

FAO/GOVERNMENT COOPERATIVE PROGRAMME

RESILIENT LANDSCAPES MANAGEMENT PROJECT

NICARAGUA

PROJECT FINDINGS AND RECOMMENDATIONS

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

ROME, 2026

¹ This project was not completed due to the stop work order issued following Nicaragua's withdrawal from the Food and Agriculture Organization of the United Nations (FAO) on 10 February 2025.

GCP/NIC/047/GFF
FAO Early Closure
Terminal Report

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Report prepared by
the Food and Agriculture Organization of the United Nations

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, 2026

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The Food and Agriculture Organization of the United Nations expresses its great appreciation to all those who assisted in the implementation of the project by providing information, advice and facilities.

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LIST OF ACRONYMS AND ABBREVIATIONS

BE	- Better Environment
BP	- Better Production
CABEI	- Central American Bank for Economic Integration
CMC	- Collaborative Management Committees
ENDE-REDD+	- National Strategy for the Reduction of Emissions from Deforestation and Forest Degradation
ERPD	- Emission Reductions Program Document
FAO	- Food and Agriculture Organization of the United Nations
FCPF	- Forest Carbon Partnership Facility
FAREM	- Facultad Regional Multidisciplinaria de la Universidad Nacional Autónoma de Nicaragua (Multidisciplinary Regional Faculty of the National Autonomous University of Nicaragua)
GCF	- Green Climate Fund
GEF	- Global Environment Facility
GIS	- Geographic Information System
GRR	- Genetic resource reserve
IFAD	- International Fund for Agricultural Development
INAFOR	- Instituto Nacional Forestal (National Forest Institute)
INIFOM	- Nicaraguan Institute for Municipal Promotion
INTA-	- Instituto Nicaragüense de Tecnología Agropecuaria (Nicaraguan Institute of Agricultural Technology)
INTUR	- Instituto del Turismo del Nicaragua (Nicaraguan Institute of Tourism)
IPSA	- Instituto de Protección y Sanidad Agropecuaria (Institute of Agricultural Protection and Health)

MAG	- Ministerio Agropecuario (Ministry of Agriculture)
MARENA	- Ministerio del Ambiente y de los Recursos Naturales (Ministry of Environment and Natural Resources)
MEFCCA	- Ministerio de Economía Familiar, Comunitaria, Cooperativa y Asociativa (Ministry of Family, Community, Cooperative and Associative Economy)
MIFAM	- Ministerio de la Familia (Ministry of the Family)
MINED	- Ministerio de Educación (Ministry of Education)
NGO	- Non-governmental organization
NICADAPTA	- Proyecto Adaptación a Cambios en los Mercados y a los Efectos del Cambio Climático (Adapting to Markets and Climate Change Project)
NICAVIDA	- Proyecto de Desarrollo Sostenible de las Familias Rurales en el Corredor Seco de Nicaragua (Nicaraguan Dry Corridor Rural Family Sustainable Development Project)
NM	- National monument
NR	- Natural reserve
OPA	- Operational Partner Agreement
OPIM	- Operational Partners Implementation Modality
PAIPSAN	- Proyecto de Agricultura y Seguridad Alimentaria en la Costa Caribe de Nicaragua (Caribbean Coast Food Security Project)
PIA REDD+	- Programa de Incentivos Ambientales bajo el esquema REDD+ (Environmental Incentives Program under the REDD+ Framework)
PIR	- Progress implementation report
POA	- Annual Operational Plan
SDC	- Swiss Agency for Development and Cooperation
SDCC	- Secretaría para el Desarrollo de la Costa Caribe (Caribbean Coast Development Executive Secretariat)
SDG	- Sustainable Development Goal
SINAP Areas)	- Sistema Nacional de Áreas Protegidas (National System of Protected Areas)

SLM	- Sustainable land management
SPCC	- Sistema de Producción, Consumo y Comercio (Production, Consumption, and Trade System)
tCO ₂ -eq	- Tonnes of carbon dioxide equivalent
UNDAF	- United Nations Development Assistance Framework
UNDP	- United Nations Development Programme
UNI- RUACS	- Universidad Nacional de Ingeniería Recinto Universitario Augusto C. Sandino (Augusto C. Sandino University Campus of the National University of Engineering)

A. OVERVIEW

A.1 PROJECT PROFILE

Country	Nicaragua							
Project symbol	GCP/NIC/047/GFF							
Project title	Resilient Landscapes Management Project							
Resource partner	Global Environment Facility (GEF)							
Actual EOD	12 November 2020							
Actual NTE	11 November 2025							
Participating organizations (e.g. Ministry of Agriculture, etc.)	Ministry of the Environment and Natural Resources (MARENA)							
Implementing partners (list):								
	<table> <tr> <th>Name</th><th>Type (non-governmental/civil society/community-based organization/Government, etc.)</th><th>Total funds transferred (USD)</th></tr> <tr> <td>MARENA</td><td>Government</td><td>3 759 000</td></tr> </table>	Name	Type (non-governmental/civil society/community-based organization/Government, etc.)	Total funds transferred (USD)	MARENA	Government	3 759 000	
Name	Type (non-governmental/civil society/community-based organization/Government, etc.)	Total funds transferred (USD)						
MARENA	Government	3 759 000						
Contribution to Programmatic Framework <i>Indicate the title of each higher-level result to which the project contributes</i>								
Sustainable Development Goals (SDGs)	2, 13 and 15							
SDG Target(s)	2.3, 2.4, 13.b and 15.1							
FAO Programme Priority Area(s) (PPA/s)	Better Production (BP)1: Innovation for sustainable agriculture production, Better Environment (BE)1: Climate change mitigating and adapted agri-food systems and BE3: Biodiversity and ecosystem services for food and agriculture.							
Regional Priorities/Regional Initiative(s), if applicable	RI3: Promoting the sustainable use of natural resources, adaptation to climate change, and disaster risk management. Linked to result of reducing the degradation of natural resources needed for food production.							
UNDAF/UNSDCF Outcome(s) (or those from an equivalent UN common country programme document), if applicable	N/A							
CPF Output(s), if applicable	N/A							

A.2 FINANCIAL DATA in USD²

Latest Approved Budget	USD 4 389 261
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² Data source: FPMIS/Data Warehouse.

A.3 EXECUTIVE SUMMARY

This memorandum is submitted in lieu of a Terminal Evaluation, in accordance with paragraph 22 of the Global Environment Facility (GEF) Independent Evaluation Office “Guidelines for Conducting Terminal Evaluations of Full Size Projects”. Due to the closure of the FAO Country Office and the resulting limitations in accessing project stakeholders and additional documentation, this memorandum was prepared based on a desk review of information available to the Food and Agriculture Organization of the United Nations (FAO). As indicated in paragraph 22 of the Guidelines, the document reports on the status of project results, implementation, and utilization of resources at closure.

The Nicaraguan Pine Corridor forms part of the broader Central American pine forest ecoregion, extending from southern Mexico through the southern highlands of Guatemala, across most of Honduras and El Salvador, and into the central-western region and Caribbean Coast of Nicaragua. Within this landscape, several key protected areas belonging to the National System of Protected Areas (SINAP) face persistent pressures of deforestation and forest degradation. These challenges are consistent with trends observed across the regional ecoregion. This degradation poses significant risks to high-productivity pine species and to the ecological integrity of these protected areas. Direct drivers include inadequate agricultural and livestock practices, recurrent forest fires, legal and illegal logging, and the extraction of forest products for energy use (fuelwood). Underlying drivers relate to institutional limitations in land-use monitoring and law enforcement, insufficient interinstitutional coordination, and socioeconomic constraints affecting communities in the area.

To address these barriers, the project aimed to strengthen the SINAP and to support sustainable land use and restoration practices in selected areas of the Dry Corridor and the Northern Caribbean Coast of Nicaragua, thereby contributing to biodiversity conservation, resilient landscapes and improved local livelihoods. The project adopted a landscape management approach, linking the conservation of core areas with enhanced livelihood opportunities and income generation for landholders in exchange for improved conservation practices on their properties. Primary beneficiaries included public institutions — whose technical capacities in forest and land-use monitoring and control were strengthened — local communities (both Indigenous and non-Indigenous) through the establishment and operation of Collaborative Management Committees (CMCs), and the ecosystems and biodiversity within nine protected areas, with particular emphasis on conserving pine species and associated flora and fauna.

The project achieved restoration and conservation outcomes across 19 030.65 ha of forest, including 5 719.7 ha in the Dry Corridor and 13 352 ha in the Humid Corridor. A total of 1 572 beneficiaries participated directly in implementation (75 percent Mestizo, 10 percent Miskito, and 15 percent Chorotega), comprising 938 men and 634 women. The project exceeded the target for women's participation, achieving more than 100 percent of the planned indicator. Through participatory processes, 100 farm plans, 27 subprojects, and ten sustainable restoration initiatives were developed and implemented. The Environmental Incentives Program under the REDD+ Framework (PIA-REDD+) was designed and piloted, enabling the delivery of non-monetary incentives in Indigenous and Afro-descendant territories along the Northern Caribbean Coast. The Program contributed to an estimated 84 679.31 tonnes of carbon dioxide equivalent (tCO₂-e) in reduced emissions.

In terms of capacity development and participatory governance, the project strengthened the technical skills of public officials, local authorities, and restoration and conservation participants. Interventions enhanced protected area monitoring systems, supported community-based biodiversity monitoring, and promoted forest fire prevention and management. It also contributed to the restoration and protection of key habitats in pine and oak forests and facilitated the establishment of 28 community nurseries across the nine protected areas, producing 518 435 native forest seedlings as part of the restoration strategy.

However, the project was unable to complete its planned implementation and formal closure due to two decisions taken by the Government of Nicaragua, namely: (i) the discontinuation of externally supported project implementation in the Caribbean Region, and (ii) the national decision to withdraw from FAO. This resulted in the closure of the FAO Country Office and the consequent early termination of the project.

As a result of the early closure of project activities, generated by the government's decision to close FAO operations in Nicaragua, this document is based on the various reports produced by the Ministry of Environment and Natural Resources (MARENA) and FAO up to December 2024 and compiled in 2025. The main information gap relates to the inability to gather information in the field, request additional information or clarification from MARENA, and organize interviews with key informants involved in the project. The report was reviewed to reconcile financial information provided by MARENA in January 2026.

B. RELEVANCE

The problem

The Nicaraguan Pine Corridor forms part of the broader Central American pine forest ecoregion, extending from southern Mexico through the southern highlands of Guatemala, across most of Honduras and El Salvador, and into the central-western region and Caribbean Coast of Nicaragua. Within this landscape, several key protected areas belonging to the National System of Protected Areas (SINAP) face persistent pressures of deforestation and forest degradation. These challenges are consistent with trends observed across the regional ecoregion. This degradation poses significant risks to high-productivity pine species and to the ecological integrity of these protected areas. Direct drivers include inadequate agricultural and livestock practices, recurrent forest fires, legal and illegal logging, and the extraction of forest products for energy use (fuelwood). Underlying drivers relate to institutional limitations in land-use monitoring and law enforcement, insufficient interinstitutional coordination, and socioeconomic constraints affecting communities in the area.

To address these barriers, the project aimed to strengthen the SINAP and support sustainable land use and restoration practices in selected areas of the Dry Corridor and the Northern Caribbean Coast of Nicaragua, thereby contributing to biodiversity conservation, resilient landscapes and improved local livelihoods.

The response

The project was designed within the framework of the National Strategy for the Reduction of Emissions from Deforestation and Forest Degradation (ENDE-REDD+), which comprises six strategic lines and 37 lines of action, with a 22-year implementation horizon (2018-2040). The implementation of ENDE-REDD+ was conceived as a phased process, taking into account available financial resources, the prioritization of direct and indirect drivers of deforestation and forest degradation, and the need to safeguard the remaining natural forests in the Caribbean, Central-North and Pacific regions, where the country's largest natural and coniferous forest remnants are found. Within this context, the Resilient Landscapes Management Project would contribute to the management of two protected areas located in Priority Zone 1 in the North Caribbean Coast Autonomous Region and seven protected areas located in Priority Zone 2 in the Central-North Region.

The project consisted of four components aimed at strengthening the protected areas management system, advancing landscape restoration, integrating biodiversity into key development sectors, and establishing a monitoring and evaluation system. Expected results

included the conservation and management of 141 355 hectares of forests — 82 279 hectares in core zones and 59 076 hectares in buffer zones — along with the restoration of an additional 10 000 hectares and the avoidance of deforestation over another 10 000 hectares, through results-based payments. Additional envisaged outcomes included improved management effectiveness across nine protected areas, contributions to five lines of the National Biodiversity Strategy, and the reduction of 0.86 MT CO₂-e. The project also envisioned the development of an inclusive monitoring programme for indicator species, ensuring equitable participation of women and members of three Indigenous Peoples, in coordination with public institutions, municipalities, academia, forest organizations, and local producers.

To achieve the above results, the project was designed to be implemented in a complementary manner with initiatives such as the Forest Carbon Partnership Facility (FCPF) through the ENDE-REDD+ project and the Emission Reductions Program Document (ERPD) — both of which ultimately were not implemented. Synergies were also planned and partially realized with the Nicaraguan Dry Corridor Rural Family Sustainable Development Project (NICAVIDA) funded by the International Fund for Agricultural Development (IFAD) and the Central American Bank for Economic Integration (CABEI), the Community Management Project in the Dipilto River Basin funded by the Swiss Agency for Development and Cooperation (SDC) and the Adapting to Markets and Climate Change Project (NICADAPTA-IFAD), all of which were concluded between 2021 and 2024. In addition, the project was implemented in coordination with the GEF-funded initiative “Strengthening the Resilience of Multiple-Use Protected Areas to Deliver Multiple Global Environmental Benefits.” Complementarity was also envisioned with the Bio-clima Project (“Integrated Climate Action to Reduce Deforestation and Increase Resilience in the BOSAWAS and Río San Juan Biosphere Reserves”); however, this initiative was not implemented due to its cancellation by the Green Climate Fund (GCF).

The principal changes between project design and actual implementation relate to shifts in the implementing agency due to the national context, transitioning from the United Nations Development Programme (UNDP) to the World Bank and subsequently to FAO.

C. ACHIEVEMENT OF RESULTS

Results achieved

Component 1: Strengthening the Management System of Protected Areas and the conservation of biodiversity

Outcome 1.1: Biodiversity habitats improved through the conservation of over 82 279 hectares (implementation of pine forest management and conservation, conduct of planned silvicultural treatments and natural regeneration) to increase resilience, protection and connectivity between nine protected areas and forest remnants of the genus *Pinus* and *Quercus*; *Pinus patula sub. sp. tecunumanii* and *Pinus caribaeae*, and reforestation in an additional area of some 59 076 hectares (buffer areas), bringing the total area earmarked for conservation to 141 355 hectares

Expected outputs for Outcome 1

- 1.1.1 Improved planning, management and monitoring in the 9 PAs.
- 1.1.2 Implemented participatory management in equity and equality between women and men involved in forest conservation, sustainable production practices and support for local livelihoods.
- 1.1.3 Financing mechanisms applied for the 9 APs.

Results achieved

Outcome 1 was substantially advanced through strengthened institutional capacity, updated management frameworks, enhanced biodiversity monitoring, expanded community participation, improved fire and environmental surveillance systems, and increased national and municipal co-financing.

The combined results show significant progress towards improving management effectiveness and financial sustainability of protected areas, consistent with national policy frameworks and global biodiversity conservation standards.

Area under improved management within protected areas (Indicator 4)

The indicator referenced a baseline of 141 355 ha under protected-area status within the project's area of influence. A multitemporal land-use change analysis (2015-2022), using MARENA's official dataset "*Protected Areas and Buffer Zones Boundaries 2023*", determined a current protected-area extent of 142 173.54 ha, comprising:

- 59 969.14 ha – Buffer Zone.
- 82 204.40 ha – Core Zone.

Within this broader landscape, the project achieved effective influence over 19 071.7 ha through restoration, conservation and improved management measures.

Improved management effectiveness of protected areas (Indicator 5)

Management effectiveness advancements were documented across five dimensions established under MARENA Resolution No. 38–2008.

1. Social Dimension – Governance and Community Engagement Strengthened

- Environmental education programme conducted:
 - 15 training sessions with teachers and students
 - 27 environmental fairs with community participation
- Inclusive participatory processes involving water and sanitation committees, municipal governments, Nicaraguan Institute of Agricultural Technology (INTA), Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA), Ministry of Agriculture (MAG), National Forest Institute (INAFOR), Ministry of Education (MINED), and local communities.
- 11 CMCs established, comprising 227 members (159 men, 68 women).
 - Ethnic composition: 46 percent Mestizo, 11 percent Chorotega, 22 percent Miskitu.
 - Membership includes municipal authorities, Indigenous representatives, police, universities, and national institutions.

2. Administrative Dimension – Strengthened Institutional Planning and Response Capacity

- Management plans prepared for Alamikamba Natural Reserve (NR) and Limbaika NR.
- Management plans updated for seven protected areas: Tepesomoto-La Patate NR, Serranía Dipilto-Jalapa NR, Quiabuc-Las Brisas NR, Tisey-La Estanzuela NR, Tomabú NR, Cañón de Somoto national monument (NM), Yucul genetic resource reserve (GRR).
- Volunteer and fire management programme implemented, creating:
 - 34 fire brigades (389 trained volunteers)
 - Environmental observer brigades (261 volunteers)
 - Both coordinated by MARENA Territorial Delegations.

3. Biodiversity Conservation Dimension – Monitoring, Mapping, and Species Protection

- Biodiversity baseline completed for the nine protected areas.
- Biological connectivity maps developed for associated corridors.
- Participatory Biodiversity Monitoring and Evaluation Plan prepared and operational.
- 13 biodiversity monitoring missions conducted (eight dry-season, five rainy-season).

- Presence of Central American tapir (*Tapirus bairdii*) confirmed in Alamikamba and Limbaika; a Tapir Protection Plan initiated.
- Biodiversity monitoring equipment procured for Territorial Delegations in six departments.

4. Sustainable Use of Natural and Cultural Resources Dimension

- Biodiversity Monitoring Guide developed and applied.
- Eight MARENA technical staff trained (Siuna, Nueva Segovia, Estelí, Madriz, Matagalpa).

5. Economic and Financial Dimension – Financial Planning Strengthened

- Business plans prepared participatorily for all nine protected areas, aligned with their updated management plans and oriented towards long-term financial sustainability.

Resource partner and government co-financing (Indicator 6)

Significant co-financing and in-kind contributions were mobilized:

- Government of Nicaragua (MARENA): USD 1 082 348 49 allocated for staff costs and operational expenses of territorial delegations managing the nine protected areas.
- Municipal governments: USD 34 500 for salaries of protected-area rangers and operational support.
- Community beneficiaries: USD 985 052.48 in in-kind contributions (materials, labour, inputs) to support restoration and sustainable landscape initiatives.

These contributions indicated robust national and community commitment and improved the long-term sustainability of protected area management.

Component 2: Landscape restoration for biodiversity, resilience and local livelihoods

Outcome 2.1: Global social and environmental benefits generated in terms of equal opportunities for women and men through the ENDE-REDD+ results-based payment pilot project and sustainable land management (SLM) in the Pine Corridor

Expected outputs for Outcome 2

- 2.1.1 ENDE-REDD+ incentive pilot project implemented.
- 2.1.2 Forest and landscape restoration mechanism implemented.

Results achieved

Under Outcome 2, the project generated significant progress in strengthening climate mitigation through forest conservation, restoration, and improved land-use practices within

the Caribbean Pine Corridor. The results achieved are summarized below in accordance with the two outcome indicators.

Emission reductions in the Caribbean Pine Corridor (Indicator 7)

The project conducted a detailed assessment of forest conditions within the Alamikamba-Limbaika Caribbean Pine Corridor, identifying 8 524.9 ha under conservation management, including:

- 5 445.9 ha of mature pine forest, and
- 3 079 ha of forest currently undergoing natural recovery.

Using a results-based payment methodology aligned with PIA-REDD+ requirements, the project quantified the potential climate benefits of ongoing restoration processes. The analysis determined that these forests could generate 84 679.31 tCO₂-e in reduced emissions, representing an estimated USD 611 598.21 in environmental incentive payments under the PIA-REDD+ mechanism. This result provides a scientifically grounded baseline for future performance-based incentive schemes and supports national REDD+ implementation efforts.

Hectares under improved land-use and restoration practices (Indicator 8)

The project effectively enhanced landscape management across biological corridors dominated by *Pinus oocarpa*, *Pinus patula*, and *Pinus tecunumanii*, establishing 5 719.7 ha under improved land-use practices. Interventions included:

- Establishment of agroforestry systems.
- Sustainable management practices in pine forests.
- Conservation of closed-canopy pine stands.
- Promotion of natural regeneration processes.

These measures strengthened ecological connectivity among protected areas and improved the resilience of pine-dominated ecosystems to climate and anthropogenic pressures.

A total of 1 333 beneficiaries (514 women and 819 men) directly participated in implementing these restoration and management actions, demonstrating strong community-level engagement and enhancing local technical capacities in sustainable land management.

Component 3: Mainstreaming biodiversity and restoring resilient landscapes in institutional and development sectors

Outcome 3.1: Contribution to at least five strategic thrusts of the 2020 National Biodiversity Strategy and tracked by the biodiversity monitoring system that will be developed within the framework of the project

Expected output for Outcome 3

- 3.1.1 Developed and implemented actions for the incorporation of biodiversity and landscape restoration in national agendas, strategies and sectoral development plans.

Results achieved

Implementation of the National Biodiversity Strategy (Indicator 9)

The project made significant contributions to the implementation of Nicaragua's National Biodiversity Strategy through actions aligned with its five strategic objectives, as outlined below.

1. Strengthening Environmental Education and Awareness

The project enhanced environmental knowledge and conservation values among communities through:

- 27 environmental fairs conducted across nine protected areas, involving local institutions such as MINED, MEFCCA, INTA, municipal governments, and CMCs.
- 15 training sessions for teachers and students, covering biodiversity conservation, gender equality, and Indigenous Peoples' rights, and identifying affirmative measures for strengthening environmental education programmes.

2. Conservation and Restoration of Biodiversity and Ecosystems

The project contributed directly to ecosystem conservation and restoration by:

- implementing 19 071.7 ha of restoration and sustainable management actions; and
- engaging 1 572 community members (938 men and 634 women) in restoration, conservation, and natural resource stewardship.

3. Promotion of Community-Based Economic Alternatives

To strengthen sustainable livelihoods and reduce pressure on biodiversity:

- business plans were prepared for each of the nine protected areas, identifying feasible nature-based economic opportunities; and
- sustainable subprojects and restoration initiatives were implemented, promoting agroecological production, tourism, and environmentally responsible practices, contributing to community well-being and food security.

4. *Strengthening National Scientific and Research Capacities*

The project:

- designed a scientific research protocol on the occurrence, mobility and ecological connectivity of *Tapirus bairdii* between the Alamikamba and Limbaika Nature Reserves. This protocol establishes a baseline to reinforce national efforts for the conservation of this endangered species.

5. *Developing an Action Framework for Biodiversity Adaptation to Climate Change*

A gender-responsive Landscape Restoration Strategy was developed to expand restoration areas and promote natural regeneration using native species to protect genetic diversity and threatened species. To operationalize the strategy:

- 28 community nurseries were established; and
- 518 435 native forest plants were produced and used to restore priority degraded areas across the nine protected areas.

Institutional integration and strengthened governance (Indicator 10)

All national and local institutions involved in biodiversity conservation and landscape restoration within the project's protected areas formally integrated these responsibilities into their annual institutional workplans, ensuring sustainability beyond the project's duration.

Active institutional members of the CMCs included:

- Ministry of Education (MINED).
- Institute of Agricultural Protection and Health (IPSA)
- Nicaraguan Institute of Tourism (INTUR)
- Ministry of the Family (MIFAM)
- Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA)
- Ministry of Agriculture (MAG)
- Ecological Battalion of the National Army
- National Police
- Municipal environmental units
- Movimiento Ambientalista Guardabarranco
- Indigenous Territorial Government
- Universities (Multidisciplinary Regional Faculty of the National Autonomous University of Nicaragua [FAREM], Augusto C. Sandino University Campus of the National University of Engineering [UNI-RUACS])

This strengthened interinstitutional platform ensures improved coordination and governance of protected areas; continuity of restoration actions and biodiversity management; and enhanced local stewardship of ecosystems and the services they provide.

Component 4: Biodiversity M&E System

Outcome 4.1: Species of interest or ecosystem indicators monitored

Expected output for Outcome 4:

- 4.1.1 Designed and operating a participatory Biodiversity M&E System.

Results achieved

Outcome 4 generated a comprehensive biodiversity monitoring framework, strengthened technical and community capacities; and produced key scientific information to support adaptive management of protected landscapes. The establishment of connectivity maps, monitoring protocols, and community-based surveillance systems have enabled MARENA and local stakeholders to sustain long-term biodiversity conservation and respond effectively to environmental threats.

Strengthening of Biodiversity Monitoring Capacities (Indicator 11)

The project established an integrated biodiversity monitoring system, supported by robust technical tools, trained personnel and community engagement mechanisms, as outlined below.

Technical tools and monitoring frameworks

- A Biodiversity Monitoring Guide was developed and operationalized through training delivered by MARENA's Territorial Delegations in Siuna, Nueva Segovia, Estelí, Madriz, and Matagalpa. A total of 209 individuals (88 men, 121 women) were trained in its application.
- The first biological connectivity map of the protected areas landscape was produced, enabling science-based restoration planning and the identification of priority ecological corridors.
- A post-impact biological monitoring report was prepared in response to Tropical Storm Bonnie and Hurricane Julia, documenting species presence, habitat impacts, and recovery trajectories.
- A Biodiversity Monitoring and Evaluation Plan was formulated for the nine protected areas through participatory mechanisms involving community members and protected areas management actors.

Field Monitoring and Species Confirmation

- Thirteen biodiversity monitoring missions were conducted (eight dry-season, five rainy-season).
- Surveys confirmed the presence of *Tapirus bairdii* in the Alamikamba and Limbaika Nature Reserves.
- Given the species' conservation importance, the project initiated a scientific assessment to inform the preparation of a Tapir Protection Plan.

Community and Institutional Monitoring Networks

The project consolidated a territorial monitoring network composed of:

- 261 environmental observers;
- protected areas rangers;
- beneficiaries of restoration initiatives;
- members of the CMCs; and
- field technicians, youth brigades and community fire brigades.

This network was equipped with essential field tools (hoes, shovels, fire beaters, backpack pumps, gloves, personal protective equipment), strengthening operational capacity for: biodiversity monitoring; ecological surveillance; wildfire prevention and response; and early threat detection. This reinforced monitoring system directly contributes to evidence-based protected areas management and improved ecosystem stewardship.

Biological connectivity mapping and species verification (Indicator 12)

Through 13 field missions conducted between 15 May and 30 November 2022, biological connectivity maps were produced for six protected areas. As a cumulative result:

- biological connectivity maps are now available for the entire project intervention landscape, enabling landscape-scale planning and restoration prioritization;
- field assessments again confirmed *Tapirus bairdii* in the Alamikamba and Limbaika Nature Reserves, reaffirming the ecological significance of these areas and informing subsequent conservation actions under the species research and protection programme.

Gender equality

The project had a gender plan in place from its inception, which was updated and implemented throughout its duration. The project promoted public activities such as fairs, community exchanges, field visits, environmental brigades, and fire-management brigades, where women and men strengthened their relationships and alliances with other stakeholders

and organizations. These spaces contributed to women transitioning from the domestic to the public sphere. The project also supported increased recognition of women's contributions — in their multiple roles — to the actions promoted by the initiative:

A total of 634 women (40 percent of the 1 572 beneficiaries) gained access to and control over environmental incentives provided by the project (both vegetative and non-vegetative material) for forest conservation and restoration. Of the 100 farm plans developed, 28 were presented by women, as landowners of their plots. The CMCs formed by the project were composed of 227 members, of whom 30 percent were women from government institutions, community leadership structures, and project participants. Women held 46 percent of leadership positions within these committees.

The project established an information management system that incorporated sex- and ethnicity-disaggregated data, enabling gender analysis across all project components.

The Project Management Unit included a Gender and Indigenous Peoples Specialist, responsible for ensuring the implementation of the Gender Strategy across all project interventions and for promoting gender awareness among both women and men.

In addition, capacity-building workshops were delivered for MARENA technical staff on gender analysis, basic gender concepts and related legislation, leadership, empowerment, and teamwork.

D. IMPLEMENTATION OF WORK PLAN AND BUDGET

Work plan and budget

The project was endorsed by the GEF CEO on 25 June 2020; the implementation start date was 12 November 2020. The operational partner agreement (OPA) was signed on 27 January 2021. The inception workshop was held in November 2020. The mid-term evaluation began in May 2024; however, it was not completed due to institutional changes throughout the government structure, including MARENA.

The project was unable to complete its planned implementation and formal closure due to two decisions taken by the Government of Nicaragua, namely: (i) the discontinuation of externally supported project implementation in the Caribbean Region; and (ii) the national decision to withdraw from FAO, which resulted in the closure of the FAO Country Office and the consequent early termination of the project. The project ceased implementation activities on 4 February 2025. Narrative and financial reports were sent by MARENA to FAO in January 2026, covering the period from January 2021 to 26 February 2025.

Implementation modalities

During its implementation, the project's activities were planned across nine Annual Operational Plans (POAs), including subsequent modifications.

Project funds were executed through two modalities: Operational Partners Implementation Modality (OPIM) and FAO direct implementation.

On 27 January 2021, FAO and MARENA authorities signed an Operational Partner Agreement (OPA) for the implementation of project activities, following national regulations. The agreement had a duration of 54 months (until 30 June 2025).

FAO had planned the direct execution of USD 1 851 670, of which 49 percent had been executed as of 4 February 2025. These expenditures corresponded to the purchase of materials and agricultural inputs, the contracting of specialized technical assistance, costs related to monitoring and evaluation (spot checks, audits, mid-term review, terminal evaluation), and the delivery of incentives under PIA-REDD+.

Reporting and evaluation

The project generated the following reports:

Instrument	Type of Report	Reporting Period
OPA	Technical report 1	January – June 2021
OPA	Technical report 2	July – Dec. 2021
OPA	Technical report 3	Jan. – June 2022
OPA	Technical report 4	July – Dec. 2022
OPA	Technical report 5	January – June 2023
OPA	Technical report 6	July – Dec. 2023
OPA	Technical report 7	January – June 2024
OPA	Technical report 8	July – Dec. 2024
OPA	Technical report 9	January – Feb 2025
OPA	Financial report 1	January – June 2021
OPA	Financial report 2	July – Sep. 2021
OPA	Financial report 3	Octobre – Dec. 2021
OPA	Financial report 4	January – March 2022
OPA	Financial report 5	April – June 2022
OPA	Financial report 6	July – Sep. 2022
OPA	Financial report 7	Octobre – Dec. 2022
OPA	Financial report 8	January – March 2023
OPA	Financial report 9	April – June 2023
OPA	Financial report 10	July – Sep. 2023
OPA	Financial report 11	Octobre – Dec. 2023
OPA	Financial report 12	January – March 2024
OPA	Financial report 13	April – June 2024
OPA	Financial report 14	July – Sep. 2024
OPA	Financial report 15	Octobre – Dec. 2024
OPA	Financial report 16	January – Feb 2025
PIR	Progress implementation report 1	July 2021 – June 2022
PIR	Progress implementation report 2	July 2022 – June 2023
PIR	Progress implementation report 3	July 2023 – June 2024

The following evaluations were conducted:

Type of Evaluation	Reporting Period
Spot check	March – June 2021
Spot check	January – June 2022
Spot check	January – June 2023
Audit	January – Dec. 2021
Audit	January – Dec. 2022
Audit	January – Dec. 2023

Resource partner contribution

The latest approved budget was USD 4 389 261. The project was funded by MARENA.

Co-financing

Sources of co-financing	Name of co-financer	Type of co-financing
National government	MARENA	In-kind
	MARENA - REDD+	Grant
	MARENA - SDC (Rio Dipilto)	Grant
	MEFCCA	In-kind
	MEFCCA - NICAVIDA – (IFAD Loan)	Loan
	MEFCCA - NICADAPTA	Loan
	MEFCCA - Caribbean Coast Food Security Project (PAIPSAN)	Loan
	INAFOR	In-kind
	MINED	In-kind
	Fire Department	In-kind
	Nicaraguan Army	In-kind
	National Police	In-kind
Local government	Municipal mayor's offices	In-kind

Coordination

At the strategic and senior management levels, coordination was carried out with the Ministry of Foreign Affairs.

The Project Steering Committee was the main governing body of the project, chaired by MARENA. The Committee approved annual work plans and budgets and provided strategic guidance to the Project Management Unit and all executing partners. It was composed of representatives of MARENA, INAFOR, MEFCCA, INTUR and the Caribbean Coast Development Executive Secretariat (SDCC).

Each participating institution also appointed a technical focal point, whose roles were to: (i) technically supervise the activities related to the project in their institution; (ii) guarantee a fluid exchange of information and knowledge between the institution and the project; (iii) facilitate coordination and links between project activities and the workplan of their institution; and (iv) facilitate the provision of co-financing to the project according to the agreed modality.

At the local level, MARENA's territorial delegations were responsible for coordinating project activities with beneficiaries, communities, municipal governments, and the territorial delegations of the institutions participating in the project.

Risk management

During the project formulation phase, six risks were identified; these are described below along with the mitigation measures that were adopted.

Risk description and category	Measures adopted
Politics and governance: Decision-making is controlled through different levels of government in Nicaragua's public administration, which could limit and delay project implementation (low).	The project strengthened interinstitutional coordination across the nine protected areas through the establishment of nine CMCs, each with its respective Annual Work Plan. Under this coordination framework, the project conducted capacity-building workshops, follow-up visits, and technical assistance to beneficiaries; implemented biodiversity monitoring patrols; established community nurseries; and supported the formulation of sustainable restoration initiatives.
Institutional capacity for implementation: MARENA currently has limited staff and other resources throughout the country to provide sufficient effectiveness for the management of protected areas, safeguard their sustainability, and establish and support the management of biological corridors (moderate).	The project maintained a technical team composed of a Restoration Specialist, a Biodiversity Specialist, a REDD+ Specialist, and 14 field technicians assigned to the nine protected areas, ensuring timely follow-up of conservation and rehabilitation actions implemented at the territorial level, including the REDD+ piloting activities. At the local level, environmental observer groups, composed of community members, were organized and actively participated in biodiversity monitoring efforts and other project-supported activities. All actions implemented under the project were coordinated with local stakeholders within each protected area to ensure alignment with territorial priorities and institutional mandates.
Technical: The restoration of forest lands and biological connectivity requires multisectoral institutional coordination, policies sensitive to the country's protected areas and biodiversity, and changes in the behaviour of forest producers and owners that must be maintained over time (moderate).	The beneficiaries that implemented farm plans, subprojects, and sustainable restoration initiatives demonstrated positive shifts in production practices and increased environmental awareness. The conservation and landscape restoration actions in the protected areas targeted by the project were implemented in close coordination with local delegations of MINED, INAFOR, IPSA, INTUR, MIFAM, MEFCCA, MAG, the Ecological Battalion of the National Army, the National Police, municipal governments (through their Environmental Units), the Guardabarranco Environmental Movement, Indigenous Territorial Governments, and universities (FAREM, UNI-RUACS). All these institutions are now active members of the CMCs, and each of them has incorporated biodiversity management and landscape restoration actions into their institutional workplans. Community groups were established in each protected area for forest fire prevention and response and for environmental monitoring. Their formation included targeted capacity-building processes and the provision of equipment and tools to facilitate the effective execution of their functions.
Trust: In relation to MARENA's limited institutional capacity and the geographical extent of the project area, the project design should provide sound fiduciary management arrangements (moderate).	The project hired a Financial Specialist and two Administrative Assistants. In parallel, the Administrative and Financial Directorate of MARENA provided training to the project's administrative staff on the Ministry's administrative regulations and procedures.

Risk description and category	Measures adopted
Stakeholders: The success of the project will depend to a large extent on the commitment and appropriation of the stakeholders, bearing in mind that most of the lands declared as protected areas are private and the challenge for the selection of people among the beneficiaries in the short and long term that relate to the use and conservation of natural resources (moderate).	Nine management plans are currently under implementation by community beneficiaries and local stakeholders across the project's protected areas. At the territorial level, environmental observer groups and community-based fire-management brigades were organized and strengthened. These groups, composed of local community members, actively participated in biodiversity monitoring, capacity-building workshops, and other project-supported conservation activities. All project interventions were coordinated with local stakeholders within each protected area, ensuring alignment with territorial planning and institutional mandates. Community members who implemented farm plans, subprojects, and sustainable restoration initiatives demonstrated strengthened commitment to continuing the actions established in their respective implementation documents. This reflects improved ownership of restoration processes, enhanced environmental awareness, and the adoption of more sustainable production practices
Climate change: The restoration and conservation activities of forests, habitats and biodiversity can be seriously affected by adverse effects of climate change, for example, the presence of drought, high temperatures that can cause fires as well as the death of different endangered species (moderate).	Through project implementation, a total of 19 071.7 hectares were placed under conservation and restoration measures across the nine protected areas.

Visibility

Project communication and visibility actions were aligned with MARENA's Institutional Communication Strategy, which was implemented through local and national media outlets, the institutional website, and social media platforms, as key tools for information dissemination:

- MARENA website: <https://www.marena.gob.ni/>
- MARENA Nicaragua -YouTube: <https://www.youtube.com/@MARENANicaraguaOficial>
- MARENA Facebook: <https://www.facebook.com/marenanicaragua/>
- Marena Nicaragua on X: <https://x.com/marenanicaragua?s=11>
- Instagram photos and videos: <https://www.instagram.com/marenanicaragua/>

E. LESSONS LEARNED

LESSONS LEARNED – Elements of success

The project was managed by MARENA using a programmatic approach alongside other ongoing and yet-to-be-formulated GEF projects, generating significant synergies that allowed for the optimization of time and resources, for example through the development of instruments for shared use across the other projects.

The coordination carried out by MARENA with other institutions of the Production, Consumption, and Trade System (SPCC) at both the central and territorial levels facilitated project implementation. This model represents an opportunity to promote environmental conservation and restoration actions through productive practices to be developed by other entities.

LESSONS LEARNED – Impediments/constraints

Projects with a significant time gap between their formulation and the start of implementation require a thorough review of their indicators, baselines and verification sources, as well as an update of institutional commitments and implementation arrangements.

It is necessary to ensure risk and stakeholders management that is strategically planned and continuously enhanced, to create a wider culture of learning and adaptation, which is essential to respond to all the incidentals generated due to the context.

Appendix 1

LOGFRAME MATRIX - ACHIEVEMENT OF INDICATORS

Results chain	Indicators			
	Indicators	Baseline	End target (<i>expected value at project completion</i>)	Achieved
Impact:	To strengthen the national system of protected areas and to support sustainable land use and restoration practices in selected areas of the Dry Corridor and the northern Caribbean coastal regions of Nicaragua, with a view to promoting the conservation of biodiversity, resilient landscapes and local livelihoods			
Project objective level	Indicator 1 Improvement of the effectiveness of the management of the 9 existing PAs, quantified through the national methodology approved in Ministerial Resolution No. 38–2008.	– Tisey Estanzuela NR: 63 – Cerro Tomabú NR: 58 – Cerro Quiabuc Las Brisas NR: 61 – Tepesomoto Patate NR: 50 – Cañón de Somoto NM: 57 – Serranía Dipilto Jalapa NR: 56 – Yúcul GRR: 41 – Alamikamba NR: 41 – Limbaika NR: 41.	– Tisey Estanzuela NR:76 – Cerro Tomabú NR:76 – Cerro Quiabuc Las Brisas NR:76 – Tepesomoto Patate NR: 60 – Cañón de Somoto NM:76 – Serranía Dipilto Jalapa NR:76 – Yúcul GRR:60 – Alamikamba NR: 46 – Limbaika NR: 46.	Reserva Natural Tisey Estanzuela: 81.29 Reserva Natural Cerro Tomabú: 76.12 Reserva Natural Cerro Quiabuc Las Brisas: 76.77 Reserva Natural Tepesomoto La Patate: 60.64 Monumento Nacional Cañón de Somoto: 80.00 Reserva Natural Serranía Dipilto Jalapa: 79 Reserva de Recursos Genéticos de Yúcul: 84.50 Reserva Natural Alamikamba: ³ Reserva Natural Limbaika: ⁴
	Indicator 2 Number of direct beneficiaries disaggregated by sex as a co-benefit of the GEF investment.	0	1 342 (1 009 men and 333 women) monitored.	1 691 ⁵ beneficiaries (75% Mestizo, 10% Miskito, and 15% Chorotega), comprising 997 men and 694 women.
	Indicator 3 Avoided emissions (tCO ₂ -e) from deforestation of dry and humid pine forest landscapes over a five-year period.	Annual reference level 113 604 tons of CO ₂ -e.	Emissions reduced in 0.86 Mt CO ₂ -e.	576 028.25 tCO ₂ -e in reduced emissions.

³ Due to the closure of the FAO Country Office and the resulting limitations in accessing official MARENA records and final management effectiveness assessment reports, it was not possible to confirm and complete the final score for Reserva Natural Alamikamba.

⁴ As above.

⁵ Kindly note that any discrepancies between this figure and those reported in the narrative part of the report are due to the closure of the FAO Country Office. It was not possible to further reconcile alternative figures appearing in the logframe.

Results chain	Indicators			
	Indicators	Baseline	End target (<i>expected value at project completion</i>)	Achieved
Outcome 1.1 Biodiversity habitats improved through the conservation of over 82 279 hectares (implementation of pine forest management and conservation, conduct of planned silvicultural treatments and natural regeneration) to increase resilience, protection and connectivity between nine protected areas and forest remnants of the genus <i>Pinus</i> and <i>Quercus</i> ; <i>Pinus patula sub. sp. tecunumanii</i> and <i>Pinus caribaeae</i> , and reforestation in an additional area of some 59 076 hectares (buffer areas), bringing the total area earmarked for conservation to 141 355 hectares	Indicator 4 Area (ha) under habitat conservation for biodiversity, adaptation and livelihoods in protected areas, with the participation of indigenous and non-indigenous men and women.	– Total: 141 355 ha – Ecosystem of the Dry Corridor: 132 648 ha – Ecosystem of the humid tropical region: 8 707 ha.	141 355 ha conserved (82 279 ha of the core zone and 59 076 ha of the buffer zone or the nine protected areas).	The 141 355 ha referenced in the indicator correspond to the total area under protected area status within the project's area of influence. Based on a multitemporal land-use change analysis for the period 2015–2022, and using MARENA's official dataset "Protected Areas and Buffer Zones Boundaries 2023," the total area classified as protected amounts to 142 173.54 ha, distributed as follows: – Buffer Zone: 59 969.14 ha – Core Zone: 82 204.40 ha Within this broader landscape, the project effectively influenced a total of 19 071.7 ha through restoration, conservation and improved management actions.
	Indicator 5 Improved planning, management and monitoring capacity in nine protected areas in accordance with MARENA's management effectiveness tool Ministerial Resolution No. 38-2008.	Seven protected areas with management plans and two without such plans (Alamikamba and Limbaika).	Nine protected areas have improved their management and conservation status.	In accordance with the provisions of the System for Monitoring and Evaluation of Management Effectiveness in protected areas (MARENA Resolution No. 38 – 2008), the following advances were identified in the management of the nine protected areas served by the project: Social Dimension The project strengthened environmental governance and community engagement across the nine protected areas through multiple mechanisms: <i>Environmental Education</i> Implementation of an environmental education programme, including 15 training sessions with teachers and students, and 27 environmental fairs engaging local communities. <i>Participatory Processes:</i> Inclusive, multistakeholder processes were carried out with community members; Water and Sanitation Committees; municipal governments; and local staff from INTA, MEFCCA, MAG,

Results chain	Indicators			
	Indicators	Baseline	End target (<i>expected value at project completion</i>)	Achieved
				INAFOR and MINED. These processes supported the design and implementation of sustainable restoration initiatives and contributed to the preparation and updating of management plans for the nine protected areas. <i>Collaborative Management Structures:</i> A total of 11 CMCs were established, comprising 227 members (159 men and 68 women — 30%). Regarding ethnic composition, 46% identify as Mestizo, 11% as Chorotega, and 22% as Miskitu. The CMCs included representatives from: municipal governments; community organizations; MINED; INAFOR; IPSA; indigenous community representatives; National Police; MARENA; MIFAM; MAG; Movimiento Guardabarranco; INTUR; Government of the Indigenous Territory Prinzu Awala; MEFCCA; and universities (FAREM, UNI-RUACS). Administrative Dimension <i>Management Planning:</i> Preparation of management plans for two protected areas: Alamikamba NR and Limbaika NR. Updating of management plans for seven protected areas: Tepesomoto-La Pataste NR, Serranía Dipilto-Jalapa NR, Quiabuc-Las Brisas NR, Tisey-La Estanzuela NR, Tomabú NR, Cañón de Somoto NM, and Yucul GRR. <i>Volunteer Program and Local Fire Management Capacity:</i> A volunteer programme was implemented to strengthen prevention and response capacities. Through this programme, 34 fire brigades and

Results chain	Indicators			
	Indicators	Baseline	End target (expected value at project completion)	Achieved
				environmental observer brigades were organized and coordinated by MARENA's Territorial Delegations. <u>Fire brigades</u> Each brigade included ten trained volunteers, coordinated by a locally elected brigade leader. In total, 389 volunteers (332 men and 57 women) actively participate in these brigades. <u>Environmental observer brigades</u> These brigades comprised 261 volunteers (198 men and 63 women), who supported environmental monitoring activities under the coordination of MARENA's territorial teams. Biodiversity Conservation Dimension – Completion of the biodiversity baseline across the nine protected areas. – Execution of biodiversity connectivity mapping for the associated biological corridors. – Preparation of a Participatory Biodiversity Monitoring and Evaluation Plan for the nine protected areas. – Implementation of 13 biodiversity monitoring missions (eight in the dry season and five in the rainy season). – In NR Alamikamba and NR Limbaika, monitoring confirmed the presence of <i>Tapirus bairdii</i> (Baird's tapir). Due to its high conservation value, a research process was initiated to develop a Tapir Protection Plan. – Acquisition of biodiversity monitoring equipment to strengthen MARENA's Territorial Delegations in Siuna, Matagalpa, Madriz, Nueva Segovia, Estelí,

Results chain	Indicators			
	Indicators	Baseline	End target (<i>expected value at project completion</i>)	Achieved
				and León. Sustainable Use of Natural and Cultural Resources Dimension Development of the Biodiversity Monitoring Guide, along with training for project technical staff in its application. A total of eight technical staff (six men and two women) from MARENA delegations in Siuna, Nueva Segovia, Estelí, Madriz, and Matagalpa participated in the training. Economic and Financial Dimension Each of the nine protected areas now has a participatorily developed business plan, aligned with its respective management plan and designed to support the long-term financial sustainability of conservation and restoration actions.
	Indicator 6 Total annual budget (USD) available for management of the nine protected areas, by funding source at the end of five years.	National government: USD 2 339 891 Local government: USD 0 Private sources (NGOs, private sector, etc.): USD 0.	National government: USD (increase of 20% after five years) Local governments: USD 0 (at least USD 300 000 after five years). Private sources (NGOs, private sector, etc.): USD 0 (at least USD 300 000 after five years).	Since the beginning of project implementation, the Government of Nicaragua, through MARENA, allocated USD 1 082 348.49 to support personnel costs and operational expenditures of the territorial delegations responsible for managing the nine protected areas targeted by the project. This contribution reflected sustained national commitment to strengthening the institutional presence and operational capacities required for the effective management of protected areas. In addition, municipal governments where the protected areas were located contributed USD 34 500, covering salaries of protected-area rangers and operational costs associated with area surveillance, control and administrative support. At the community level, beneficiaries engaged in restoration and landscape conservation initiatives

Results chain	Indicators			
	Indicators	Baseline	End target (expected value at project completion)	Achieved
				provided in-kind contributions valued at USD 985 052.48, consisting of construction materials, labour and locally available inputs.
Outcome 2.1 Global social and environmental benefits generated in terms of equal opportunities for women and men through the ENDE-REDD+ results-based payment pilot project and sustainable land management (SLM) in the Pine Corridor	Indicator 7 Total number of hectares brought under restoration and conservation through the GEF ENDE-REDD+ pilot incentive project over a period of five years.		10 000 ha (In protected areas of <i>Pino caribae</i> in the municipality of <i>Prinzapolka</i> , RACCN, in the ERPD carbon accountability area).	In the <i>Caribbean Pine Corridor</i> (Alamikamba–Limbaika), a total of 8 524.9 ha under conservation were identified, comprising 5 445.9 ha of mature pine forest and 3 079 ha of forest under active recovery. For these areas, the project applied a results-based payment methodology focused on current restoration processes that demonstrably enhanced forest carbon stocks. Based on this analysis, the project estimated a potential 84 679.31 tCO ₂ -e in reduced emissions, corresponding to an equivalent value of USD 611 598.21 in environmental incentive payments under the PIA-REDD+ scheme.
	Indicator 8 Area (ha) of landscapes under improved practices in biological corridors restored by local women and men to improve connectivity between existing protected areas.		10 000 ha (In the Corridor of <i>Pinus oocarpa</i> and <i>Pinus patula sub. sp. tecunumanii</i> in the northern zone). (Natural regeneration of degraded areas, agroforestry and silvopastoral systems, sustainable land management and forest plantations).	The project established 5 719.7 ha under improved land-use and restoration practices within biological corridors dominated by <i>Pinus oocarpa</i> , <i>Pinus patula</i> , and <i>Pinus tecunumanii</i> . Interventions included the establishment of agroforestry systems, sustainable pine forest management, conservation of closed-canopy pine forest, and natural regeneration. These measures strengthened ecological connectivity among the existing protected areas and contributed to landscape-level resilience. A total of 1 333 beneficiaries (514 women and 819 men) directly implemented these restoration and management practices.

Results chain	Indicators			
	Indicators	Baseline	End target (expected value at project completion)	Achieved
Outcome 3.1 Contribution to at least five strategic thrusts of the 2020 National Biodiversity Strategy and tracked by the biodiversity monitoring system that will be developed within the framework of the project	Indicator 9 Progress towards the goals of the five strategic thrusts of the 2015-2020 National Biodiversity Strategy (in percentage).		0 At least 25% has contributed to each of the thrusts.	The project supported the implementation of Nicaragua's National Biodiversity Strategy through the following actions: (i) <i>Continue improving education by instilling new values of love, care, protection, and sustainable use of biodiversity in this new era, with new realities, greater awareness, increased strength, and greater conviction. The project implemented targeted actions to reinforce environmental awareness and promote conservation values among local communities.</i> Key achievements include: – 27 environmental fairs conducted across the nine protected areas, engaging local communities and institutions such as MINED, MEFCCA, INTA, CMCs, and municipal governments. – 15 training sessions delivered to teachers and students from schools located in the project's area of influence. These sessions covered biodiversity conservation, gender equality, and Indigenous Peoples' rights, and supported the identification of affirmative actions for environmental education. (ii) <i>Implement measures for the conservation and restoration of flora, fauna, water, and forests, both inside and outside protected areas, in each locality and community, ensuring popular participation.</i> The project contributed directly to the conservation and restoration of 19 071.7 ha, implemented with the active participation of 1 572 community members (938 men and 634 women). These interventions strengthened ecosystem integrity in priority landscapes and

Results chain	Indicators			
	Indicators	Baseline	End target (expected value at project completion)	Achieved
				enhanced community stewardship of natural resources. <i>(iii) Identify, promote, and implement community-based economic alternatives for the well-being of Nicaraguan families based on the sustainable use of biological diversity and sustainable production systems, such as agroecology, tourism, and sustainable fishing, to ensure food security and sovereignty.</i> To advance sustainable livelihoods, the project: – Developed business plans for each of the nine protected areas, identifying feasible interventions consistent with protected areas conditions and management objectives. – Supported sustainable subprojects and restoration initiatives that promote community-based economic alternatives aligned with biodiversity conservation, including environmentally responsible production systems. These measures contribute to community well-being while supporting biodiversity conservation and food security. <i>(iv) Improve national research capacities to build and strengthen knowledge, scientific bases, ancestral practices, and technologies related to biological diversity, its sustainable use, and its resilience to climate change impacts.</i> The project prepared a scientific research protocol focused on the occurrence, mobility and connectivity of the Central American Tapir (<i>Tapirus bairdii</i>) between the Alamikamba and Limbaika Nature Reserves. This research will establish a baseline to strengthen the national programme for the

Results chain	Indicators			
	Indicators	Baseline	End target (expected value at project completion)	Achieved
				protection and conservation of this ecologically important and endangered species. <i>(v) Develop and implement an action framework for adapting and protecting biodiversity resources against the impacts of climate change and climate variability, in order to conserve and manage genetic diversity and endemic and endangered species.</i> A Landscape Restoration Strategy was developed to expand areas under restoration and natural regeneration, ensuring gender-inclusive participation throughout its formulation. The strategy emphasizes the use of native species from each protective area to improve survival rates and conserve genetic diversity, endemic species, and species at risk. To operationalize the strategy, the project: – Established 28 community nurseries across the nine protected areas. – Produced 518 435 native forest plants, which were subsequently used to restore priority degraded areas and improve forest cover.
	Indicator 10 Institutional agendas and development plans looking at biodiversity and resilient landscapes with a gender and intercultural focus		At least 90% of the institutions and organizations involved have incorporated biodiversity and restoration with a gender and intercultural focus in their agendas, development plans and have managed funds for their implementation.	All national institutions engaged in coordinating and implementing conservation and landscape restoration activities within the project's protected areas became active members of the CMCs. These institutions formally integrated biodiversity management and landscape restoration actions into their respective annual workplans, demonstrating a sustained institutional commitment beyond project support. The participating institutions included: – MINED

Results chain	Indicators			
	Indicators	Baseline	End target (<i>expected value at project completion</i>)	Achieved
				– IPSA – INTUR – MIFAM – MEFCCA – MAG – Ecological Battalion of the National Army – National Police – Municipal governments, through their Environmental Units – Movimiento Guardabarranco – Indigenous Territorial Government – Universities (FAREM, UNI-RUACS) This strengthened interinstitutional platform enhances coordinated governance of protected areas, promotes continuity of restoration actions, and reinforces local stewardship of biodiversity and ecosystem services.
Outcome 4.1 Species of interest or ecosystem indicators monitored	Indicator 11 Participatory system for biodiversity M&E.	None	Biodiversity M&E system implemented, making possible the formulation of species-specific protection plans.	The project strengthened biodiversity monitoring capacities and generated key information products to support evidence-based management in the nine protected areas of intervention. – A Biodiversity Monitoring Guide was developed and technical staff from the project and community brigades were trained in its application. Training was delivered by the Territorial Delegations of MARENA in Siuna, Nueva Segovia, Estelí, Madriz and Matagalpa, with the participation of 209 individuals (88 men and 121 women). – The first biological connectivity map for the project landscape was produced, providing a technical basis for restoration planning and the identification of priority corridors.

Results chain	Indicators			
	Indicators	Baseline	End target (<i>expected value at project completion</i>)	Achieved
				– A biological monitoring report of emblematic species was prepared as part of the post-impact assessments of Tropical Storm Bonnie and Hurricane Julia, documenting the effects on local wildlife and habitat conditions. – A Biodiversity Monitoring and Evaluation Plan was formulated for the nine protected areas, through a participatory process involving community members and protected area management stakeholders. – A total of 13 biodiversity monitoring missions were conducted (eight in the dry season and five in the rainy season). Field surveys in the Alamikamba and Limbaika Nature Reserves confirmed the presence of the Central American Tapir (<i>Tapirus bairdii</i>). Given this species' ecological significance, the project supported a scientific study to inform the development of a species protection plan for the tapir. Across the nine protected areas, the project consolidated a network of 261 environmental observers, six protected area rangers, beneficiaries of restoration initiatives, members of the CMCs, field technicians, youth from the Movimiento Ambientalista Guardabarranco, and community fire-management brigades. These groups were equipped with essential tools — including hoes, shovels, fire beaters, backpack pumps, gloves, and other safety supplies — enhancing their operational capacity for biodiversity monitoring, environmental vigilance, and wildfire prevention and response. This expanded and better equipped community surveillance system contributes to improved

Results chain	Indicators			
	Indicators	Baseline	End target (expected value at project completion)	Achieved
				ecosystem stewardship, early detection of threats, and more effective management of protected landscapes.
	Indicator 12 Population of ecosystem indicator species and/or species of biological interest (birds and plants) during the life of the project.	Dry forest Birds: 2 species woodpecker (<i>Careto careto</i>), quetzal (<i>Pharomachrus mocinno</i>) Plants: 2 species <i>Pinus maximinoi</i> <i>Pinus patula ssp tecunumanii</i> Tropical humid forest Birds: 2 species white heron (<i>Ardea alba</i>), wild duck (<i>Anas platyrhynchos</i>) Plants: 2 species pine (<i>Pinus caribaeae</i>) papta palm (<i>Acoelorrhaphe wrightii</i>).	Dry forest Birds: 2 species woodpecker (<i>Careto careto</i>), quetzal (<i>Pharomachrus mocinno</i>) Plants: 2 species <i>Pinus maximinoi</i> <i>Pinus patula ssp tecunumanii</i> Tropical humid forest Birds: 2 species white heron (<i>Ardea alba</i>), wild duck (<i>Anas platyrhynchos</i>) Plants: 2 species pine (<i>Pinus caribaeae</i>) papta palm (<i>Acoelorrhaphe wrightii</i>).	A total of 13 biodiversity monitoring missions were conducted to generate the first biological connectivity map for the period 15 May to 30 November 2022 across six of the nine protected areas covered by the project. As a result of these field assessments, biological connectivity maps are now available for the entire project intervention area. During biodiversity monitoring visits (see Indicator 11), the presence of tapir (<i>Tapirus bairdii</i>) was confirmed in the Alamikamba Natural Reserve and Limbaika Natural Reserve, underscoring the ecological importance of these areas and informing subsequent conservation and research actions.

Appendix 2⁶**DOCUMENTS PRODUCED DURING THE PROJECT⁷**

Biodiversity M&E system.

Biodiversity baseline for each of the project's nine PAs.

Environmental Restoration Strategy for Degraded Areas Affected by Hurricanes ETA and IOTA.

Environmental Incentives Program under the REDD+ scheme (PIA-REDD+).

Manual for the management of Sustainable Restoration Initiatives for projects of the MARENA-GEF Portfolio.

Operational manual for the project.

Internal regulations of the collaborative management committees.

Management plan for Alamikamba Natural Reserve.

Management plan for Limbaika Natural Reserve.

Management plan for Tepesomoto-La Pataste Natural Reserve.

Management plan for Serranía Dipilto-Jalapa Natural Reserve.

Management plan for Quiabuc-Las Brisas Natural Reserve.

Management plan for Tisey-La Estanzuela Natural Reserve.

Management plan for Cerro Tomabú Natural Reserve.

Management plan for Cañón de Somoto Natural Reserve.

Management plan for Yucul Genetic Resources Reserve.

Business plan for Alamikamba Natural Reserve.

Business plan for Limbaika Natural Reserve.

⁶ Kindly note that due to the closure of the FAO Country Office and the resulting limitations in accessing information from the national counterpart, it was not possible to retrieve or verify authorship and dates of issue for the documents listed under Appendix 2.

⁷ The project only produced technical documents for internal use within the institution; no publications of any kind were produced.

Business plan for Tepesomoto-La Pataste Natural Reserve.

Business plan for Serranía Dipilto-Jalapa Natural Reserve.

Business plan for Quiabuc-Las Brisas Natural Reserve.

Business plan for Tisey-La Estanzuela Natural Reserve.

Business plan for Cerro Tomabú Natural Reserve.

Business plan for Cañón de Somoto Natural Reserve.

Business plan for Yucul Genetic Resources Reserve.

Appendix 3**PROJECT STAFF**

Function	Dates of Service	
	Starting Date	Concluding Date
Technical coordinator	January 2021	February 2025
Monitoring and Evaluation Specialist	January 2021	February 2025
Financial Specialist	January 2021	February 2025
Financial administrative analyst	January 2021	February 2025
Procurement Specialist	January 2021	February 2025
Promoters in Protected Areas	June 2021	February 2025
Field technicians for the implementation of PA management plans	June 2021	February 2025
Geographic Information System (GIS) Expert	June 2021	February 2025
ENDE REDD+ Technicians	June 2021	February 2025
Specialist in Methodology, Gender and Indigenous Peoples	June 2021	February 2025
Biodiversity Specialist	June 2021	February 2025
Expert in Biodiversity and Agriculture	June 2021	February 2025
Material designer for visibility of the GEF6 project	June 2021	February 2025

Appendix 4**MAJOR ITEMS OF EQUIPMENT PROVIDED**

Quantity	Item	Cost (USD)
1	Digital video camera (camcorder)	1 539.97
2	4x4 double-cab pick-up	34 351.86
1	Double Cab (4x4) pickup	26 546.87
2	Laptop	5 000
4	Desktop computer (CPU) with built-in additional devices	2 034.81
7	Complete desktop computer (CPU, monitor, keyboard)	1 079.24
1	Laptop	2 102.20
1	Laptop (notebook or laptop) with a screen size of 15.7 to 17.0 inches	2 049.70
2	Laptop (notebook or laptop) with a screen size of 15.7 to 17.0 inches	6 152.94
1	Multifunction colour printer	1 124.95
2	Multifunction colour printer	4 786.11
1	Motorboat	14 349.51
1	Conference table seating 7 to 10 people	2 480.71
1	Microcentrifuge	3 973.24
1	Binocular brightfield microscope	3 238.80
9	Motorcycle	4 247.51
1	Outboard marine engine	7 687.86
1	Tranquilizer dart rifle	11 871.65
2	Water storage tank	1 414.83
9	6 x 4 metre awning	1 206.64