: none"> Emergency disaster recovery Rehabilitation and reconstruction of public infrastructure Housing and resilient community social infrastructure 	<ul style="list-style-type: none"> Critical infrastructure with restored pre-disaster functionality Infrastructure rehabilitated or reconstructed with operational capacity restored according to climate and disaster-resilient standards Houses reconstructed or repaired under the Project according to climate and disaster-resilience standards 	<ul style="list-style-type: none"> Affected population who have benefitted from emergency disaster recovery activities under the Project Affected population with restored services in critical sectors supported by the Project Beneficiaries of housing rehabilitated or rebuilt, in accordance with climate and disaster-resilient standards, as part of the Project 	<p>To support Nicaragua’s emergency response and restoration of services and economic activities in critical sectors in the Project area.</p>	<p>Climate-resilient recovery of critical infrastructure and livelihoods</p>
<p>Component 2: Livelihood recovery</p> <ul style="list-style-type: none"> Financing of artisanal fishing equipment and supplies through LIDP analysis and a positive list. (AF) Financing of climate and nutrition-smart farm innovations through participatory LIDP preparation and implementation 	<ul style="list-style-type: none"> Affected populations who receive equipment and supplies to restore their livelihoods under the Project Affected family farmers who receive AF support to enhance food and nutrition security of their families 	<ul style="list-style-type: none"> People who have their income restored as a result of the Project’s support to critical economic activities Farmers and families who have their food and nutrition security restored because of AF support to agri-food production, diversification, processing, and value-addition. 		
<p>Component 3: Monitoring, evaluation, and audit of the Project</p>	<ul style="list-style-type: none"> Grievances registered related to delivery of project benefits that are addressed and/or incorporated into the Project where applicable 			

Critical assumptions: (a) Local suppliers of goods, works and services are able to meet the demands of the emergency response and early recovery activities, and of additional activities to enhance food security; (b) transportation to/from the affected areas has been re-established at a minimum, and remote communities are reachable; (c) adequate coordination mechanisms are in place among the implementing agency, technical agencies, regional governments and local communities; (d) alternative methods for participatory approaches and data collection are available to ensure effective implementation and monitoring; (e) procurement processes advance smoothly and have adequate market response; and (f) no other emergencies causing significant damages (i.e. forest fires, another hurricane) occur during implementation.



38. **The Results Framework will be revised to include seven additional indicators to reflect the new activities under component 2.** These additional indicators will reflect the number of beneficiaries of the new subcomponent 2.2 (disaggregated by sex, ethnic origin and age), and involve climate-smart agriculture technologies, and nutrition-smart agriculture technologies. In particular, the AF will introduce:
- a. Two new PDO indicators:
 1. “Number of people who have increased the volume of the agricultural production as a result of the Project’s support to critical economic activities”;
 2. Percentage of households with improved food security as measured by the Food Insecurity Experience Scale (FIES).²⁷
 - b. Five new intermediate indicators, the first four of which are GAFSP Tier 2 key indicators:
 1. Number of people receiving direct benefits (GAFSP Tier 2 key indicator #1);
 2. Number of smallholders producers/processors receiving productivity enhancement support (GAFSP Tier 2 key indicator #3);
 3. Number of farmers that are supported in accessing improved marketing opportunities (GAFSP Tier 2 key indicator #6);
 4. Number of farmers receiving inputs or service on climate resilient or sustainable agriculture practices (GAFSP Tier 2 key indicator #13);
 5. Percentage of grievances registered related to delivery of project benefits for agri-food LIDPs that are addressed and/or incorporated into the Project.

F. Additional Considerations in the AF Design

Gender

39. **The AF will support several activities to promote women’s engagement in the agriculture sector and address pre-existing gender gaps and inequalities in rural areas.** The latter include limited access to (i) climate and nutrition-smart agriculture innovations; (ii) rural financing; (iii) agriculture information and training; (iv) markets; (v) entrepreneurship support; and (vi) equal wages, among others. The AF will include several activities and indicators to specifically address these gaps, including targeted capacity building; training in rural communities to address gender stereotypes; locations and conditions that meet women's scheduling and safety requirements; gender-specific training for selected public agency staff; and strengthened data systems to provide systematic gender information. Training for beneficiaries will be delivered by technical providers through the LIDPs. Also, at least 40 percent of AF direct beneficiaries will be women (organized in formal or informal groups), who will receive technical assistance and grants to design and implement LIDP investments that support their economic inclusion and empowerment. The updated Results Framework includes several gender-related indicators. Moreover, an in-depth gender gap assessment will be carried out in the Project target area prior to the LIDPs’ preparation process.

²⁷ GAFSP Tier 1 key indicator.



Other Vulnerable Groups - Indigenous Peoples and Afro-Descendants and Persons with Disabilities

40. **There are several vulnerable groups living in the Caribbean Coast region**, including: (i) indigenous peoples (approximately 120,817 Miskitu, 9,756 Sumu-Mayangna, 4,185 Rama, and 698 Ulwa); (ii) afro descendants (approximately 19,890 Creole and 3,271 Garifuna); (iii) young people (ages 18-30 year-age); and persons with disabilities (approximately 8,000 PwD), many of them live in Miskitu and Afro-descendant communities and are former scuba diver workers of the fisheries industry who have been affected by decompression sickness).²⁸
41. **The AF will address some of the constraints for Indigenous Peoples and Afro descendants in the target area**, including: (i) limited access to farm and artisanal fishing innovation services and investments; and (ii) culturally appropriate technical assistance and capacity building. The AF will organize a participatory process to identify opportunities for project support with LIDPs and ensure investments are adapted to local agri-food and artisanal fishing systems. The AF will support community traditions, consider foods that are culturally appropriate, promote traditional food options, encourage women and youth participation, coordinate with local traditional authorities, and ensure that project staff communicates in local languages. At least 30 percent of AF direct beneficiaries will be IPADs.
42. **The AF will target young populations and encourage their participation with innovative ideas to be developed and implemented in the LIDPs.** Young people in the target area are affected by constrained employment opportunities and have limited options for capacity development and participation in the agri-food productive systems. The AF will promote youth employment and entrepreneurial opportunities particularly in services and investments related to digital agriculture, agro-processing, post-harvest management, value addition, and commercialization activities, amongst others. At least 25 percent of AF direct beneficiaries will be between 18 and 30 years of age.
43. **The AF will promote participation of PwD in the LIDPs.** PwD in the Caribbean Coast regions often face constraints that limit their ability to carry out productive and economic activities, such as limited access to capacity development services, training, and technical assistance, or facing discrimination or limited access to farm activities and employment opportunities. The AF will promote the participation of PwD in project activities, provide support to identify opportunities to improve their food security, and facilitate their local economic integration. The AF will benefit at least 200 PwD.

Climate Vulnerability

44. **Over the past 35 years, the Caribbean Coast of Nicaragua has been hit by 20 tropical cyclones.** According to the Nicaraguan Institute of Territorial Studies (Study on multi-Threats, 2019), 86 percent of the population in the Caribbean Coast regions is exposed to tropical cyclones, including 100 percent of subsistence artisanal fishing communities in the area. As for the agriculture sector, 11,000 km² are highly vulnerable to floods (including Puerto Cabezas, Waspam, Prinzapolka, Rosita, Desembocadura del Rio Grande, and Laguna de Perlas, all in the Project target area).
45. **Increased frequency and intensity of tropical cyclones pose a high risk to agriculture in coastal and in-land communities.** This highlights the need for a different approach to build resilient agri-food and artisanal

²⁸ Secretaria de Desarrollo de la Costa Caribe de la Presidencia de la Republica de Nicaragua (2022).



fishing systems. The AF will promote climate-smart agriculture approaches to increase resilience of the agri-food and fishing systems as part of broader country strategies to face climate change and climate vulnerability in the Caribbean Coast regions.²⁹

46. **The AF will help to increase climate resilience of the beneficiaries and their agri-food systems by helping them to adapt to climate change, introducing a menu of climate-smart agriculture technologies and practices adapted to their needs,** generating local knowledge, lessons, and good practices, and promoting linkages of farmers and farmers' groups with national programs and institutional actions being implemented to improve climate resilience and at local level to the negative impact of climate variability.
47. **The AF activities will contribute to reduced emissions in the Nicaraguan agriculture sector and to the country's mitigation targets of 2030 Agenda.** Climate-smart solutions (i.e., improved agricultural practices for annual crops and perennial systems, animal feeding and breeding practices for small livestock management, agroforestry and agrosilvopastoral systems) will reduce emissions, contributing to the 25 percent increase in carbon sequestration capacity (over the baseline scenario for 2030) target under the Land Use Change and Forests under the Nationally Determined Contributions of Nicaragua (2020). The AF activities will also contribute to the targets on mitigation in the 2030 Agenda (ODS4, ODS8, ODS10, ODS13) which intend to increase productivity under a scenario of climate change and protection of agricultural and livestock production, prioritizing action to benefit subsistence family farmers.

G. Implementation Arrangements

48. **The AF will use the same implementation arrangements and will be implemented in the same target area.** The Project is implemented by UNOPS following the implementation agreement signed between the GoN and UNOPS. According to this agreement, UNOPS bears the responsibility for implementing the Project. The PMU in the Ministry of Finance and Public Credit (MHCP) is responsible for managing the contract with UNOPS and providing implementation oversight. It will be responsible for the technical quality and on-site supervision of the additional activities under subcomponent 2.2. The MHCP will finance the operating expenses of the PMU with their own resources. These arrangements have been reflected in Project documents including the POM and management, environmental and social instruments, updated and disclosed on May 26, 2023.³⁰ Additionally, and based on the experience of the Caribbean Coast Food Security Project, implementation arrangements for the additional subcomponent 2.2 will include the establishment of a new Technical Round Table (TRT) and Implementation Technical Committee (ITC). These will review and approve the agri-food LIDPs to be prepared in close cooperation with the beneficiaries. Lessons from the Caribbean Coast Food Security Project regarding implementation arrangements will be taken into account to ensure a pluralistic participation of Central and Regional Government institutions; representatives of the academic institutions and indigenous and afro-descendant territorial governments; and Producer Organizations present in the Caribbean Coast. The task team from the World Bank supports these implementation arrangements through regular implementation missions and technical assistance.

²⁹ International Fund for Agriculture Development (IFAD). Climate Vulnerability Assessment of the Caribbean Coast of Nicaragua (FAO, 2020). Annex 13 of the NICAPESCA Project. Available at <https://www.economiafamiliar.gob.ni/backend/vistas/doc/documentos/documento7253185.pdf>

³⁰ http://www.hacienda.gob.ni/hacienda/documentosdgttec/documentos/_EAS10-PPPI-P22954-ETA-IOTA-GAFSP.pdf



49. **The signing of the amended Implementation Agreement between the MHCP and UNOPS will be a condition of effectiveness of the AF Grant Agreement.** Subject to the World Bank’s prior review, the amended Implementation Agreement discussed during appraisal will delegate to UNOPS (i) the carrying out all the AF activities indicated in the updated POM, LIDP Manual, ESMF and fiduciary instruments, and (ii) ensuring technical and fiduciary compliance and compliance with the Environmental and Social Standards of the World Bank. Consultations with communities and beneficiaries following the Environmental and Social Commitment Plan agreed for the Project were carried out prior to Project appraisal. All final proceedings requiring the Bank’s review and “no objection” will be indicated in the updated POM and other management instruments.
50. **The Project Interinstitutional Committee (PIC) established under the Project will continue to provide strategic advice to the PMU, as described in the updated POM.** The PIC includes representatives from relevant public sector institutions, a representative from the President’s office, and representatives from the Caribbean Coast regional autonomous governments.
51. **The TRT is the space for technical-operational and organizational coordination of the activities under the AF.** The TRT includes the Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA) as a sectorial institution; the Production Secretariats of the Autonomous Governments of the North and South Caribbean Coast (according to the LIDPs proposed in their respective territory and communities) and UNOPS in cooperation with other UN agencies such as the FAO. The main function of the TRT is to assess the technical quality of the LIDP proposals based on the eligibility criteria described in the MOP. Depending on needs and type of LIDP to be evaluated, the TRT may be expanded to include specialist technical staff from other government institutions, technical experts from UNOPS and other UN agencies, and other required specialists. Once the LIDPs have been reviewed, they will be sent to the ITC for final approval.
52. **The ITC will be comprised of the following eight representatives:** one representative from MHCP (chair), one representative from MEFCCA, one representative from each of the two local Universities of the Caribbean Autonomous Regions of Nicaragua (URACCAN and BICU)³¹, one representative from the Indigenous and Afro-Descendant Territorial Governments of the Caribbean Autonomous Regions of Nicaragua, two representatives from smallholder farmer organizations from the Caribbean Autonomous Regions of Nicaragua, and one representative from any of the two Autonomous Governments of RACCS and RACCN (depending on the origin of the LIDP being reviewed). One representative from UNOPS will, as a non-voting member, provide technical advice and support for the Secretariat of the ITC, and may elect to seek technical support from other UN agencies (such as FAO) to fulfill this role. The duties and functioning of the ITC will be described in the updated POM and LIDP Manual.
53. **A team of national and international experts, currently implementing the Project with support from UNOPS, is ready to help implement the AF activities.** To date, the MHCP PMU comprises 7 local experts, including a program coordinator and technical specialists in project supervision, financial management, social and environmental management, and procurement. The current UNOPS PIU team for the Project includes a project coordinator and 41 experts (11 internationally recruited experts and 30 local experts, including several specialists from the Caribbean Coast regions who speak local languages). Through an UN-to-UN Agreement, the UNOPS has contracted the FAO to carry out procurement processes for Component

³¹ University of the Autonomous Regions of the Nicaraguan Caribbean Coast (URACCAN) and Bluefields Indian & Caribbean University (BICU).



2 (currently limited to equipment and inputs for artisanal fishing) and to provide technical assistance and trainings to fisherpersons and other key stakeholders in the artisanal fishing value chain. It is envisaged that the ongoing collaboration with the FAO under the Project will continue and be scaled up for the implementation of the additional activities (LIDPs) under the AF.³²

54. **For the implementation of the AF, UNOPS will strengthen its implementation capacity assisted by FAO.** The FAO team is currently contracted through a UN-to-UN agreement by UNOPS to support implementation of Component 2 (activities with subsistence artisanal fisherpersons) and will include additional staff, including the following consultants to implement the additional subcomponent 2.2: Technical Coordinator; Monitoring and Evaluation Specialist; Training and Communications Specialist; Gender and Indigenous Peoples Specialist; Social Specialist; Environmental Specialist; Nutrition Specialist; Agribusiness Specialist; Financial Management Specialist; Accounting Assistant; Procurement Assistant; Territorial Coordinator; Technical Supervisors (2); and Field Extension Technicians (28).
55. **The GoN will not directly or indirectly receive or administer AF funds, as established in the Grant Agreement to be signed between the World Bank and the Republic of Nicaragua.** While the GoN does not have direct or indirect access to administering the funds, it is responsible for overall project management and oversight, and activities implemented by UNOPS are subject to its oversight and approval through processes laid out in the Grant Agreement and POM. The Recipient is the Republic of Nicaragua, represented by the GoN (the Ministry of Finance and Public Credit signs the Grant Agreement with the Bank). The Grant Agreement provides for a minimal role of the Government of Nicaragua, which in the case of AF activities consists of the following:
- (i) Signing the implementation arrangements to delegate all the operational functions to UNOPS.
 - (ii) Participating in the Project Inter-institutional Committee with UNOPS to provide overall strategic guidance.
 - (iii) Participating in the ITC with UNOPS and other stakeholder representatives to provide technical advice to approve the LIDPs proposed by the eligible beneficiaries.
 - (iv) Requesting the Bank to disburse the advances/withdrawals directly to UNOPS to implement the AF activities. Once approved, the funds for the LIDPs will be implemented by the beneficiary farmer groups with technical assistance provided by the UNOPS PIU; these funds will not be received or administered by any institution or agency of the GoN.
56. **AF grant proceeds will be disbursed by the World Bank to UNOPS via a dedicated UN Account (indirect financing).** UNOPS will report to the MHCP on the use of Grant proceeds as set forth in the amended Implementation Agreement. Coordination mechanisms between UNOPS and the MHCP will be further detailed in the updated POM. The MHCP will submit to the World Bank the requests for advances to the UN Account and will also be responsible for documenting those advances through the World Bank's Client Connection system.

³² The decision to amend the current UN-to-UN agreement between UNOPS and FAO instead of introducing a separate agreement between MHCP and FAO was made based on the following considerations: (i) cost-effectiveness and operational efficiency, (ii) requirement of GAFSP to leave the implementation arrangements of the Project unchanged.



H. Lessons Learnt

57. **Improved geographic targeting is key to reach** regions with agricultural profit potential, low productivity, and high poverty and malnutrition rates. Following these criteria, the AF activities are targeting communities in 11 municipalities of the Caribbean Coast, where the additional lens of climate vulnerability mapping at local level will help to focalize the interventions and use the menu of good national and international practices on climate and nutrition-smart agriculture to craft solutions with food insecure beneficiaries.
58. **Link agricultural development initiatives with nutrition.** The promotion of a diverse and more nutritious diet ensures that increased income and food availability are translated into better nutrition for all household members. Based on rapid participatory local/community diagnostics on nutrition and creating synergy with other local stakeholders, the AF will increase awareness of nutrition and promote local production and consumption of a diversified high-quality diet, integrating nutrition in agricultural production and marketing.
59. **Value-added agriculture is widely viewed as the best prospect for long term, broad-based economic growth, and poverty reduction.** The need for reduction in post-harvest losses and waste is essential. The value chain approach will be a strategy to diversify and complement actions in the short-, medium- and long-term. The AF will strengthen the market linkages for organized producers and will improve their position in the value chain by strengthening production and market capacities as well as facilitating access to key services and inputs.

III. KEY RISKS

60. The overall risk of the Project is maintained as **Substantial**.
61. **Technical design and implementation risk of the Project is maintained as Substantial.** Implementation of AF activities will follow the same integrated approach successfully applied in the previous Caribbean Coast Food Security Project whose main instrument was Innovation Development Plans (IDPs) prepared alongside beneficiaries to address their food and nutritional security while stimulating their organizational strengthening. In addition, the Project has established implementation arrangements which are operational and delivering. Additionally, all the required management instruments (i.e., POM, Project Procurement Strategy for Development, Environmental and Social Management Framework, Financial Management arrangements, and others) have been prepared in agreement with the World Bank and are in the process of being updated for the AF. Moreover, a draft Agri-food LIDP Manual has already been developed to further guide implementation of the new Subcomponent 2.2 and additional staff will be added to the existing structure for implementation of the additional AF activities.
62. **E&S risk is Substantial.** The activities of the AF will consist of financing small-scale agricultural activities, benefiting small producers in the same area of influence. Environmental risks will be related to the agricultural activities that may include water overuse for irrigation purposes, potential use of fertilizers and pesticides in seedling production and agricultural activities, as well as occupational health and safety risks for workers.
63. **The AF is expected to generate important positive social impacts** by implementing additional activities to enhance food and nutrition security, production, and marketing capacity of vulnerable populations of the Caribbean regions of Nicaragua via the formulation and implementation of LIDPs for enhancing food and



nutrition security. However, given the magnitude of the damages caused by the hurricanes and the contextual challenges in which response activities occur, there exists several cross-cutting social risks, including: (i) possible exclusion of the most vulnerable among Indigenous Peoples and Afro-Descendants (IPADs) from disaster relief efforts due to historical barriers to access benefits, limited territorial connectivity, and lack of culturally sensitive engagements; (ii) possible exclusion of vulnerable population groups whose interests are traditionally underrepresented, such as women, elders, youth, PwD, and sexual and gender minorities, if targeted strategies to ensure their engagement are not incorporated into the project design; (iii) elite capture; (iv) potentially inadequate management of Gender Based Violence risks, which are significantly higher in disaster contexts; (v) child labor; (vi) the intersection between the hurricanes disaster response (including the AF activities) with the risk of exposing communities to transmissible diseases (such as COVID-19).

64. **Measures to mitigate the environmental and social risks will be included in the updated Project's ESF instruments.** The latter include the ESMF, Stakeholder Engagement Plan (SEP), Indigenous Peoples and Afro-descendants Plan (IPADP), and Labor Management Procedure (LMP) instruments. The AF activities are not expected to generate involuntary resettlement as per ESS5. The Project is addressing capacity building, aiming at strengthening the project implementing agencies' technical and institutional capacity, including for oversight of compliance with social and environmental standards, oversight of compliance with social inclusion targets, M&E activities, and grievance redress mechanisms.
65. **Stakeholder risk.** The project will address risks and impacts on disadvantaged or vulnerable individuals or groups, defined as "individuals or groups who, by virtue of, for example, their age, gender, ethnicity, religion, physical, mental or other disability, social, civic or health status, sexual orientation, gender identity, economic disadvantages or indigenous status, and/or dependence on unique natural resources, may be more likely to be adversely affected or left out of the benefits of the project". These groups include the poor, women, young girls, youth at risks, LGBTI people, PwD and the elderly, among others.

IV. APPRAISAL SUMMARY

A. Economic Analysis

66. **A detailed financial and economic analysis of the AF was carried out prior to appraisal.** The resulting ERR and NPV of respectively 24.1 percent and US\$50.58 million confirm that the proposed AF activities are highly profitable. With the addition of the new subcomponent 2.2, the overall Project would end up yielding an ERR of 17.7 percent and a NPV of US\$101.2 million. Given that the Project with the AF included will behave like a carbon sink (see section IV.B below), the overall ERR of the project with the AF including the value of the net amount of carbon stored would increase to 21.6 percent and 25.4 percent under a low carbon price scenario and a high price carbon scenario³³, respectively. Details can be found in Annex 2.

³³ Under a low carbon price scenario, the shadow price of one ton of CO₂eq would start at US\$44 in 2024 and gradually rise to US\$50 per ton by 2030 and beyond. Under a high carbon price scenario, corresponding values would be US\$87 and US\$100, respectively.



B. Greenhouse Gas Accounting

67. **Greenhouse gas accounting (GHG) confirmed that the AF activities will behave as a sink.** The amount of greenhouse gases that will be mitigated, during a period of 20 years, will be -1,006,834 tonCO₂eq and the amount that will be emitted, for the same period, is 51,619 tonCO₂eq.

C. Climate Co-benefits

68. Since the AF is financed by GAFSP rather than IBRD/IDA, OPCS will assign climate co-benefits after RVP approval.

D. Technical

69. **Subcomponent 2.2 will be financed through the AF to enhance the productive and marketing capacities of family farmers (subsistence agriculture; commercial agriculture) and small-scale rural agribusiness** by (a) providing technical assistance (consultancy services, goods, training, non-consultancy services, operational costs) to support the participatory (demand-driven) identification and design of climate and nutrition-smart agri-food Local Innovation Development Plans (LIDPs); and (b) grants to finance their implementation (goods, consultancy services, non-consultancy services, small works, training, and operational costs) alongside the beneficiaries. The agri-food LIDPs will support formal and informal groups of beneficiaries (i.e., cooperatives, producers' associations, farmers groups, women farmer groups, small-scale young agri-entrepreneurs, indigenous communities, afro descendants) to achieve improvements and innovations in production and processing and consolidate market opportunities.
70. **The technical design of the AF activities builds on lessons learned and best practices of similar Projects in Nicaragua (e.g., food and nutrition security, rural development, emergency response and early recovery operations in the Caribbean Coast regions) and the LAC region.** For more than two decades, the World Bank has successfully supported clients in the LAC region in the design and implementation of grant-type projects (e.g., matching grants to establish productive alliances between smallholder family farmers, commercial, technical, and financial players in the private sector, and public agriculture sector institutions) to address critical bottlenecks limiting productive, commercial, and income opportunities for smallholder family farmers and their organizations. Building on these experiences and the specifics of the targeted areas and beneficiaries, the AF will support a range of intervention models to address the productive and nutrition needs of farmers, including those at a subsistence level as well as those with a higher commercialization potential. The AF will apply good practice approaches, such as rapid participatory food and nutrition diagnostics in targeted communities, local climate vulnerability mapping for agricultural activities, and rapid agri-food value chain assessments, to identify the range of constraints and opportunities around a set of sub-sectors/value chains and productive systems and prioritize climate and nutrition-smart investments with the highest potential economic and social return.
71. **The AF activities will apply tested approaches for the integration of climate and nutrition-smart innovations in food security and agriculture programs (e.g., the Caribbean Coast Food Security Project).** The AF will provide technical assistance, training, and targeted climate and nutrition-smart investments to increase the production and nutritious quality of food and the climate resilience of smallholder family farmer productive systems, as well as to develop the capacities, nutrition awareness and behavior change of a broad range of local stakeholders (e.g., indigenous, afro-descendant, and mestizo farmers, and community leaders) through local training and effective communication-related activities, but with a



particular focus on women given their direct link with family nutrition. Furthermore, men will be actively involved in such activities as well, to ensure the gender gap is not deepened by the AF activities. The climate and nutrition-smart technical package to be offered through AF investments in LIDPs will also be supported with the international expertise and good agricultural practices to be brought by the implementing agent UNOPS and its ongoing collaboration with other UN agencies.

E. Financial Management

72. **The FM arrangements for the AF will remain unchanged.** The current FM arrangements were assessed as Satisfactory in the latest FM supervision. A consolidated POM that includes the new activities financed by the AF, reviewed and approved by the Bank, will be an effectiveness condition for the AF.
73. **The PMU under the MHCP will continue monitoring the overall execution of the Project and maintaining the communication between the MHCP and UNOPS.** UNOPS will be responsible for implementing the expanded scope of Project activities.
74. **The flow of funds for the AF will remain unchanged,** in which the funds are advanced to UNOPS (advances to UN Designated Account) and UNOPS documents the executed funds to the MHCP, according to the Implementation Agreement. UNOPS will submit quarterly interim financial reports to the PMU in the format provided in the signed Agreement. The PMU will use UNOPS financial reports to prepare the required semi-annual Interim Financial Reports to be sent to the WB no later than 45 days after the end of each period.
75. **Payments to UNOPS will be made through UN Advances (with or without a UN Commitment) disbursement mechanism.** In case of a contract with a UN Agency requiring a UN Commitment, an application for issuance of UN Commitment is to be submitted by the GoN. Subsequent payments and documentation of expenditures under the contract must be made in accordance with the Commitment letter to be issued by the WB and the contract between the GoN and the UN agency. In case of a UN Advance (without UN Commitment), the MHCP will submit to the WB a request for advances to the UN Accounts. Documentation of expenditures should be made once the final invoice is issued and based on the UN Financial Report. Any funds disbursed to UN Agencies and not used after the Project's Closing Date should be refunded directly to the WB. Payments are acceptable during the grace period (four months after closing) for eligible expenditures incurred by the Closing Date.
76. **The "Operating Costs" type of expenditures will be incorporated into the description of the disbursement category of the withdrawal table in the Financing Agreement.** This will be done on a retroactive basis to avoid ineligible expenditures already financed by the Project through the implementation agreement with UNOPS."
77. **Audit.** Under the *FM Framework Agreement* that was signed between the WB and over twenty UN Agencies in 2006 including UNOPS, the Bank recognizes the UN single audit principle. It means that the WB audit requirements are met through the normal audit function of the UN Agency's own external auditor. Separate audited financial statements specifically for the AF are not required.
78. The Special Purpose Audit will remain unchanged and will proceed as planned without any modifications. There will be no Special Purpose Audit for the AF.



F. Procurement

79. **Procurement will continue to be carried out following the World Bank's Procurement Regulations for IPF Borrowers for Goods, Works, Non-Consulting and Consulting Services**, dated July 1, 2016 (Fourth Edition, November 2020), and is subject to the World Bank's Anticorruption Guidelines, dated October 15, 2006, revised in January 2011, and as of July 1, 2016. The Systematic Tracking of Exchanges in Procurement (STEP) will record the standard forms of agreement with UNOPS that will have the role of implementing agency.
80. **Procurement implementation arrangements.** UNOPS will maintain the role of implementation agent for the AF and be responsible for the supervision and monitoring of the Project. The PMU within the General Coordination of Programs and Projects (CGPP) in MHCP will provide implementation oversight. The Implementation Agreement will be amended and signed by the Government and UNOPS using the World Bank's Standard Form of Agreement with UN Agencies to procure following UNOPS's own procurement rules and regulations. This agreement will be subject to the World Bank's prior review. UNOPS will determine how suppliers will be selected and paid. The World Bank considers UNOPS' procurement policies and procedures as adequate. UNOPS may elect to amend the existing UN-to-UN agreement with FAO to include new agriculture activities introduced by the AF.
81. A list of the procurement items to be procured by each UN Agency, including delivery and distribution responsibilities, will be fully detailed in the standard form of agreement with MCHP. The new subcomponent financed by the AF will support Local Innovation Development Plans (LIDPs) and finance investments and technical assistance to address immediate food security needs and promote farm innovations for rural producers' integration into agri-food value chains. Specific goods will include seeds and genetic material, agriculture tools, other agriculture inputs, and small equipment for post-harvest and agro-processing activities. Small civil works may include post-harvest storage facilities, seed banks, small agro-processing and packaging plants, and structures for small irrigation facilities such as ponds, drip etc. The component will also finance consultancies to provide technical assistance and training. Finally, the component will also finance operational costs.
82. **Project Procurement Strategy for Development (PPSD)** will be required as per the requirements of the World Bank's Procurement Framework. However, as per paragraph 12, Section III of the *World Bank Policy on IPF for Situations of Urgent Need of Assistance or Capacity Constraints*, a simplified PPSD and the procurement plan are deferred to the AF implementation phase. Retroactive financing is not expected.
83. The residual fiduciary risks, especially those related to procurement are **Moderate**. Although UNOPS will act as the entity to carry out procurement activities, remaining procurement risks include: (a) potential delays due to UN Agencies internal procedures; and (b) potential delays due to pandemics and/or mobility restrictions, including transportation disruptions. Mitigation measures that have been identified are: (a) the Implementation Agreement between the MHCP and UNOPS will be subject to prior review by the World Bank; (b) UNOPS will exercise advance planning, appropriate delegation of authority, make use of its local presence to expedite the procurement processes, comply with agreed timelines, and ensure prompt publication of contract awards and supervision of works; (c) the Implementation Agreement will stipulate that any advance payment that is not utilized will be paid back to the World Bank directly by UNOPS; and (d) the World Bank's Standard Form of Agreement with UN Agencies includes appropriate covenants to deal with fraud and corruption.



G. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

84. **Even though OP 7.50 is triggered, an exception to the Riparian Notification Requirements has been obtained.** The Project was processed under an Exception to the Riparian Notification Requirements approved on December 4, 2020. Even though activities under the AF may involve investments in irrigation, there will be no new irrigation schemes. That is, to the extent that the AF will be used for irrigation financing, the latter will be limited to improvements of existing schemes, e.g., through introduction of pressured irrigation methods which use only small quantities of water and will mainly source water from ponds, tanks, or other rainfall catchment structures (and which will use water much more efficiently than unimproved systems). An exception to the Riparian Notification Requirements was approved by the Regional Vice President on May 9, 2023.

H. Environmental and Social

85. **The overall E&S risk rating for the new activities financed by the AF is High.** The activities of the AF will consist of financing the enhancement of the productive capacities of family farmers (subsistence and commercial agriculture) and small-scale rural agribusiness, benefiting formal and informal groups of beneficiaries in the same area of influence. Environmental risks are substantial, with activities expected to be small scale in nature and not expected to result in significant negative environmental risks and impacts. Key environmental risks and impacts for the AF include: (i) management and use of pesticides in seedling production and agricultural practices; (ii) water overuse for irrigation purposes; (iii) land conversion for farming practices; and (iv) careless use of machinery and equipment. Support to small-scale rural agribusinesses may potentially include small-scale infrastructure works. The risk rating will be reviewed and adjusted, if necessary, as more detailed information becomes available about the specific investments and as corresponding detailed environmental and social assessments are completed. Environmental risks that are relevant to the AF include: (i) the possibility of additional disease outbreaks as well as risks of spread of the COVID-19 virus and outbreaks of malaria, dengue, leptospirosis or cholera; and (ii) direct and indirect impacts from other natural hazards (earthquakes, tsunamis, landslides, volcanos, extreme heat, tropical storms and floods) that may occur in the affected areas. Social risks are considered high. Given the magnitude of the disaster caused by the tropical storms and the contextual challenges in which response activities occur, there are several cross-cutting social risks relevant to the AF, including: (i) possible exclusion of the most vulnerable among IPADs from disaster relief efforts due to historical barriers to access benefits, limited territorial connectivity, and lack of culturally sensitive engagements; (ii) possible exclusion of vulnerable populations and groups whose interests are traditionally underrepresented, such as women, elders, youth, persons with disabilities, and sexual and gender minorities, if targeted strategies to ensure their engagement are not incorporated into the project design; (iii) elite capture; and (iv) potentially inadequate management of gender-based violence risks. Contextually, all activities of the Project operate in a post-pandemic context which has augmented underlying social risks such as discrimination, poverty,



access to healthcare, limited job opportunities and others. Social risk will be mitigated through close and pro-active Bank supervision of social development and social safeguards aspects.

86. **The combined Environmental and Social Risk rating of High is informed by the challenging social and geographical context of the Project and the set of proposed recovery activities, which remain relevant for the AF.** The overall risk rating is also influenced by the fact that this is among the client's first operations financed by the Bank under the ESF, and is being implemented by UNOPS, which also has limited prior experience implementing projects under the ESF. There are also complex logistics and on-the-ground challenges, including areas with difficult access and engaging with communities which are equally hard to reach.
87. A Grievance Mechanism (GM) for the Project is fully operational and works as described in the SEP. This existing grievance mechanism shall be applicable to all activities under the AF, with adaptations to capture grievances or requests for information specific to AF activities. The GM will have an independent administration for activities under component 2.2 and differentiate them from those of the other activities of the Project. The GM has been designed with accessible and inclusive means to raise concerns or log complaints. The GM has multiple entry contact points, including at the community, municipal and regional levels, and has the capacity to give attention to gender-based violence (GBV) related grievances.
88. **At this stage ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS7, ESS8 and ESS10 from the Environmental and Social Framework (ESF) are relevant.** To manage E&S risks, the AF will require an update of the Project E&S instruments, to reflect additional risks, scope, areas of intervention and potential beneficiaries. The updated Environmental and Social Commitment Plan (ESCP) will define the necessary actions and measures to be undertaken during preparation and implementation, their timeframes, and monitoring and evaluation arrangements. Additionally, the Borrower will update, consult, disclose, and implement the following E&S instruments for the project to manage E&S risks and impacts: Environmental and Social Management Framework (ESMF), LMP, Resettlement Policy Framework (RPF) and IPADP. The Project E&S instruments were disclosed in country on May 12, 2023, and on the Bank's website on May 31, 2023, and the updated versions will be disclosed and adopted 60 days after the AF effectiveness date. A draft version of the updated SEP has been prepared, consulted, and was disclosed on May 26, 2023, , and the finalized version will be completed no later than 60 days after the Effective Date, in accordance with the ESCP. Relevant and meaningful consultations have been carried out by the client in April 2023, as part of the development of the SEP, to integrate stakeholders' concerns and expectations into the analysis of potential risks and impacts, as well as proposed management measures. The ESCP will include measures to implement the AF in a manner consistent with the ESF, including monitoring and reporting arrangements. The negotiated version of the updated ESCP has been disclosed in country on June 15, 2023.
89. **Citizen engagement** and social outreach will play a critical role to enhance the productive and marketing capacities of family farmers (subsistence agriculture; commercial agriculture) and small-scale rural agribusiness. Dialogues and participatory consultation processes are central to the AF's design and will involve relevant stakeholders, formal and informal groups of beneficiaries, including cooperatives, local producer and farmer groups, women farmer groups, small-scale young agri-entrepreneurs, many of which are indigenous communities and afro descendants. Consultations will be done in separate groups for women and men and considering inclusive language and social norms. To provide channels for two-way interactions with citizens, the Project will support the continuous improvement and socialization of the Project's GRM, increasing the transparency of the handling of complaints and incentivizing improved responsiveness to citizen feedback by strengthening the link between complaints handling and performance evaluations. This strengthened link will incentivize reduced time to respond to complaints, including the



opportunity to anticipate technical issues, limited access or others. The AF will also support the design and implementation of a customer satisfaction survey focused on assessing the impact AF to promote accountability. The results framework will monitor the percentage of beneficiaries satisfied with the participatory process of LIDP preparation and implementation, with a target to meet 80 percent satisfaction from all participants. These surveys will emphasize reaching out to the most vulnerable potential beneficiaries, providing opportunities and spaces for equitable participation that would include, among others, having differentiated spaces for men and women, considering accessible surveying mechanisms for persons with disabilities, and considering linguistic and culturally adapted lines of question.

V. WORLD BANK GRIEVANCE REDRESS

90. **Grievance Redress.** Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted to the AM at any time after concerns have been brought directly to the attention of Bank Management and after Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit <https://accountability.worldbank.org>.

**VI SUMMARY TABLE OF CHANGES**

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Loan Closing Date(s)	✓	
Implementing Agency		✓
Project's Development Objectives		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Disbursements Arrangements		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Implementation Schedule		✓
Other Change(s)		✓

VII DETAILED CHANGE(S)**COMPONENTS**

Current Component Name	Current Cost (US\$, millions)	Action	Proposed Component Name	Proposed Cost (US\$, millions)
Component 1: Recovery, rehabilitation, and resilient reconstruction	69,000,000.00	No Change	Component 1: Recovery, rehabilitation, and resilient reconstruction	69,000,000.00
Component 2: Livelihood recovery	10,000,000.00	Revised	Component 2: Livelihood recovery	24,250,000.00
Component 3: Monitoring, evaluation and audit of the Project	1,000,000.00	Revised	Component 3: Monitoring, evaluation and audit of the Project	1,750,000.00



TOTAL	80,000,000.00			95,000,000.00
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LOAN CLOSING DATE(S)

Ln/Cr/Tf	Status	Original Closing	Current Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IDA-68260	Effective	31-Mar-2025	31-Mar-2025	31-May-2026	30-Sep-2026

Expected Disbursements (in US\$)

Fiscal Year	Annual	Cumulative
2021	5,000,000.00	5,000,000.00
2022	25,000,000.00	30,000,000.00
2023	20,000,000.00	50,000,000.00
2024	23,000,000.00	73,000,000.00
2025	16,000,000.00	89,000,000.00
2026	6,000,000.00	95,000,000.00
2027	0.00	95,000,000.00

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Latest ISR Rating	Current Rating
Political and Governance	● Moderate	● Moderate
Macroeconomic	● Moderate	● Moderate
Sector Strategies and Policies	● Moderate	● Moderate
Technical Design of Project or Program	● Substantial	● Substantial
Institutional Capacity for Implementation and Sustainability	● Moderate	● Moderate
Fiduciary	● Moderate	● Moderate
Environment and Social	● High	● High
Stakeholders	● Substantial	● Substantial
Other	● Moderate	● Moderate
Overall	● Substantial	● Substantial



LEGAL COVENANTS – Additional Financing to the Nicaragua Eta and Iota Emergency Response Project (P181157)

Sections and Description

For the Grant Agreement

a. Additional Conditions of Effectiveness:

- i. The execution and delivery of the Grant Agreement on behalf of the Recipient has been duly authorized or ratified by all necessary governmental action (Section 5.01(a) of the Grant Agreement).
- ii. The Implementation Agreement, acceptable to the Bank, has been executed and is legally binding upon the Recipient and UNOPS in accordance with its terms (Section 5.01(b) of the Grant Agreement).
- iii. The Project Operations Manual has been updated and adopted by the Recipient, through MHCP, in a manner satisfactory to the Bank (Section 5.01(c) of the Grant Agreement).

b. Dated covenants:

- i. For purposes of carrying out Part 2.2 of the Project, the Recipient, through MHCP, shall, not later than two (2) months after the Effective Date, establish and thereafter maintain throughout the implementation of the Project, a Technical Round Table (“TRT”), with a composition, functions, responsibilities, and sufficient resources, acceptable to the Bank, as further detailed in the POM, to be responsible for assessing the technical quality of the Agri-Food LIDPs (Section I.A.5 of Schedule 2 to the Grant Agreement).
- ii. For purposes of carrying out Part 2.2 of the Project, the Recipient, through MHCP, shall, not later than two (2) months after the Effective Date, establish and thereafter maintain throughout the implementation of the Project, an Implementation Technical Committee (“ITC”), with a composition, functions, responsibilities, and sufficient resources, acceptable to the Bank, as further detailed in the POM, to be responsible for the final approval of Agri-Food LIDPs (Section I.A.6 of Schedule 2 to the Grant Agreement).
- c. Withdrawal/disbursement condition: Notwithstanding the provisions of Part A of Section III of Schedule 2 to the Grant Agreement, no withdrawal shall be made under Category (2) of the Project unless: (i) one Agri-Food LIDP Agreement, satisfactory to the Bank, has been entered into between UNOPS and an Eligible Farmer and is in effect; (ii) the TRT referred to under Section I.A.5 of Schedule 2 to the Grant Agreement has been established and is operational; and (iii) the ITC referred to under Section I.A.6 of Schedule 2 to the Grant Agreement has been established and is operational (Section III.B.1(b) of Schedule 2 to the Grant Agreement).

For the amendment to the financing agreement (Effectiveness Conditions):

- a. Receipt of one fully executed original of the Amendment Letter;
- b. The Implementation Agreement, acceptable to the Association, has been executed and is legally binding upon the Recipient and UNOPS in accordance with its terms;
- c. The Project Operations Manual has been updated and adopted by the Recipient, through the MHCP, in a manner satisfactory to the Association, in accordance with paragraph 4 of the Amendment Letter.

Conditions



VIII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Nicaragua

Additional Financing to the Nicaragua Eta and Iota Emergency Response Project

Project Development Objective(s)

The Project Development Objective is to support Nicaragua’s emergency response and restoration of services and economic activities in critical sectors in the Project area.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
To support Nicaragua’s emergency response					
Affected population who have benefitted from emergency disaster recovery activities under the Project (Number)		0.00			80,000.00
<i>Action: This indicator has been Revised</i>					
of which are IPADs (Percentage)		0.00			75.00
of which are women (Percentage)		0.00			50.00
To support Nicaragua’s restoration of services and economic activities					
Affected population with restored services in critical sectors supported by the Project (Number)		0.00			195,000.00



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
Action: This indicator has been Revised					
of which are IPADs (Percentage)		0.00			75.00
of which are women (Percentage)		0.00			50.00
Beneficiaries of housing rehabilitated or rebuilt, in accordance to climate and disaster-resilient standards, as part of the Project (Number)		0.00			17,500.00
Action: This indicator has been Revised					
of which are IPADs (Percentage)		0.00			75.00
of which are women (Percentage)		0.00			50.00
People who have their income restored as a result of the Project's support to critical economic activities (Number)		0.00			800.00
Action: This indicator has been Revised					
of which are IPADs (Percentage)		0.00			75.00
Action: This indicator has been Revised					
of which are women (Text)		0.00			up to 50 percent
People who have increased the volume of the agricultural production (including agroprocessing) as a result of the Project's support to critical economic		0.00	2,500.00	5,500.00	10,000.00



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
activities (Number)					
Action: This indicator is New					
Of which are female (Percentage)		0.00			40.00
Action: This indicator is New					
Of which are IPADs (Percentage)		0.00			30.00
Action: This indicator is New					
Of which are youth (18-30 year age) (Percentage)		0.00			25.00
Action: This indicator is New					
Of which with at least one PwD in the household (Number)		0.00			200.00
Action: This indicator is New					
Percentage of households with improved food security as measured by the Food Insecurity Experience Scale (FIES) (Percentage)		0.00	20.00	45.00	80.00
Action: This indicator is New	Rationale: The FIES is a widely used measurement of household food security as assessed / perceived by households themselves				



Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
Recovery, rehabilitation, and resilient reconstruction					
Rehabilitated or reconstructed infrastructure investments, in accordance to climate and disaster-resilient standards, with operational capacity restored (Text)		0.00			up to 50
<i>Action: This indicator has been Revised</i>					
Houses reconstructed or repaired, in accordance to climate and disaster-resilience standards, under the Project (Number)		0.00			3,500.00
<i>Action: This indicator has been Revised</i>					
Livelihood recovery					
People who receive equipment and supplies to restore their livelihoods under the Project (Number)		0.00			800.00
<i>Action: This indicator has been Revised</i>					
of which are IPADs (Percentage)		0.00			75.00
of which are women (Text)		0.00			up to 50 percent
#1 Number of people receiving direct benefits (Number)		0.00	3,000.00	7,000.00	10,000.00
<i>Action: This indicator is New</i>	<i>Rationale:</i>				



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
		<i>This indicator measures the number of people who directly receive benefits from the activities supported by the project through various asset and service provisions or technical assistance.</i>			
Of which are female (Percentage)		0.00			40.00
Action: This indicator is New					
Of which are IPADs (Number)		0.00			30.00
Action: This indicator is New					
Of which are youth (18-30 year age) (Percentage)		0.00			25.00
Action: This indicator is New					
Of which with at least one PwD in the household (Number)		0.00			200.00
Action: This indicator is New					
#3 Number of smallholder producers receiving productivity enhancement support (Number)		0.00	3,000.00	6,000.00	9,000.00
Action: This indicator is New		Rationale: <i>Productivity increases are a key contribution to food security improvement. This indicator is a core indicator required by GAFSP and measures the number of people who have directly participated in the project's activities and have received support aimed at increasing their agricultural productivity.</i>			
Of which are female (Percentage)		0.00			40.00



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
Action: This indicator is New					
Of which are IPADs (Percentage)		0.00			30.00
Action: This indicator is New					
Of which are youth (18-30 year age) (Percentage)		0.00			25.00
Action: This indicator is New					
Of which with at least one PwD in the household (Number)		0.00			180.00
Action: This indicator is New					
#6 Farmers that are supported in accessing improved marketing opportunities (Number)		0.00	250.00	500.00	1,000.00
Action: This indicator is New					
<p>Rationale: <i>Expansion of sales in existing markets and accessing new and better markets is key to improving smallholder income. This indicator is a core indicator required by GAFSP and measures the total number of farmers that have improved access to market due to project support. This includes an array of services and training provided on marketing, business management, post-harvest handling, value-addition and processing, and facilitation of linkages with off-takers/buyers.</i></p>					
Of which are female (Percentage)		0.00			40.00
Action: This indicator is New					
Of which are IPADs (Percentage)		0.00			30.00



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
Action: This indicator is New					
Of which are youth (18-30 year age) (Percentage)		0.00			25.00
Action: This indicator is New					
Of which with at least one PwD in the household (Number)		0.00			20.00
Action: This indicator is New					
#13 Number of farmers receiving inputs or service on climate resilient or sustainable agriculture practices (Number)		0.00	3,000.00	6,000.00	10,000.00
Action: This indicator is New	<p>Rationale: <i>An important goal of the AF is to attain productivity increases that are climate-smart, i.e. contribute to climate mitigation and/or adaptation. This indicator measures the number of farmers who have received inputs or service on resilient or sustainable agriculture practices. This includes a broad range of climate resilient/climate risk management technologies and practice that are promoted with the explicit objective of reducing risk and minimizing the severity of climate change.</i></p>				
Of which female (Percentage)		0.00			40.00
Action: This indicator is New					
Of which are IPADs (Percentage)		0.00			30.00
Action: This indicator is New					
Of which are youth (18-30 year age) (Percentage)		0.00			25.00



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
Action: This indicator is New					
Of which with at least one PwD in the household (Number)		0.00			200.00
Action: This indicator is New					
Number of smallholder producers that have increased the productivity of at least one of their food crops assisted by the project by at least 20 percent (Number)		0.00			7,200.00
Action: This indicator is New	Rationale: <i>This indicator measures the impact of the productivity enhancement activities of the project. Productivity increases are a key contribution to food security improvement. The end-of-project target represents 80 percent of the total number of farmers receiving productivity enhancement support from the project.</i>				
Monitoring, evaluation, and audit of the Project					
Grievances registered related to delivery of project benefits that are addressed and/or incorporated into the Project, where applicable (Percentage)		0.00			100.00
Action: This indicator has been Revised					
of which are IPADs (Percentage)		0.00			75.00
of which are women (Percentage)		0.00			50.00
Grievances registered related to delivery of project benefits for agri-food LIDPs that are addressed and/or incorporated		0.00	70.00	80.00	100.00



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
into the Project, where applicable (Percentage)					
Action: This indicator is New	Rationale: GAFSP is interested in the degree to which grievances specifically related to delivery of project benefits for agri-food LIDPs are adequately addressed				
Of which are IPADs (Percentage)	0.00				10.00
Action: This indicator is New					
Of which are female (Percentage)	0.00				10.00
Action: This indicator is New					
OF which are youth(18-30 year age) (Percentage)	0.00				10.00
Action: This indicator is New					
Beneficiaries satisfied with the participatory process of LIDP preparation and implementation (Percentage)	0.00		70.00	80.00	80.00
Action: This indicator is New					



Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Affected population who have benefitted from emergency disaster recovery activities under the Project		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with the support of UNOPS
of which are IPADs	This indicator measures the number of affected population (disaggregated by IPADs) who have benefitted from emergency disaster recovery activities under the Project The indicator will focus on measuring restored access as a result of immediate measures (6-12 months), such as repairs and clean-up of selected critical infrastructure. The end target accounts for about 10 percent of the affected population in the Project area. As a reference point, the IPADs population in the Project area is 58% (2005 Census).	Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
of which are women		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS



				ogy will be defined in the POM	
Affected population with restored services in critical sectors supported by the Project		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
of which are IPADs		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
of which are women		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
Beneficiaries of housing rehabilitated or rebuilt, in accordance to climate and disaster-resilient standards, as part of the Project		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
of which are IPADs		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support with UNOPS
of which are women		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS



People who have their income restored as a result of the Project's support to critical economic activities		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
of which are IPADs		Annual	Monitoring reports	Monitoring reports . Measurement methodology will be defined in the POM	MHCP with support from UNOPS
of which are women		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
People who have increased the volume of the agricultural production (including agroprocessing) as a result of the Project's support to critical economic activities	This indicator measures the number of agricultural producers who have managed to increase their production through various asset and service provisions or technical assistance from the project.	Semestral	Field surveys carried out by UNOPS and LIDP documents and reports, including baseline, mid-term, and final evaluation	Data will be collected at the household level by UNOPS and disaggregated by gender	UNOPS
Of which are female					
Of which are IPADs					



Of which are youth (18-30 year age)					
Of which with at least one PwD in the household					
Percentage of households with improved food security as measured by the Food Insecurity Experience Scale (FIES)	The FIES is a widely used measurement of household food security as assessed / perceived by households themselves	annual	Data will be collected at the household level by UNOPS and disaggregated by gender	Field surveys	UNOPS

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Rehabilitated or reconstructed infrastructure investments, in accordance to climate and disaster-resilient standards, with operational capacity restored		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
Houses reconstructed or repaired, in accordance to climate and disaster-resilience standards, under the Project		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
People who receive equipment and supplies to restore their livelihoods under the Project		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS



of which are IPADs		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
of which are women		Annual	Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
#1 Number of people receiving direct benefits	Number of people reached with goods/supplies and/or technical assistance related to restoration / improvement of their agricultural production	semestral	Field surveys carried out by UNOPS; LIDP documents and reports, including baseline, mid-term, and final evaluation	Data will be collected at the household level by UNOPS in collaboration with FAO and disaggregated by gender, IPADs, youth and PwD	UNOPS in collaboration with FAO
Of which are female					
Of which are IPADs					
Of which are youth (18-30 year age)					
Of which with at least one PwD in the household					
#3 Number of smallholder producers receiving productivity enhancement	Number of farmers/producers who	semestral	Field surveys carried out by	Data will be collected at the individual producer	UNOPS in collaboration with FAO



support	manage to increase their productivity (i.e. production per unit area)		UNOPS in collaboration with FAO; and LIDP documents and reports, including baseline, mid-term, and final evaluation.	level by UNOPS and disaggregated by gender, IPADs, youth and PwD	
Of which are female					
Of which are IPADs					
Of which are youth (18-30 year age)					
Of which with at least one PwD in the household					
#6 Farmers that are supported in accessing improved marketing opportunities	Number of producers who manage to increase their marketed surplus	semestral	Field surveys carried out by UNOPS in collaboration with FAO; and LIDP documents and reports, including baseline, mid-term, and final evaluation	Data will be collected at the household level by UNOPS in collaboration with FAO and disaggregated by gender, IPADs, youth and PwD	UNOPS in collaboration with FAO



Of which are female					
Of which are IPADs					
Of which are youth (18-30 year age)					
Of which with at least one PwD in the household					
#13 Number of farmers receiving inputs or service on climate resilient or sustainable agriculture practices	Number of project beneficiaries that adopt climate smart agricultural production technologies promoted by the project	semestral	Field surveys carried out by UNOPS in collaboration with FAO; and LIDP documents and reports, including baseline, mid-term, and final evaluation	Data will be collected at the household level by UNOPS in collaboration with FAO and disaggregated by gender, IPADs, youth and PwD.	UNOPS in collaboration with FAO
Of which female					
Of which are IPADs					
Of which are youth (18-30 year age)					
Of which with at least one PwD in the household					
Number of smallholder producers that have increased the productivity of at least	Crop yield is a commonly used indicator of land	Field surveys		Data will be collected at the individual household	UNOPS in collaboration with FAO



one of their food crops assisted by the project by at least 20 percent	productivity. Crop yield for any particular crop can be calculated as a measure of crop production weight (in kg) per area of land under cultivation (in hectares).	carried out by UNOPS in collaboration with FAO, LIDP documents and reports, including baseline, mid-term, and final evaluation		level by UNOPS in collaboration with FAO. No physical measurements will be done in the field.	
Grievances registered related to delivery of project benefits that are addressed and/or incorporated into the Project, where applicable		Annual	Monitoring Reports	Monitoring Reports. Measurement methodology will be defined in the POM.	MHCP with support from UNOPS
of which are IPADs		Monitoring reports	Monitoring reports. Measurement methodology will be defined in the POM	Monitoring reports. Measurement methodology will be defined in the POM	MHCP with support from UNOPS
of which are women		Annual	Monitoring reports.	Monitoring reports. Measurement methodology will be defined in the POM.	MHCP with support from UNOPS



Grievances registered related to delivery of project benefits for agri-food LIDPs that are addressed and/or incorporated into the Project, where applicable		semestral	UNOPS grievances registry	Due documentation of all grievances separated out by gender and for IPADs and youth	UNOPS
Of which are IPADs					
Of which are female					
OF which are youth(18-30 year age)					
Beneficiaries satisfied with the participatory process of LIDP preparation and implementation					



Annex 1 – Detailed description of AF activities

- LIDPs form the delivery mechanism to support 10,000 poor and food insecure beneficiaries who will gain access to innovative climate- and nutrition-smart technologies and techniques.** The latter will include biofortified varieties, climate-resistant varieties, bio-fertilizers, organic agriculture practices, pest and disease bio-controllers, crop rotation, intercropping, crop residue management, use of livestock manure and agricultural waste, no-tilling, community seed banks, rescue of traditional nutritious foods and non-wood forest products, on-farm soil and water management techniques, on-farm efficient irrigation, solar energy for on-farm drip irrigation, small rainfall water catchment ponds, agricultural diversification and high-value crops, combination of food staple, horticulture, agroforestry and silvopastoral systems, reduced use of agrochemicals, integrated pest management, protected horticulture etc.
- LIDPs will also promote nutritional education and communication for diversified production and consumption.** This will include financing nutritional education and communication activities that will promote improved feeding and food handling practices with specific emphasis on pregnant and breastfeeding women and children. Following an assessment of the local nutritional status, each LIDP will encompass the proper training to support and improve post-harvest techniques. This includes small equipment and works to improve drying and conservation of nutritional value and quality of food crops, use of solar energy, additional and improved storage capacity, activities related to value-addition and commercialization, and a combination of short-term crops with mid-term agroforestry systems to improve climate adaptation, long-term resilience and sustainability of the agri-food systems.
- The Project will identify and mobilize eligible beneficiaries through local consultations and promote the participatory design of LIDP investments by the beneficiary groups.** Additional technical staff in field offices across the target area will support the preparation of agri-food LIDPs, following technical criteria described in the updated POM and the LIDP Manual. Preparation of agri-food LIDPs will include the collaboration of local development partners to promote synergies and sustainability of the investments. Once prepared, LIDP proposals will be presented by the UNOPS Project Implementation Unit (UNOPS PIU) and reviewed/approved by the Implementation Technical Committee (ITC) that will be created for the AF.
- Beneficiary participation will take place during the preparation, implementation and closing of the LIDPs, as follows:** LIDPs will be prepared with technical support from the UNOPS PIU in collaboration with FAO. LIDPs will be developed on the request of the communities or organizations based on their needs and include the following steps: (i) Assemblies will be conducted with beneficiaries to prioritize the activities to be developed; (ii) Immediately following LIDP preparation, consensus sessions will be held with beneficiaries to seek their final approval of the activities to be developed; (iii) Beneficiaries will be actively involved in decisions related to purchase of goods and their distribution, including quality supervision; (iv) Active participation in evaluation processes and tracking of progress of LIDPs; (v) Closing assemblies and accountability of the LIDP, including evaluation of the technical aspects and financial execution of the investments.
- Preparation of agri-food LIDPs will include, whenever possible, the collaboration of other local development partners** to promote synergy and sustainability of the investments (i.e., other public institutions in the agriculture sector, municipalities, local universities, farmers' organizations, technical service providers, commercial partners, and financial institutions).



6. **The activities of the new subcomponent 2.2 will include *inter alia*:** (i) communication and dissemination campaigns in targeted areas; (ii) technical support for the design and implementation of LIDP proposals, including rapid and participatory value-chain assessments and territorial diagnostics, nutrition diagnostics at community level, climate vulnerability mapping at community level, technical assistance to mainstream nutrition education and behavior change communications to raise awareness and knowledge about nutrition and the role of agriculture in improving nutrition outcomes in LIDP design and implementation ; (iii) training of key local institutional stakeholders and technical service providers on critical areas of LIDP preparation, implementation and monitoring; (iv) financial, social, environmental and technical assessments associated with LIDP investments; (v) strengthening organizational and business capacities of producer groups, communities and small-scale rural producer organizations as well as broad activities fostering smallholder linkages to markets; and (vi) technical assistance for sanitary and phytosanitary surveillance/services required to support the LIDPs during the production and processing stages. Overall, the extended technical team will carry out the activities required to carry out the LIDP (subproject) cycle and will use consultancy services and outsource technical assistance services as required to ensure fast and seamless implementation of the LIDPs. The process to identify, prepare, review, approve, implement, and close the LIDPs will be further detailed in the LIDP Operational Manual and in the updated POM, both of which will be effectiveness conditions.
7. **Typology of LIDPs.** The agri-food LIDPs will receive AF financing to cover short-, medium – and long-term investments (i.e., short-term is food crops & vegetables, medium-term is perennial crops & poultry, and long-term is agroforestry) for family-farmers and small-scale agri-businesses to adopt climate and nutrition-smart innovations to increase agricultural production, productivity, diversification, value addition, nutritional and commercial value of produce, and commercial opportunities in local markets. Specific targeting and eligibility criteria for each LIDP category will be included in the LIDP Manual.
8. **The objective of the LIDPs is to increase availability and access to more and more nutritious food that help improve the nutrition standards of the families involved.** In addition, LIDPs will generate income from agricultural activities, especially the ones related to agro-processing and value chain activities with market orientation through the following (see also Table 1):
 - (i) **LIDP Agriculture subsistence subgrants** (6,000 family farmers); the objective of this type of LIDP is to increase food production for self-consumption and community exchange, in communities with agricultural potential, but that have limitations to sell surpluses due to high costs and/or difficult access to markets. Formal and informal groups of beneficiary farmers will be financed for capitalization with inputs, tools and equipment, plus technical support services for production, as well as for post-harvest and training.
 - (ii) **LIDP Agriculture commercially oriented subgrants** (3,000 family farmers). The objective of this type of LIDP is to increase food production, contribute to food self-sufficiency of target populations, and generate considerable surpluses destined to local and/or regional markets. Formal and informal groups of beneficiary farmers will be financed for capitalization with inputs, tools and equipment, plus technical support services for production, as well as for post-harvest and value addition, including market linkage services and training, among others.
 - (iii) **LIDP Agriculture agro-transformation subgrants** (1,000 family farmers). This type of LIDP promotes initiatives that link primary production with agro-transformation processes from organizations/cooperatives of beneficiaries or individuals. Value addition processes will be



strengthened from the collection levels (selection, cleaning, etc.) to the transformation of agricultural products, as well as market links through the establishment of commercial alliances. These LIDPs will support activities in the value chains, such as artisanal or small agro-industrial processing of some items such as cocoa, corn, small livestock, rice, cassava, meat processing from small livestock, and others. The LIDPs of agro-transformation will be presented by farmers organized in associations, cooperatives, or solidarity groups.

Table 1. Differentiation of Agri-food LIDPs

Type of LIDP	Examples of Types of Support	Beneficiary Data	Beneficiary Counterpart
Family agriculture/livestock LIDPs (area less than 3.5 ha)			
i) Orientation: food production for self-consumption and community exchange with subsistence family farming	Inputs, tools, small works, technical assistance, and equipment for (i) climate-smart, nutrition-smart agricultural innovations; (ii) reduction of post-harvest losses at farm level. A mix of short-, medium-, and long-term investment models will be supported by promoting: (i) short-term: vegetables and food crops; (ii) medium-term: diversification through perennial crops; and (iii) long-term: agro-forestry/silvopastoral systems.	US\$1,250 per Beneficiary Approximately 6,000 beneficiaries	10 percent in kind
ii) Orientation: production of surplus/commercial orientation, with transitioning family farming	An additional focus on links/alliances with the market (identification of demand). Small-scale or incipient agro-industrial ventures for basic processing, with organizations of family farmers seeking to improve productivity and innovate with processes of value-addition at the farm or collective levels.	US\$1,250 per Beneficiary (including investments to provide water) Approximately 3,000 beneficiaries	15 percent in kind
Agricultural/agro-industrial LIDPs (area between 3.5 ha and 14.0 ha)			
(i) Orientation: Small-scale agribusiness and value addition activities, with transitioning or commercially oriented family farming	An additional focus on value addition, seed capital and supplies, small equipment and machinery, linkages to markets, and close support to establish alliances across agri-food systems, including with other LIDPs. Technical assistance and training.	US\$2,000 per Beneficiary Approximately 1,000 beneficiaries	20 percent in kind



Annex 2 – Updated Economic and Financial Analysis

I. Introduction

1. The results of the economic analysis (EA) of the Project (costing US\$80 million) conducted during preparation of the Project focused mainly on Component 2 of the Project, targeting the restoration and improvement of the socioeconomic conditions of eligible beneficiaries, through the provision of equipment, supplies and training. In the Project activities under Component 2 currently have an exclusive focus on the artisanal fishing sector, with beneficiaries selected based on existing LIDPs. Due to the urgent nature of the Project operation, the original estimations were based on a simplified and preliminary economic analysis of the Project's costs and benefits. The analysis showed an Economic Rate of Return (ERR) of 14.4 percent and a Net Present Value (NPV) of \$86.25 million (based on a period of 20 years and a 4 percent discount rate as recommended for IDA countries³⁴).

2. The AF will introduce new activities in the Project under a new agriculture subcomponent (2.2). It will provide support to 10,000 food insecure family farmers with climate and nutrition-smart agri-food innovations, with a focus on the recovery of affected families by hurricanes Eta, Iota and Julia in the same 11 municipalities in the Caribbean regions.

3. The new Subcomponent will promote the development of new LIDPs seeking to enhance the productive and marketing capacities of vulnerable family farmers (subsistence agriculture and small commercial agriculture) and small-scale rural agribusiness by (a) providing technical assistance to support the participatory (demand-driven) identification and design of climate and nutrition-smart agri-food LIDPs; and (b) grants to finance their implementation alongside the beneficiaries. The LIDPs will support formal and informal groups of beneficiaries to attain improvements in the production of the existing value chains to join market opportunities. This Annex presents an assessment of: (i) the financial benefits of the AF interventions for the beneficiary families through LIDP and self-help groups, and businesses that would be adding value to their products; (ii) the aggregate economic benefits of the investments proposed under the AF; and (iii) the economic impact analysis of the overall Project including the AF.

4. Section II below presents the expected financial benefits from the new activities financed by the AF under subcomponent 2.2, including the expected increase in family income for beneficiaries, their organizations and relevant income generating activities. Aggregated results are summarized in Section III, including the evolution of production and employment, compared to the prevailing situation without the AF. The economic analysis of the overall Project including the AF is presented in Section IV, as well as a description of the methodology and results indicators.

5. Through about 50 LIDPs the Subcomponent will reach 10,000 vulnerable families, of whom about 6,000 would be on agricultural subsistence farms, 3,000 would be transition farms with some commercial activity and about 1,000 better off families developing small scale agribusiness LIDPs, adding value to their produce. The agricultural LIDPs would aim to improve their agriculture-based livelihoods through environmentally friendly and sustainable productivity gains and diversifying production for improving their nutrition and income levels. Activities supported will include basic grains, roots and tubers, vegetables, fruits, cocoa, coffee, banana/plantain, and livestock production with cows, pigs and poultry.

II. Financial Analysis

³⁴ World Bank (2017). Risk –Adjusted Discount Rates in Economic Analysis of Investment Projects.



6. **Crop, activity and farm models.** The financial analysis was based on representative farms and off-farm production or processing activities representing a sample of the expected beneficiaries to be supported. Detailed Excel tables³⁵ show the relevant detailed crop and activity budgets, including the existing (current) and the new production scenarios and technologies to be supported. The main financial indicators are summarized in Table 1. Models represent many types of demand driven activities to be supported from the communities in the project area. The detailed Excel tables show both the existing technology “without” the Project (WoP), and the new technologies to be promoted and adopted “with” the Project (WP), and the subsequent productivity and net benefit to be attained. Experience from the previous Nicaragua Caribbean Coast Food Security Project (P148809) was helpful in preparing these AF models and their attainable improved scenarios.

7. Table 1 below summarizes the main parameters for the models including: yields, gross revenue, input and labor costs, and net income after labor costs. Revenues before labor costs is the most relevant indicator to show financial benefits to farmers since family labor is used in the farms, which generally has little or no opportunity cost in the Caribbean regions. As is shown in the detailed Tables in the Excel file, family income would be increasing significantly. Models also show the numbers for some new activities to be introduced which would improve nutrition for vulnerable families.

Table 1 Main Indicators & Results for Crops (per manzana) and Activities (per module)

Crops	Average Yields (qq/ha or module)		Gross Revenue (Cordobas/ha)		Input & Labor Costs (Cordobas /ha)		Net Income After Labor (C\$/ha)	
	Without	With	Without	With	Without	With	Without	With
Maize (Excel file - Table 1)	10.7	21	10,165	19,950	10,821	15,290	-656	4,660
Beans (Excel file - Table 2)	8	12	20,800	31,200	12,720	16,500	8,080	14,700
Rice (Excel file - Table 3)	24	40	14,400	24,000	15,380	23,960	-980	40
Quequisque (Excel file - Table 4)	60	150	60,000	150,000	62,350	127,400	-2,350	22,600
Malanga (Excel file - Table 5)	75	200	75,000	200,000	57,150	129,400	17,850	70,600
Yuca (Excel file - Table 6)	80	500	24,000	150,000	32,950	109,000	-8,950	41,000
Camote (Excel file - Table 7)	80	200	64,000	160,000	39,800	90,000	24,200	70,000
Vegetable Plots (Excel file - Table 8)	-	1.9	-	14,250	-	8,950	-	5,300
Fruit Tree Plots (Excel file - Table 10)	-	5,840	-	42,048	-	10,650	-	31,398
Eggs for consuming (Excel file - Table 11)	1,092 ^{1/}	2,548 ^{1/}	6,114	12,966	6,500	6,500	-386	6,466
Eggs for Selling (Excel file – Table12)	-	4,400 ^{1/}	-	22,800	-	14,600	-	8,200
Platano (Excel file - Table 12)	9 ^{2/}	15 ^{2/}	40,500	67,500	17,650	26,800	22,850	40,700
Coffee Robust (New) (Excel file- Table 13)	-	40	-	48,000	-	27,450	-	20,550
Pigs Production (Excel file - Table 14)	-	30 head	-	30,000	-	20,000	-	10,000
Cow double purpose (Excel file- Table 15)	160 gl	425 gl	10,710	27,350	3,830-	5,460	6,880	21,890

^{1/} Eggs in units

^{2/} Bananas in '000 banana units

8. Six farm models (Tables 15 to 21 in the Excel file) show the average expected results to be achieved by farmers through the new subcomponent 2.2. The 6,000 and 3,000 beneficiaries of the subsistence and transition groups respectively to be supported are represented by the 6 farm models. They were assumed to have an average cropping area of about 1 ha in the case of models 1 to 3; and about 1.5 ha of land in models 4 to 6. Models include different crop combinations with maize, beans, and other crops such as banana/plantain, backyard vegetable and/or fruit production, cocoa and/or coffee, etc. In some cases, livestock activities, mainly with poultry hens and/or pigs are also present. Each LIDP

³⁵ File EFA NIC 2023.xls (“Excel file”) available in World Bank shared drive.



will comprise about 200 farmers who will be identifying their main needs, designing their LIDP and implementing it, with specialized technical assistance provided by the AF. Beneficiaries represented by these models would increase their net family income by an average of 109 percent, from about US\$1,088 to US\$2,194 per beneficiary per year (Table 2). The increase will result from a 50 percent increase in days worked, and a 46 percent increase in returns per person day used in the farm.

Table 2. Farmers: financial results measured through benefits increases (in NIO³⁶/farm)

Typical agricultural and fisheries models (Tables in Excel file)	Families' benefits (in NIO/year)		Grant Support for on-farm improvements	Income increase		Days worked/year		Return/day worked (NIO)	
	Without Project	With Project		in NIO/year	(%)	Without Project	With Project	Without Project	With Project
Model 1: Subsistence Farms incorporating poultry (Table 16)	27,747	66,625	34,200	38,878	140	75	193	369	501
Model 2: Subsistence Farms with traditional piggs (Table 17)	29,547	62,765	34,200	33,218	112	75	95	396	663
Model 3: Subsistence Farms with a traditional cow (Table 18)	32,712	67,180	34,200	34,468	105	70	82	466	817
Model 4: Transition Farms with a cow and piggs (Table 19)	39,832	88,200	34,220	48,368	121	103	153	388	577
Model 5: Transition Farms adding coffee & poultry (Table 20)	39,025	83,250	34,220	44,225	113	107	166	365	501
Model 6: Transition Farms with 4 - 6 cows (Table 21)	69,418	112,518	36,500	43,100	62	140	196	496	573
Average in NIO	39,714	80,090	34,590	40,376	109%	95	148	413	605
Average in US\$	1,088	2,194	948	1,106				11.32	16.58

9. Six agri-business models representing support activities to the main value chains were also analyzed (see detailed Tables 22 and 27 in the Excel file) representing the agri-business LIDPs benefiting about 1,000 farmers. These are: (i) the production of bio inputs (bio-fertilizers, bio-pesticides, etc.), mainly for the dissemination and promotion of environment and climate smart technologies instead of traditional agrochemicals; (ii) small facilities for processing of 150 pound-pigs into meat products; (iii) production, packing and marketing of 30 egg trays by groups 20 – 30 families; (iv) production and processing of chicken into poultry meat; (v) processing of paddy rice into white polished and packed rice; and (vi) processing of raw milk into pasteurized packed cold milk. The average grant support per family member in the agri-business LIDPs is about US\$1,500. Detailed tables in the Excel file show that the financial IRR of these six cases is 16.6 percent, and occasionally even exceeding 100 percent as the grants being provided cover most of the investments. Economic Rates of Return (ERRs) of between 16.6 and 35.4 percent confirm the viability of the AF support. The high Financial Rates of Return (FRRs) attained from the point of view of beneficiaries reflect the fact that most of the investment is financed by the non-reimbursable grants.

III. Economic Results of the AF

10. The economic indicators include the ERR and NPV from the country's economy perspective. The period for the analysis was 20 years and a 4 percent discount rate was used as recommended for IDA countries.³⁷ Besides enhancing the productive and marketing capacities of farmers and rural enterprises through supporting the design, financing, and implementation of LIDPs, providing cross-cutting services

³⁶ NIO = Nicaragua Córdoba

³⁷ Risk –Adjusted Discount Rates in Economic Analysis of Investment Projects. The World Bank 2017.



in the areas of technology transfer, the AF will also deliver nutritional education and training for improving the diet of women and children.

Table 3 Financial and Economic Results for Agri-businesses LIDP Schemes (in '000 NIO)

Typical agro processing LIDP models (Detailed Tables in Excel file)	LIDP Income (Annual in '000 NIO)		Average Grant Support	FRR (%)	ERR (%)
	Gross Revenue	Net Revenue			
Production of Bio Inputs for Agriculture (Table 22, Excel file)	1,388	309	1,250	56	21
Production and packing of eggs in trays (Table 23, Excel file)	1,635	503.9	291.75	> 100	35.4
Poultry Production and processing into meat (Table 24, Excel file)	1,654	726	1,540	> 100	23.2
Pigs Processing into pork meat (Table 25, Excel file)	8,056	2362	7,490	> 100	31.9
Paddy Processing into milled rice (Table 26, Excel file)	14,000	1511	9,900	16.6	14.6
Dairy Processing Plant (Table 27, Excel file)	102,791	8,780.00	18,000	36.4	19.9

11. Financial indicators using 2023 market prices were used to verify if the foreseen investments would be able to attain the expected enhanced net family income, creating employment opportunities.

12. The LIDP investments supported by the Project - including training and technical assistance – would target 10,000 farmers grouped in 50 IDPs from the NCC selected areas, including IPADs, women, and youth. With the AF support, changes and improvements in their productive activities will occur as described in previous sections, generating significant benefits. However, it was assumed that about 20 percent of the targeted beneficiaries would not be succeeding in adopting the changes expected in their LIDPs. The gradual incorporation of the beneficiary families adopting these changes is shown in Table 4.

Table 4 Incorporation of Beneficiaries in LIDPs

FARM DISTRIBUTIONS (In Units) Number of Farms	With Project				
	1	2	3	4	5 to 20
Participating	1,500	5,470	10,000	10,000	10,000
Model 1: Subsistence Agriculture (1,600 beneficiaries)	240	880	1,600	1,600	1,600
Model 2: Subsistence Agriculture (1,600 beneficiaries)	240	880	1,600	1,600	1,600
Model 3: Subsistence Agriculture (1,600 beneficiaries)	240	880	1,600	1,600	1,600
Model 4: Transition Farmers, (1,200 beneficiaries)	200	600	1,200	1,200	1,200
Model 5: Transition Farmers (800 beneficiaries)	160	480	800	800	800
Model 6 Livestock Farmers Sivopastoral (10 mz), (400 beneficiaries)	80	240	400	400	400
Commercial Farmers in Agro business LIDPs	50	450	860	860	860
Participating Farmers failing to adopt improvements (1.800 cases, 20% of subsistence)	290	1,060	1,940	1,940	1,940

13. Total production value of AF beneficiaries was estimated to grow about 2.8 times, from NIO337 million to NIO952 million (US\$9.2 million to US\$26.1 million). Employment would increase by 50 percent, from 616 to 924 thousand person-days of work per year as environment-friendly technologies are introduced with some diversification of production. Besides increased employment, returns per family-day of work would be tripled, from NIO406 to NIO1,220.

14. The AF costs for this EFA were estimated at US\$20 million (US\$15 million financed by GAFSP; US\$3 million by the GoN in general logistics, experts time and in kind; and US\$2 million by beneficiaries through counterpart contributions mainly consisting of labor). About US\$10 million from the GAFSP funds would be used in demand driven direct productive LIDP investments delivered as AF grants, similarly as is being



done in the Project with the artisanal fisheries sector. All Project costs were included for the economic analysis of the AF investments.

15. The estimated impact of the AF is expected to be highly positive as shown by the ERR and NPV indicators presented below. The ERR was estimated at 24.1 percent (Table 5 below, and further details in Table 30 in Excel file), and the NPV at 1,846.25 million (USD50.58 million). Incremental net benefits were estimated including annual net incremental income of only eighty percent of the targeted 10,000 beneficiaries, including non-farm and off-farm value addition agro businesses. No AF indirect benefits were quantified as those from activities aiming at improving nutrition the diet for beneficiaries.

16. Economic benefits were valued mostly at market prices. All incremental production costs of these activities, and the costs of the AF implementation including investments and operating costs were also valued at market prices. Only the family labor costs were corrected by a conversion factor of 0.85 given the existing high unemployment rate in the region. The economic benefits to be generated annually would grow threefold from NIO 119 million to NIO 366 million (US\$3.26 to US\$10 million).

Project Summary ECONOMIC BUDGET (AGGREGATED) (In Cordobas Million)	Table 5								
	Year								
	Without Project	With Project							
	1 to 20	1	2	3	4	5	6	7	8 to 20
Main Production									
Frutas	63.2	63.2	66.4	77.8	95.6	105.3	105.3	105.3	105.3
Granos Basicos, Café, Raices y Tuberculos	199.2	198.7	219.4	289.5	388.3	425.2	428.4	428.9	428.9
Leche Cruda y Productos Lacteos	42.2	42.2	44.5	132.8	150.6	176.3	197.8	212.1	212.1
Cerdos, Aves, Huevos y Derivados	32.9	32.9	45.4	90.2	153.4	188.5	201.3	202.8	203.0
Sub-total Main Production	337.5	337.0	377.2	592.3	787.9	895.4	932.7	948.9	952.1
On-Farm Consumption	269.4	270.6	284.0	321.4	373.3	394.2	403.0	408.1	411.3
Net Value Of Production	68.1	66.4	93.2	270.9	414.6	501.2	529.7	540.8	540.8
Production Cost									
Investment									
Semillas y Plantas	-	5.6	14.8	18.8	5.8	-	-	-	-
Maquinarias / Herramientas	3.7	3.9	5.2	2.9	-	-	-	-	-
Insumos Fitosanitarios/Abonos	-	34.2	131.9	162.2	57.0	3.3	-	-	-
Mano de Obra	-	3.4	9.9	14.3	6.8	1.5	-	-	-
Sub-total Investment Costs	3.7	47.0	161.8	198.2	69.5	4.8	-	-	-
Operating									
Semillas y Plantas	36.8	36.8	44.5	68.1	99.8	108.6	110.2	110.6	110.6
Maquinarias / Herramientas	10.8	10.9	11.4	12.3	12.8	12.8	12.8	12.8	12.8
Leche a Planta	-	-	-	71.2	72.6	74.1	76.2	76.2	76.2
Cerdos Descarte (150 lb)	-	-	-	2.2	2.4	2.7	2.7	2.7	2.7
Fitosanitarios/Abonos	35.4	38.8	57.3	107.4	157.5	177.9	183.0	183.2	183.2
Mano de Obra	131.2	133.2	145.4	169.8	191.1	198.4	199.6	199.8	199.9
Sub-total Operating Costs	214.1	219.6	258.6	430.9	536.3	574.5	584.5	585.3	585.4
Sub-Total Production Cost	217.9	266.6	420.4	629.1	605.9	579.3	584.5	585.3	585.4
Other Costs									
Componente 2 Prestación de servicios para la producci	-	11.7	11.7	11.7	-	-	-	-	-
Component 3 M&E & Audit of the Project	-	8.8	8.8	8.8	-	-	-	-	-
Technical Assistance	-	34.4	35.3	35.3	-	-	-	-	-
UNOPS Project Management Fee	-	6.1	6.1	6.1	-	-	-	-	-
GON Other Costs	-	36.5	36.5	36.5	-	-	-	-	-
Sub-Total Other Costs	-	97.5	98.4	98.4	-	-	-	-	-
OUTFLOWS	217.9	364.1	518.8	727.5	605.9	579.3	584.5	585.3	585.4
Cash Flow	-149.8	-297.7	-425.6	-456.6	-191.3	-78.2	-54.8	-44.5	-44.7
Net Economic Benefits	119.6	-27.1	-141.6	-135.2	182.0	316.0	348.2	363.6	366.7
IRR = 24.1%, NPV = 1,846.25									



IV. Economic Analysis of the Overall Project (Parent plus AF)

17. The results of the economic analysis³⁸ conducted during preparation of the Project focused on Component 2. Several options were considered including different discount rates. Initially a 4 percent discount rate was applied as recommended for IDA countries. The original economic analysis for the Project shows a baseline ERR of 14.39 percent and a NPV of US\$86.25 million. The Project remained economically viable at 6 and 8 percent discount rates (resulting in NPV values of respectively US\$51.03 and US\$29.82 million). Due to the urgent nature of the original operation, these estimations were based on a simplified and preliminary economic analysis of the Project.

18. With the incremental investment under the AF (new Component 2.2) yielding an ERR of 24.1 percent, the economic performance of the overall project improves significantly, reaching an ERR of 17.7 percent and a NPV of US\$101.2 million. This result is explained because the AF - seeking to enhance the productive and marketing capacities of vulnerable family farmers (including subsistence agriculture, some commercial agriculture and small-scale rural agribusiness) - yields an ERR of 24.1 percent and a NPV of US\$50.58 million. Results are presented below in Table 6 while the details can be found in Table 31 in the Excel file.

Overall Project Summary (Parent with AF)		Year								
		Without Project		With Project						
ECONOMIC BUDGET (AGGREGATED)		1 to 20	1	2	3	4	5	6	7	8 to 20
(In Cordobas Million)										
Main Production from the AF Component 2.2		337.5	337.0	377.2	592.3	787.9	895.4	932.7	948.9	952.1
Net Benefits from the Parent Project Original		-	-	-	494.3	494.3	494.3	494.3	494.3	494.3
Sub-total Main Production		337.5	337.0	377.2	1,086.6	1,282.1	1,389.6	1,427.0	1,443.2	1,446.3
On-Farm Consumption		269.4	270.6	284.0	321.4	373.3	394.2	403.0	408.1	411.3
Net Value Of Production		68.1	66.4	93.2	765.2	908.8	995.4	1,023.9	1,035.1	1,035.0
Production Cost from the AF Component 2.2		217.9	266.6	420.4	629.1	605.9	579.3	723.2	724.0	724.1
Other Costs										
Original Project Investment		-	277.0	692.6	692.6	554.1	554.1	277.0	-	-
AF - Prestación de servicios para la producción, seguridad e		-	97.5	98.4	98.4	-	-	-	-	-
Sub-Total Other Costs		-	374.5	791.0	791.0	554.1	554.1	277.0	-	-
OUTFLOWS		217.9	641.2	1,211.4	1,420.0	1,159.9	1,133.4	1,000.2	724.0	724.1
Cash Flow		-149.8	-574.8	-1,118.2	-654.9	-251.1	-138.0	23.7	311.0	310.9
Net Economic Benefits		119.6	-304.2	-834.2	-333.5	122.2	256.2	426.7	719.1	722.2
IRR = 17.7%, NPV = 3,693										
Balance de CO2 emitido o capturado (precio del C bajo)		-	-	32.9	67.2	88.6	90.4	92.3	94.2	94.2
Net Economic Benefits		119.6	-304.2	-801.3	-266.3	210.7	346.7	519.0	813.3	816.4
IRR = 21.6%, NPV = 4,793										
Balance de CO2 emitido o capturado (precio del C alto)		-	-	65.0	132.9	177.1	180.9	184.6	188.4	188.4
Net Economic Benefits		119.6	-304.2	-769.2	-200.6	299.3	437.1	611.4	907.5	910.6
IRR = 25.4%, NPV = 5,890										

19. Table 6 also shows the overall Project benefits when adding the benefits of reducing greenhouse gas emissions into the atmosphere. Separate greenhouse gas accounting found that the Project will behave as a sink, i.e., net additional emissions are negative. Emissions and absorptions were calculated based on estimates of the amount of surface area of agricultural uses and the number of animals that are expected to be financed through the different investment plans of the LIDPs. The amount of greenhouse

³⁸ Investment cost is equal to US\$69 million, which comprises component 1 of the Project and includes a UNOPS fee, and is distributed during the first 5 years of the project with proportions of 10% for the first year, 25% for the second and third years, and 20% for the fourth and fifth years. Benefits are calculated as the (avoided) losses corresponding to the social and infrastructure sectors, and 90% of the total damages of this sectors to reflect the potential gain from rehabilitation and reconstruction of building assets.



gases that will be mitigated, during a period of 20 years, will be -1,006,834 TonCO₂eq and the amount that will be emitted, for the same period, is 51,619 TonCO₂eq. (see also paragraphs 86-88 in main text).

20. In line with the High-Level Commission on Carbon Prices, the pertinent World Bank guidance note³⁹ recommends that economic analysis of projects use a low and high estimate of the carbon shadow price, starting at US\$40 and US\$80 per tonCO₂eq respectively in 2020, and increasing to US\$50 and US\$100 by 2030 and staying at these levels thereafter. Following this guidance, the EFA for the overall Project incorporated the low and high shadow value of CO₂eq starting with US\$44 and US\$87 for 2024, and growing up to US\$50 and US\$100 respectively by 2030 and onwards. Project impact results are also shown in Table 6: the overall ERR of the Project with the AF would increase to 21.6 percent and 25.4 percent based on the low and high values of carbon, respectively.

21. Finally, a sensitivity analysis showed that the ERR of the project with the AF is quite robust to lower adoption rates of improved technologies. If 30 (40) percent of the assisted beneficiaries would not succeed in adopting the recommended agricultural practices, diversifying crops, and/or adding value to the relevant value chains, the ERR would drop from 21.6 percent to 20.7 (19.9) percent. The ERR is more sensitive to changes in output prices: if the average of all output prices considered for the analysis would drop by 10 (20) percent from current levels, the ERR would drop to 17.3 (13) percent.

³⁹ World Bank (2017). Guidance Note on shadow price of carbon in economic analysis.