

GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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General Project Information

Project Title

Living Landscapes: Integrated management for biodiversity conservation through pollinators

Region

Latin America and the Caribbean

GEF Project ID

12261

Country(ies)

Mexico

Type of Project

MSP

GEF Agency(ies):

WWF-US

GEF Agency ID

G0078

Executing Partner

SEMARNAT

NAFIN's Sustainable Fund

Executing Partner Type

Government

Government

GEF Focal Area (s)

Biodiversity

Submission Date

12/22/2025

Project Sector (CCM Only)

Taxonomy

Biodiversity, Focal Areas, Stakeholders, Gender Equality, Capacity, Knowledge and Research

Type of Trust Fund

GET

Project Duration (Months)

36

GEF Project Grant: (a)

1,784,862.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

160,638.00

Agency Fee(s) Non-Grant (d)

0.00

Total GEF Financing: (a+b+c+d)

1,945,500.00

Total Co-financing

8,230,557.85

PPG Amount: (e)

50,000.00

PPG Agency Fee(s): (f)

4,500.00

PPG total amount: (e+f)

54,500.00

Total GEF Resources: (a+b+c+d+e+f)

2,000,000.00

Project Tags

CBIT: No NGI: No SGP: No Innovation: No Competitive Window: No

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”. (max. 250 words, approximately 1/2 page)

The project addresses accelerated habitat loss and biodiversity decline in the Yucatán Peninsula through integrated landscape management. This challenge is driven by habitat degradation, expansion of unsustainable production practices, and limited integration of biodiversity considerations into policies, programs, and financing mechanisms. As a result, ecological connectivity, ecosystem resilience, and the livelihoods of farmers, ranchers, and communities are increasingly at risk.

Given the pilot nature of the initiative, the project promotes the adoption of biodiversity-friendly practices in productive landscapes and the restoration of natural habitats, strengthening connectivity with natural areas and supporting biodiversity conservation. The intervention builds on ongoing landscape-level efforts in the region, including the human-wildlife coexistence project, and aims to complement these initiatives by promoting sustainable productive practices, habitat restoration, and improved landscape connectivity, while aligning with initiatives supporting integrated landscape management, including areas adjacent to Natural Protected Areas.

The project will promote the conservation and restoration of natural habitats to support biodiversity and ecosystem integrity. This will be achieved through a territorial management model underpinned by community-based participatory approaches. The model is designed as a pilot to generate practical lessons and inform the integration of biodiversity considerations into national policies and future investments, rather than to deliver large-scale restoration.

The proposal is structured around three complementary components: (i) strengthening policy coherence and adjusting financing mechanisms to integrate biodiversity conservation criteria; (ii) community-led ecological restoration of natural habitats and adoption of biodiversity-friendly practices in productive landscapes in Yucatán and Campeche through demonstration plots and mechanisms for the production and distribution of native plant material; and (iii) knowledge management and participatory monitoring, including the formation of a community-based network with explicit inclusion of women and youth to generate information that supports adaptive management and scaling through other initiatives.

The project will deliver Global Environmental Benefits to biodiversity conservation by restoring and improving management practices and natural habitats restoration, enhancing ecological connectivity within integrated landscapes.

Although limited in spatial scale (86.7 ha), the intervention strategically focuses on transforming management practices across productive landscapes and restoring habitat patches and corridors that improve landscape functionality, thereby reducing pressures on biodiversity. In addition, the integration of biodiversity conservation criteria into policy and financing mechanisms will generate catalytic impacts beyond the project area, enabling replication through existing government programs and complementary landscape initiatives. The project will directly benefit 1,062 individuals (623 women and 439 men), strengthening sustainable livelihoods, and community well-being.

Indicative Project Overview

Project Objective

Strengthen biodiversity-friendly management of natural and productive landscapes by conserving and restoring native vegetation and habitat connectivity in the Yucatán Peninsula through a community-based

management model that uses pollinators as a functional lever to catalyze broader biodiversity outcomes and integration into national policies and financial mechanisms.

Project Components

Component 1: Policy coherence and financing mechanisms for biodiversity conservation in integrated landscapes.

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
165,217.00	762,192.00

Outcome:

Outcome 1.1. Biodiversity conservation and sustainable management criteria integrated and operational in at least two public programs, policy instruments, or financing mechanisms supporting landscape management.

Output:

Output 1.1.1 National programs or policy instruments adopt and implement biodiversity conservation and sustainable management criteria.

Output 1.1.2. Existing financing mechanisms incorporate conservation criteria that support biodiversity-friendly conservation and ecosystem restoration.

Component 2: Integrated landscape management and restoration for biodiversity conservation.

Component Type	Trust Fund
Investment	GET
GEF Project Financing (\$)	Co-financing (\$)
954,258.00	4,401,040.00

Outcome:

Outcome 2.1. Productive systems adopt biodiversity-friendly practices that reduce threats and enhance biodiversity, applying territorial, intercultural, and gender-responsive approaches.

Outcome 2.2. Natural habitats are restored and conserved under community-based management, improving ecological connectivity in integrated landscapes.

Outcome 2.3. Communities, with the active participation of women and youth, generate and use biodiversity data for adaptive management and contribute to the National Biodiversity Information System (SNIB).

Output:

Output 2.1.1. Biodiversity-friendly practices demonstrated and implemented in productive systems, integrating territorial, intercultural, and gender-responsive approaches.

Output 2.1.2. Participatory assessment of implementation costs and economic, environmental, and social benefits of biodiversity-friendly practices, incorporating traditional knowledge.

Output 2.2.1. Effective community-government mechanisms established for the collection, production, and distribution of native plant material for ecosystem restoration.

Output 2.2.2 Community agreements established for the restoration and long-term maintenance of natural habitats and native vegetation at both natural and productive landscapes to support biodiversity.

Output 2.2.3. Restoration with native vegetation to establish forest patches and ecological corridors.

Output 2.3.1. Community baseline on biodiversity and forest resources established with the active participation of women and youth.

Output 2.3.2. Community biodiversity monitoring network established, trained, and operational, applying the monitoring protocol from Component 3.

Component 3: Knowledge management and communication

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
418,134.00	1,927,040.00

Outcome:

Outcome 3.1. Knowledge and information systems strengthened and operational to support biodiversity conservation and ecosystem management in integrated landscapes.

Outcome 3.2. Increased public awareness and knowledge of biodiversity and its role in sustaining ecosystem resilience.

Outcome 3.3. Project model systematized and disseminated to promote replication and scaling of biodiversity-friendly integrated landscape management approaches.

Output:

Output 3.1.1. Data collection and visualization system for biodiversity monitoring, compatible with existing platforms, developed and operational.

Output 3.1.2. Biodiversity monitoring protocol adapted and validated for multiple user groups, with indicators supporting habitat management and ecosystem integrity.

Output 3.1.3. Biodiversity information generated by diverse stakeholders made accessible through targeted dissemination and knowledge-sharing mechanisms.

Output 3.2.1. Communication strategy targeting citizens, designed and implemented with a focus on youth, to promote biodiversity conservation and active engagement.

Output 3.3.1. Guideline for scaling up the project model to other states, emphasizing biodiversity conservation and ecological connectivity, developed.

Output 3.3.2. Strategy for knowledge exchange and advocacy with the GWP Program, Coexistence Project, and other GEF/government projects implemented to promote replication and integration.

M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
84,993.00	391,778.00

Outcome:

Outcome 4.1. Effective decision-making and adaptive management.

Output:

Output 4.1.1. One 01) monitoring and evaluation system is used for the Project's adaptive management with gender sensitive indicators.

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Component 1: Policy coherence and financing mechanisms for biodiversity conservation in integrated landscapes.	165,217.00	762,192.00
Component 2: Integrated landscape management and restoration for biodiversity conservation.	954,258.00	4,401,040.00
Component 3: Knowledge management and communication	418,134.00	1,927,040.00
M&E	84,993.00	391,778.00
Subtotal	1,622,602.00	7,482,050.00
Project Management Cost	162,260.00	748,507.85
Total Project Cost (\$)	1,784,862.00	8,230,557.85

Please provide justification

PROJECT OUTLINE

A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

Project Rationale

The Yucatan Peninsula, located in southeastern Mexico, is a critical region for Mesoamerican biodiversity. It encompasses the states of Campeche, Yucatán, and Quintana Roo and is home to the Mayan culture. It has been recognized as a biodiversity hotspot, harboring more than 6,000 species (Islebe et al. 2015)^[1]. It also contains one of the largest underground aquifer systems in the world, which serves as the main source of drinking water for approximately 5.1 million people living in the landscape, and the Selva Maya, the second-largest contiguous tropical rainforest in the Americas (Moreno-Pérez et al. 2021^[2], Pacheco et al. 2021^[3]). These ecosystems sustain multiple functions which are critical for maintaining plant diversity and productivity in both natural and productive landscapes (Soley and Wilsey, 2026^[4]; Aragón-Gastelum et al.^[5], 2025; Hurtado-Torres et al., 2022^[6]; Quezada-Euán 2009^[7]).

This region has long sustained human populations and their livelihoods. More than half of this land is managed by ejidos and communities under Mexico's land tenure system, where traditional diversified agricultural systems depend directly on biodiversity goods and benefits which are now increasingly compromised due to ongoing habitat loss, fragmentation and degradation (Pacheco et al., 2021³; Varns et al., 2018^[8]). In many areas of the region, forests clearing is perceived as a pathway to economic well-being due to agricultural subsidies that promote land-use conversion (Varns et al. 2018). As a result, large-scale plantations and pastures are replacing traditional agriculture and natural ecosystems, with habitat loss exceeding 80,000 hectares per year (Ellis et al. 2015^[9]).

Large-scale commercial farming and associated land-use change, and the expansion of unsustainable agricultural practices have become major drivers of habitat degradation and fragmentation. These pressures are reducing ecological connectivity and compromising ecosystem resilience and the delivery of ecological functions that sustain both biodiversity and agricultural production (Pacheco et al. 2021). At the same time, the limited integration of biodiversity considerations into productive practices, policies, and financing mechanisms constrains the adoption of sustainable landscape management.

In this context, the proposed project aims to strengthen biodiversity-friendly management of natural and productive landscapes in the Yucatán Peninsula, by conserving and restoring native vegetation and habitat connectivity through a community-based management model that uses pollinators as a functional lever to catalyze broader biodiversity outcomes and their integration into national policies and financial mechanisms. The project is structured around three components: (i) strengthening policy coherence and adjusting financing mechanisms to integrate biodiversity conservation criteria; (ii) restoring natural habitats and adopting biodiversity-friendly practices in productive landscapes in Yucatán and Campeche through demonstration plots, community-led ecological restoration, and mechanisms for the production and distribution of native plant material; and (iii) knowledge management and participatory monitoring, through a community-based network with the explicit inclusion of women and youth to generate information that supports adaptive management and scaling through other complementary initiatives.

Project Landscape

The Project Landscape area encompasses a significant portion of Campeche and western Yucatán, covering 78,188.9 km² (7,818,891.5 hectares) across 37 municipalities (see Figure 1). This landscape is one of four intervention zones under GEF Project ID 11156, 'From Conflict to Coexistence: Protecting Ecological Corridors in Mexico for Sustainable Development.' Additionally, the Yucatan Peninsula is prioritized within Mexico's National Environmental Restoration

Program 2025-2030 for productive and ecological restoration and reforestation, actions to which the present project contributes.

The Project Landscape constitutes a strategic socio-ecological system, comprising a complex of federal Protected Areas and the Balam Beh Biological Corridor, covering approximately 4,950 km² (495,000 hectares), a vital connectivity axis, linking the Gran Calakmul complex (which includes the Calakmul and Balam Ku Biosphere Reserves and the Balam Kin Flora and Fauna Protection Area) in the south to the Laguna de Términos Flora and Fauna Protection Area and the Pantanos de Centla Biosphere Reserve. To the north, it connects with the coastal and wetland ecosystems of the Petenes and Ría Celestún Biosphere Reserves. In the north-central portion of the landscape encompasses the Puuc Region. This region is governed by the Puuc Intermunicipal Biocultural Board (JIBIOPUUC) and cover 5,626.27 km² (562,627 ha), comprising the municipalities of Muna, Santa Elena, Oxkutzcab, Ticul, and Tekax. Within it lies the Puuc Biocultural State Reserve, covering 1,358.93 km² (135,848 hectares). The area has Mayan cultural heritage, with important archaeological sites, and is the main fruit-producing zone.

Most of the Project Landscape includes conserved areas with different types of forest, although a large area has been converted for human activities (INEGI, 2021). According to the National Forest Inventory, the different types of land use and vegetation include Rainforest (27.49%), Medium Rainforest (36.91%), Pastureland (14.22%), cropland/agriculture (8.58%), and others. In addition, the landscape is characterized by agricultural production systems that vary in their level of intensification (Vides-Borrell et al., 2019:270), with 76,346 production units, of which 62% are dedicated to agriculture and 14% to livestock (INEGI, 2022). There are approximately 101 Wildlife Conservation Management Units (UMA) covering approximately 748,587 ha, as well as 41 Voluntarily Designated Conservation Areas (ADVC), covering 222,578 hectares.

The population of the 37 municipalities within the project landscape is 1.3 million (51% women, 49% men; INEGI, 2020), and the indigenous and Afro-descendant population is estimated at 543,358 people, representing 37% and 23% of the total population, respectively. The municipalities of Calkiní, Hopelchén, Campeche, Hecelchakán, and Calakmul in the state of Campeche, and Tekax, Oxkutzcab, Ticul, Halachó, and Maxcanú in the state of Yucatán have the largest indigenous and Afro-descendant populations. The project landscape, mainly in the rural areas of Campeche and Yucatán, is home to Mayan communities from distinct linguistic groups, including Cho'ól de Xpujil and Yokot'an de Nacajuca. Across both Maya and non-Maya rural communities in the Yucatán Península, ejidos and communal property regimes remain widespread and play a central role in land and natural resources management and decision making. Communities under these socio-political and economical organization systems can be broadly grouped under the concept of local communities.

The municipalities with high implementation potential were prioritized based on three criteria: 1) Importance of annual and perennial pollinator-dependent crops per municipality (Agricultural Census 2022)^[10] combined with data on the intensity of agrochemical use, 2) Species richness of key pollinator groups per municipality (CONABIO, 2025)^[11], 3) Number of priority sites for ecological restoration per municipality (CONABIO, 2016)^[12], which served as a spatial proxy for identifying critical and degraded pollinator habitats. Additionally, to improve ecological connectivity in the project landscape, the analysis was spatially overlaid with layers such as the location of federal and state Protected Areas, Voluntary Designated Conservation Areas, the Balam-Beh Biological Corridor and as well as the governance and conservation region of the Puuc Intermunicipal Biocultural Board (JIBIOPUUC), where the Puuc Biocultural State Reserve is located (See Figure No. 1). The Balam Beh Corridor is recognized within Mexico's National Environmental Restoration Program 2025-2030 for natural regeneration and ecological restoration actions. During the preparation of the CEO-Endorsement Request Document, the areas of intervention will be prioritized and decided upon, considering interviews with key stakeholders.

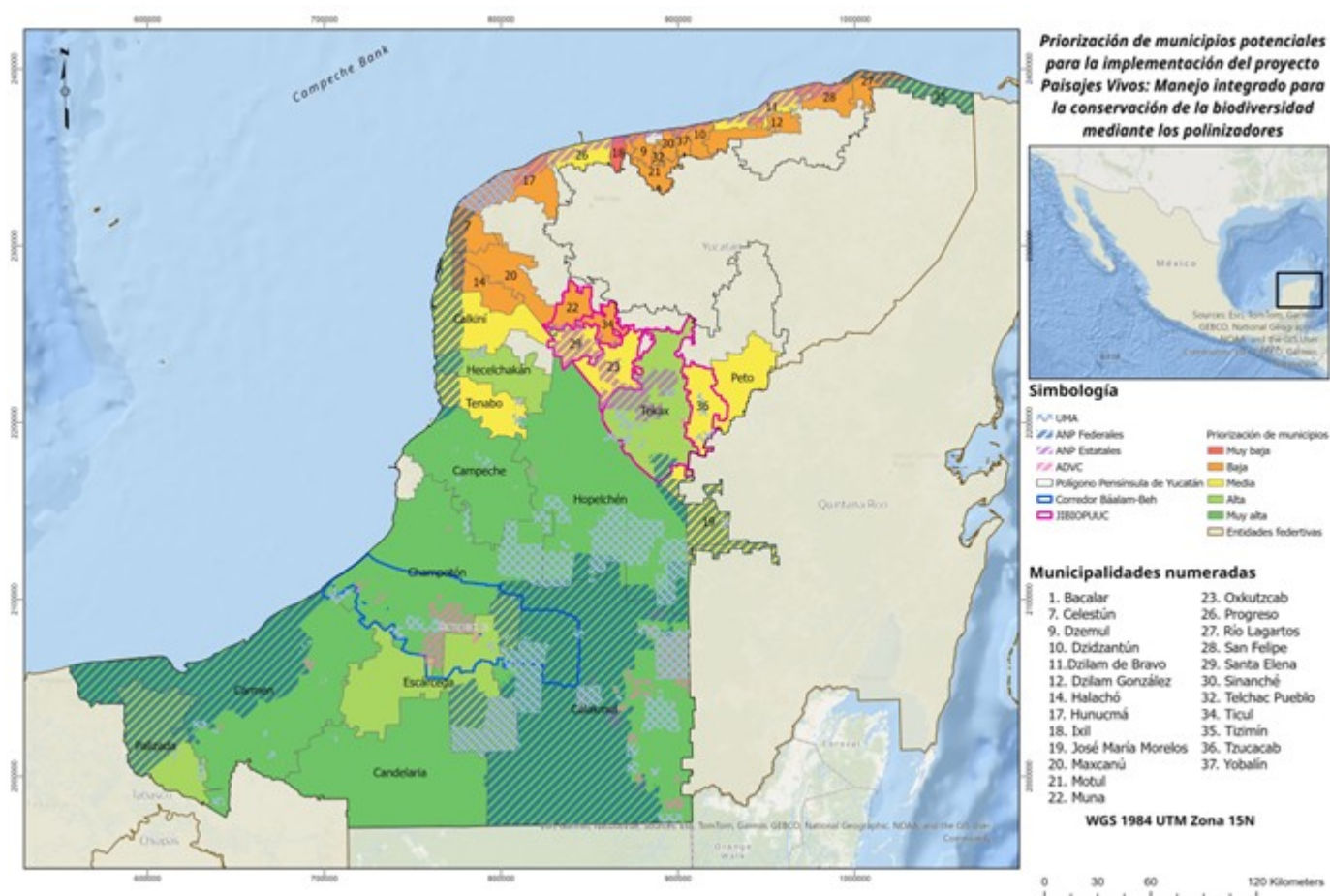


Figure 1. Territory selected for the project “Living Landscapes: Integrated management for biodiversity conservation through pollinators”

Environmental Problem

The project addresses the accelerated habitat loss and biodiversity decline in the Yucatán Peninsula across both productive and natural landscapes. Synergistic pressures such as increased land-use change, driven by agricultural expansion, unsustainable practices linked to it like intensive pesticide use and other such as deforestation and habitat fragmentation, introduction of non-native species as well as climate change, degrade ecosystem health, connectivity, and functionality (Freitas *et al.* [13] ; Dirzo *et al.* [14] ; Carrasco *et al.* [15] Janzen *et al.* [16] ; Sánchez-Bayo and Wyckhuys, [17]. This process increases the vulnerability of agricultural systems and associated biodiversity, undermining ecological resilience and posing growing risks to national food security (SADER, 2021 [18]).

The Yucatán Peninsula is a biodiversity hotspot with more than 7,300 animal species (including 2,450 pollinators) and 2,300 plant species. It's ecological integrity and contribution to Mexico's natural capital are becoming increasingly threatened by this pressures (Duran *et al.*, 2010) [19]. Indigenous communities have observed the continuous decline in abundance and health of biodiversity across these landscapes over recent decades, particularly in the richness and spatial distribution of plants and pollinators (Quezada-Euán *et al.* 2018 [20] ; Hill *et al.* 2019) [21]. These trends are indicative of increasing pressure on socio-ecological systems and the deterioration of ecological interactions and processes (IPBES, 2019; Díaz *et al.*, 2019) [22]

The pressures faced have cascading trophic effects throughout food webs and ecosystems. Consequently, addressing these drivers supports biodiversity conservation, enhances ecosystem resilience and mitigates habitat fragmentation. Native plants and their associated biodiversity influence the ecosystem's capacity to sustain ecological functions (Haddad *et al.*, 2015; Díaz *et al.*, 2019; Eisenhauer *et al.*, 2019) [23]. Therefore, the project emerges within this broader approach of

restoring ecological functions, habitat quality, ecological connectivity and integrity to support biodiversity-positive transformations across landscapes, through the recovery of vegetation and key ecological interactions.

The structural drivers underlying this problem are:

- I. Economic drivers such as 1) Global and national demand for meat and biofuels, driving the expansion of monocultures (e.g., soy, corn feed), which is the primary driver of land use change in the Yucatan region.
- II. Social-demographic drivers include: 1) Urban and infrastructure expansion, leading to habitat fragmentation, altered territorial dynamics, and reduced biological connectivity^[24]. 2) Limited economic alternatives and persistent rural poverty in Yucatán, fostering dependence on unsustainable agricultural models that degrade natural resources, deplete soil fertility, diminish agrobiodiversity, lower agricultural yields, and increase food insecurity (Bautista, 2007)^[25].
- III. Political and institutional drivers include: 1) Livestock and monoculture subsidy programs implemented over the last 50 years, which have incentivized deforestation (Warren 2018^[26], Špirić J and Ramírez 2021 ^[27]), 2) Insufficient integration of biodiversity and ecological function consideration into agricultural and landscape policy^[28].

The principal threats are documented, though their severity and impact on biodiversity and productivity are not fully quantified. Key threats include:

- IV. Deforestation directly impacts biodiversity conservation, ecosystem integrity, and connectivity. In the Yucatan Peninsula, Campeche has the highest annual average deforestation rate (29,281 hectares per year), followed by Yucatan (27,519 ha/year) for the period 2019 to 2023^[29].
- V. Habitat loss and fragmentation, such as the conversion of diverse native forests (jungle) to monocultures and pastureland, disrupt ecological interactions, and limit the capacity of ecosystems to sustain essential ecological processes. Habitat fragmentation also isolates species populations, reducing genetic diversity and population resilience, thereby negatively affecting biodiversity^[30].
- VI. Regarding pesticide use, strong scientific evidence links neonicotinoid insecticides and other systemic pesticides with sublethal effects (impaired navigation, reduced reproduction) and direct mortality of insects populations, as well as implications for biodiversity, ecological interactions, and other ecosystem processes.^[31]
- VII. Agricultural intensification and monoculture create resource-poor landscapes with limited seasonal continuity or resources, leading to simplified ecological structure and a lower availability and diversity of resources needed to sustain essential ecological processes.
- VIII. Invasive species can outcompete native species for resources or introduce new diseases that can spread rapidly, all of which can interfere with ecosystem balance^[32].
- IX. Invasive plants modify ecological relationships, displace native species, and disrupt ecosystem processes and ecological interactions^[33].
- X. Climate change, by modifying both the heat and rain conditions in habitats, aggravates habitat destruction and inhibits ecological connectivity by altering the structure and continuity of natural and productive landscapes; thus, affecting the distribution of species and interactions between ecosystems. These changes create phenological mismatches and disrupt ecosystem dynamics that can affect biodiversity.^[34] The increasing frequency and severity of droughts and heat waves lead to vegetation stress, diminished vegetation cover and resource availability across landscapes, and the inability of ecosystems to maintain vital ecological processes, directly affecting biodiversity and agricultural productivity^[35]. Extreme climatic events like hurricanes also lead to widespread loss of vegetation cover and habitat, increasing landscape fragmentation, facilitating pest and disease spread, and reducing ecosystem resilience and functionality.^[36]

This project will focus on addressing the following key barriers:

Barrier 1: Policy challenges and financing barriers

Weak coordination between communities, local governments, and other actors in planning and executing restoration and rehabilitation actions undermines the synergies, scale and timing required for effective landscape-level interventions to address biodiversity loss. Furthermore, there is a persistent lack of formalized agreements, clearly defined roles and responsibilities, long-term incentives, and sustained community-government commitments for the post-establishment maintenance of rehabilitated and restored areas. Consequently, biodiversity conservation initiatives are not implemented systematically or at the landscape scale, resulting in fragmented interventions. This disjointed approach prevents the maintenance of functional healthy habitats and their connectivity.

Additionally, conservation policies are often implemented as isolated interventions or 'complementary' measures to general sectoral policies, resulting in limited policy coherence. Insufficient coordination between the Ministry of Agriculture and Rural Development (SADER) and environmental authorities, contributes to counterproductive policy trade-off, particularly where agricultural or livestock intensification programs—such as the Promotion for Well-being Program or the Special Concurrent Program for Sustainable Rural Development incentivize practices that may drive ecosystem degradation.

Mainstreaming biodiversity conservation criteria in existing policies and financial mechanisms represents a critical opportunity to shift incentives toward biodiversity conservation and reduce these negative impacts.

Globally, environmentally harmful subsidies continue to significantly outweigh investments in biodiversity conservation (IPBES, 2024^[37]). Addressing these financial flows is essential to create enabling conditions for transformational change toward sustainable and resilient landscapes.

Barrier 2: Technical constraints for biodiversity-friendly practices adoption in productive landscapes

The Yucatan Peninsula features a diverse farming system. On one hand, traditional agroecological systems- though under increasing pressure of chemical inputs-are characterized by small-scale polycultures embedded within secondary and primary forests of different ages. On the other hand, producers operating under technology-dependent, input -intense models cultivate commercial monocultures^[38].

Biodiversity loss and ecosystem degradation reduce the provision of critical ecosystem service, including pollination, pest regulation, and soil fertility, thereby directly affecting yield stability and agricultural resilience. This is especially significant among crops with high pollination dependency in the Yucatán Peninsula such as oranges, cucumbers, and papayas, or monocultures such as soybeans (INEGI, 2021: 51-52)^[39].

The adoption of biodiversity-friendly practices, such as Integrated Pest Management (IPM), ecological intensification (managing nature's ecological functions to improve agricultural production), and strengthening existing diversified agricultural systems (e.g., milpa, forest gardens, home gardens, agroforestry, and integrated crop-livestock systems) remains constrained by systemic barriers that limits farmers' access to the necessary technical capacity, inputs, and economic incentives (IPBES, 2016: 10)^[40].

Additionally, farmers may perceive the transition to biodiversity-friendly practices as financially risky due to upfront investment costs or fear of short-term yield reductions. Which is why integrating indigenous and local knowledge (ILK) shared through peer-to-peer learning is crucial as they are more likely to be adopted and sustained over time. This implies more climate-resilient agricultural landscapes better able to withstand extreme weather events (Imran et al., 2023)^[41].

Barrier 3: Limited knowledge, information and social engagement regarding biodiversity

While initiatives exist to generate and compile biodiversity-related information in Mexico, significant knowledge gaps persist regarding the contribution of biodiversity to socio-economic stability and therefore the importance of its effective conservation incorporated through multi-stakeholder interventions. The lack of accessible, updated and comprehensive information limits not only limits the design of evidence-based biodiversity conservation strategies but also hinders the adoption of better landscape management in the field.

Traditional and local knowledge have long recognized the diverse benefits of nature including detailed understanding of bee species, nest architectures, and honey varieties with distinct flavors and medicinal properties. However, this knowledge is being lost due to socio-economic and cultural changes (Quezada-Euán et al. 2018)^[42].

Although some organizations work to raise awareness, current efforts remain insufficient. There is a pressing need to scale up communication of scientific evidence and traditional knowledge to generate better social engagement to shift cultural perceptions that better support biodiversity conservation.

Scenarios of Future Narratives

Narrative 1: Moderate climate change and moderate land-use change pressure.

In this scenario, climate change has a moderate impact, with relatively stable seasonal patterns that do not significantly disrupt ecosystem dynamics. This allows habitat restoration processes and biodiversity-friendly management practices to continue with a high probability of steady, positive outcomes. Moderate temperatures prevent physiological stress on vegetation, supporting the recovery and maintenance of native plant communities, and associated biodiversity. Extreme events, such as hurricanes, are infrequent and typically moderate, limiting large-scale damage to habitats and allowing restoration efforts to proceed with minimal disruption. Consequently, restoration activities and biodiversity-friendly practices can deliver expected benefits in terms of ecosystem integrity, ecological connectivity, and productive system stability.

Furthermore, the expansion of industrial agriculture is controlled, maintaining landscape connectivity. The adoption of biodiversity-friendly practices has a high likelihood of success as these practices promote habitat diversity, native vegetation cover, and improved landscape functionality. Both natural and productive landscapes (agricultural and livestock production systems) are managed to enhance ecological connectivity and contribute to the persistence of biodiversity components - genes, species, or ecosystems^[43]. This contributes to improved ecosystem resilience, reduced pressures on natural habitats, and more stable and diversified productive systems.

Narrative 2: Severe climate change and moderate land-use change pressure.

Under a scenario of severe climate change, significant shifts in the distribution, abundance, and seasonal dynamics of biodiversity are expected in response to rising temperatures and altered precipitation patterns. Climate change would affect the composition, structure, and regeneration of plant communities, with cascading effects on ecosystem dynamics and the stability of productive systems. These changes may reduce the capacity of ecosystems to recover naturally and increase the vulnerability of both natural habitats and agricultural landscapes.

However, the adoption of biodiversity-friendly^[44] would buffer the impact of climate change on ecosystems and local livelihoods. Practices that promote native vegetation, habitat diversity, and ecological connectivity enhance ecosystem resilience and support the maintenance of key ecological functions under changing climatic conditions.

Extreme weather events (droughts, hurricanes) are frequent, disrupting vegetation dynamics and affecting the establishment and survival of native species. Pressure from new land uses remains moderate, allowing ecological corridors and landscape connectivity to persist. The project involves the selection of climate-resilient native plant species and adaptive restoration approaches, ensuring that restoration processes are not critically impeded and can continue and contribute to ecosystem recovery. This strengthens the landscapes' capacity to withstand disturbances and supports more resilient and diversified productive systems.

Narrative 3: Moderate climate change and high land-use change pressure.

The climate has a moderate impact and remains relatively stable, favoring restoration process and biodiversity-friendly management practices to progress with steady and positive outcomes. Native vegetation recovery is supported through the incorporation of site-specific criteria and the management of both natural and productive areas to enhance habitat quality and ecological connectivity.^[45] This contributes to improved ecosystem integrity and resilience.

However, high-pressure deforestation and land conversion for large-scale agriculture drive landscape fragmentation. The project intervention, through the mainstreaming focus on including biodiversity conservation criteria into agricultural and livestock programs and the creation of financial incentives for implementing biodiversity-friendly practices and habitat restoration, mitigates this fragmentation. The adoption of biodiversity-friendly practices—such as maintaining and restoring native vegetation cover, diversifying productive systems, improving soil management, and reducing harmful inputs—supports the conservation and restoration of key habitats within productive landscapes. Targeted implementation of these practices in critical areas and ecological corridors contributes to maintaining landscape connectivity, reducing habitat degradation, and supporting biodiversity conservation under increasing land-use pressure.

Narrative 4: Severe climate change and high land-use change pressure.

Under severe climate change, ecosystems would face significant stress due to altered temperature and precipitation patterns, leading to shifts in species distribution, reduced regeneration capacity, and increased vulnerability of both natural habitats and productive systems. These changes affect vegetation dynamics, ecosystem structure, and the ability of landscapes to maintain ecological functions under increasingly variable climatic conditions.

Concurrently, high rates of deforestation for agricultural and livestock land conversion accelerate habitat destruction, fragmentation, and degradation. This pressure limits ecological connectivity, reduces habitat availability, as well as genetic diversity and resilience of biodiversity. Nevertheless, the project mitigates these impacts by mainstreaming biodiversity conservation criteria into agricultural and livestock programs and creating financial incentives for the implementation of climate-resilient, pollinator-friendly practices. These measures support the restoration of native vegetation, improve habitat quality, and mitigate landscape fragmentation.

The targeted application of these incentives within biological corridors and other critical habitats will contribute to maintaining landscape connectivity and supporting biodiversity conservation under extreme conditions. As a result, ecosystem resilience will improve, enhancing the capacity of landscapes to recover and sustain both biodiversity and productive functions over time, and strengthening overall population resilience.

Baseline

The 2025-2030 Sectoral Program of the Environmental and Natural Resources Ministry (PROMARNAT by its Spanish acronym)^[46], the 2025-2030 National Environmental Restoration Program (PNRA by its Spanish acronym)^[47] and the National Biodiversity Strategy of Mexico (ENBioMex by its Spanish acronym)^[48] establish the foundation for integrating biodiversity conservation criteria and ecosystem functions into both natural and productive landscapes. PROMARNAT defines the restoration of priority natural ecosystems for biodiversity as its second objective. This will be done through strategies such as 2.2, which focuses on the remediation and restoration of watersheds and priority biodiversity sites using an interdisciplinary, community-based approach.

Meanwhile, the PNRA establishes a comprehensive restoration framework to reverse environmental degradation based on a territorial and landscape approach by defining criteria for prioritizing sites based on biological, ecosystemic, social, economic and climatic variables. It also proposes an implementation mechanism that coordinates the various levels of government, productive sectors, and local communities. Furthermore, the PNRA views restoration as a strategy to enhance ecological functions, increase climate resilience, and generate socioeconomic benefits with clear goals, defined responsibilities and action plans that enables its effective integration into public policy.

The ENBioMex is structured around six pillars, 24 lines of action and 160 specific actions. Pillar 2 focuses specifically on conservation and restoration. Its fundamental objective is to ensure the long-term viability of ecosystems, their species, processes, and functions. It includes 25 actions directly aligned with multiple targets of the Kunming-Montreal Global

Biodiversity Framework, including ecosystem restoration (Target2), connectivity (Target 3), sustainable use in productive landscapes (Target 10), ecosystem services (Target 11), and integration into public policy (Target 14).

The project is designed within the enabling policy framework established by Mexico's General Law of Ecological Equilibrium and Environment Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente, or LGEEPA in Spanish) and the General Wildlife Law (Ley General de Vida Silvestre, or LGVS in Spanish).

Regarding policy frameworks and priorities established by other complementary sectors, the 2025-2030 Sectoral Program of Agriculture and Rural Development Ministry (SADER by its spanish acronym) recognizes the degradation of natural resources driven by deforestation, agricultural expansion, and the widespread use of hazardous agrochemicals while promoting the conservation of agrobiodiversity, including native seeds and traditional systems. The Program outlines key strategies aligned with this project such as strategy 3.1, which promotes the agroecological transition and innovation among producers and strategy 3.2, focused on reducing the use of hazardous pesticides through the adoption of bioinputs and safer practices.

- I. The National Biodiversity Strategy of Mexico (ENBioMex)^[49], particularly National Goal 10, which seeks to promote sustainable production systems that reduce pressures on biodiversity and strengthen ecosystem services, including pollinations.
- II. National Environmental Restoration Program 2025-2030^[50].
- III. Commission for Environmental Cooperation (CEC)^[51].
- IV. National Strategy for the Conservation and Sustainable Use of Pollinators (ENCUSP)^[52].
- V. National Pollinator Initiative (INP)^[53].
- VI. The GIZ-led Regional Action for the Protection of Pollinating Insects and Pollination Services in Latin America and the Caribbean (PoliLAC)^[54].
- VII. Other initiatives: The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)^[55], the UNDP's Green Sisterhood Networks in Mexico^[56].

Within the GEF-funded portfolio, the "Living Landscape" project (Paisajes Vivos in Spanish) serves as a thematic and functional bridge within the GWP-GEF-8 portfolio in Mexico using pollinators as a functional lever to catalyze broader biodiversity outcomes and their integration into national policies and financial mechanisms, linking it with the actions of GEF project 11156, 'From Conflict to Coexistence: Protecting Wildlife Corridors in Mexico for Sustainable Development' (2026-2030), hereafter the 'Coexistence Project'.

The Coexistence Project focuses on apex and emblematic predator species (e.g., jaguar, black bear, Mexican wolf) by protecting their habitats, prey, and ecological connectivity. While predators maintain the trophic structure and regulate populations, pollinators ensure ecosystem functionality and resilience by enabling plant reproduction, fruit and seed production, and thus the food web foundation that supports prey and, consequently, predators. Both groups, predators and pollinators act as landscape architects (i.e., species whose presence and dynamics transform and sustain the ecological configuration of territories). Predators influence the distribution and abundance of other animal species, and pollinators shape the composition and reproduction of vegetation. These two projects are complementary within the Global Wildlife Program (GWP) framework, ensuring both the structure and function of ecosystems and promoting resilient landscapes that integrate biodiversity, production, and community well-being.

To ensure concrete programmatic coordination and synergies, both the Coexistence Project and Living Landscapes, will be executed by SEMARNAT, which will host the Project Management Unit (PMU) and facilitate communication and synergies between them.

The project will also build upon lessons learned from the UNDP-implemented GEF Project N° 11683 “Financing agrochemical reduction and management plus (FARM+) in Mexico (2026-2030). Although their intervention areas do not overlap, both projects align in promoting the adoption of climate-resilient, sustainable agricultural practices by unlocking financial resources, reducing harmful agrochemical use, and improving ecosystem health. Component 1 of the FARM+ project fosters a coherent policy and regulatory framework to enable climate-resilient, sustainable agriculture. This component promotes the re-direction of financial flows and enhanced access to new financial instruments, including insurance products, to incentivize the transition towards such practices. Component 3 facilitates knowledge, information, capacity building, and access to alternatives for practicing climate-resilient, nature-positive agriculture that increases yields and incomes. Component 4 improves supply chain management, leading to reduced waste and pollution (soil, water and plastic), lower greenhouse gas emissions, and enhanced product traceability. Component 5 is responsible for knowledge dissemination.

All of the above goes to show that the project aligns with national strategies and fosters synergies with key biodiversity-related initiatives in Mexico across sectors, which together provide a solid technical, regulatory, and operational foundation for incorporating biodiversity criteria into public policy programs and instruments.

Project Stakeholders

Achieving global environmental benefits depends on a multilevel, cross-sectoral stakeholder consortium. At the national and state levels, public entities (e.g., SEMARNAT, CONANP, SADER, CONABIO, and state secretariats and agencies) are critical for mainstreaming biodiversity conservation criteria into sectoral programs, policy instruments, and financial mechanisms. Key governance bodies, particularly JIBIOPUUC, are essential for territorial articulation, incorporating criteria into local regulations, and bridging traditional and scientific knowledge. On the ground, rural communities and grassroots organizations—including indigenous groups, youth, women's collectives, and producer organizations, among others—are the main implementers. They will adopt biodiversity-friendly practices, lead habitat rehabilitation, and conduct participatory monitoring, ensuring leadership development, local ownership, and sustainability through intercultural and gender-responsive approaches. The private sector (e.g., apiculture enterprises) and financial institutions (development and commercial banks, credit unions) are essential for developing green finance mechanisms, incorporating biodiversity conservation criteria into finance. Finally, academic institutions (UNAM, ECOSUR) provide scientific backing, while NGOs, and development agencies (TNC, GIZ, UNDP) offer technical support, facilitate synergies, and enable scaling. The collaborative, territorial approach ensures interventions are policy-coherent, scientifically sound, locally rooted, and economically viable, securing long-term resilience and conservation impact.

The 'Living Landscapes: Integrated management for biodiversity conservation through pollinators' project was born and strengthened by its geographic and thematic convergence with the Coexistence Project. This synergy allows us to build on an established base of involved stakeholders and identify new strategic alliances for robust implementation.

During PIF formulation, inputs were incorporated from stakeholders already engaged in the Coexistence Project's design phase, including federal, state, and municipal authorities, economic instrument managers, agricultural sector representatives, JIBIOPUUC, academic and financial institutions, and NGOs. Their contributions, captured in the Coexistence Project's Stakeholder Engagement Plan (socialized in August 2025), have been preliminarily integrated into the PIF design.

A formal stakeholder consultation process is planned for the CEO-Endorsement stage. In this stage, all stakeholders, both previously consulted and new ones, will be consulted to provide feedback and refine the indicative roles and responsibilities in the stakeholder table, ensuring a participatory design process and fostering stakeholder ownership.

[1] Islebe, G.A., Schmook, B., Calmé, S., and León-Cortés, J.L. 2015. Biodiversity and Conservation of the Yucatán Peninsula. Springer, 1-9.

- [2] Moreno-Pérez, P.A, Hernández-Téllez, M., Bautista-Gálvez, A. 2021. In Danger One of the Largest Aquifers in the World, the Great Mayan Aquifer, Based on Monitoring the Cenotes of the Yucatan Peninsula. *Archives of Environmental Contamination Toxicology*. 81(2):189-198. doi: 10.1007/s00244-021-00869-5.
- [3] Pacheco, P., Mo, K., Dudley, N., Shapiro, A., Aguilar-Amuchastegui, N., Ling, P.Y., Anderson, C. and Marx, A. 2021. Deforestation fronts: Drivers and responses in a changing world. WWF, Gland, Switzerland.
- [4] Soley, N.M., and Wilsey, J.B. 2026. Pollinators Maintain Biodiversity in Assembling Plant Communities. *Ecology*, 107(4): e70369. <https://doi.org/10.1002/ecy.70369>
- [5] Aragon-Gastelum, J.L.; Ramirez-Albores, J.E.; Perez-Suarez, M.; Vargas-Contreras, J.A.; Aguirre-Crespo, F.J.; Plascencia-Escalante, F.O.; Serrano-Rodriguez, A.; Plasencia-Vazquez, A.H. Assessment of the Impact of Climate Change on the Potential Distributions of Melliferous Plant Species on the Yucatan Peninsula, Mexico: Implications for Conservation Planning. *Conservation* **2025**, 5, 44. <https://doi.org/10.3390/conservation5030044>
- [6] Hurtado-Torres, MC, Montañez-Escalante, PI, and Jiménez-Orsorio, JJ. 2022. La selva tropical y los servicios ecosistémicos que brinda. Percepciones de una comunidad maya del sur de Yucatán, México. *Investigaciones Geográficas*, (78): 89-106. <https://doi.org/10.14198/INGEO.21124>
- [7] Quezada-Euán, J.J. and Javier, J. 2009. Potencial de las abejas nativas en la polinización de cultivos. *Acta Biológica Colombiana*, 14(2), 169-172.
- [8] Varns, T., Cortez, R., Hovani, L., and Kingsbury, P. 2018. Yucatán Peninsula, Mexico: A Jurisdictional Approach to Conserving the Maya Forest. The Nature Conservancy, Arlington, VA, USA.
- [9] Ellis, E.A., Romero-Montero, J.A. and Hernández-Gómez, I.U.. 2015. Evaluación Y Mapeo de Los Determinantes de La Deforestación En La Península Yucatán. 155 pp. <http://www.monitoreoforestal.gob.mx/repositorioidigital/items/show/234>.
- [10] Instituto Nacional de Estadística y Geografía (INEGI). (2022). *Censo Agropecuario 2022*. <https://www.inegi.org.mx/programas/ca/2022/>
- [11] CONABIO (2025). Sistema Nacional de Información sobre Biodiversidad. Registros de ejemplares de aves, Registros de ejemplares de mamíferos. Registros de ejemplares de invertebrados. <http://www.conabio.gob.mx/informacion/gis/>
- [12] CONABIO. 2016. Sitios de atención prioritaria para la conservación de la biodiversidad de México (2016), escala 1:1000000. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad. México."
- [13] Freitas, B. M., Imperatriz-Fonseca, V. L., Medina, L. M., Kleinert, A. D. M. P., Galetto, L., Nates-Parra, G., & Quezada-Euán, J. J. G. (2009). Diversity, threats and conservation of native bees in the Neotropics. *Apidologie*, *40*(3), 332–346. <https://doi.org/10.1051/apido/2009012>
- [14] Dirzo, R., Young, H. S., Galetti, M., Ceballos, G., Isaac, N. J., & Collen, B. (2014). Defaunation in the Anthropocene. *Science*, *345*(6195), 401–406. <https://doi.org/10.1126/science.1251817>
- [15] Carrasco, L. R., Webb, E. L., Symes, W. S., Koh, L. P., & Sodhi, N. S. (2017). Global economic trade-offs between wild nature and tropical agriculture. *PLOS Biology*, *15*(7), e2001657. <https://doi.org/10.1371/journal.pbio.2001657>
- [16] Janzen, D. H., & Hallwachs, W. (2019). Perspective: Where might be many tropical insects? *Biological Conservation*, *233*, 102–108. <https://doi.org/10.1016/j.biocon.2019.02.030>
- [17] Sánchez-Bayo, F., & Wyckhuys, K. A. G. (2019). Worldwide decline of the entomofauna: A review of its drivers. *Biological Conservation*, *232*, 8–27. <https://doi.org/10.1016/j.biocon.2019.01.020>

- [18] Secretariat of Agriculture and Rural Development [AGRICULTURE]. (2021). Diagnosis. Current situation of pollinators in Mexico (First edition). Government of Mexico.
- [19] Durán-García, Rafael & Méndez, Martha & Larqué-Saavedra, Alfonso. (2016). The Biodiversity of the Yucatan Peninsula: A Natural Laboratory. 10.1007/124_2016_8.
- [20] Quezada-Euán, J. J. G., G. Nates-Parra, M. M. Maués, D. W. Roubik, and V. L. Imperatriz-Fonseca. 2018. The economic and cultural values of stingless bees (Hymenoptera: Meliponini) among ethnic groups of tropical America. *Sociobiology* 65(4):534-557. <https://doi.org/10.13102/sociobiology.v65i4.3447>
- [21] Hill, R., G. Nates-Parra, J. J. G. Quezada-Euán, D. Buchori, G. LeBuhn, M. M. Maués, P. L. Pert, P. K. Kwapong, S. Saeed, S. J. Breslow, M. Carneiro da Cunha, L. V. Dicks, L. Galeño, M. Gikungu, B. G. Howle, V. L. Imperatriz-Fonseca, P. O. Lyver, B. Martín-López, E. Oteros-Roza, S. G. Potts, and M. Roué. 2019. Biocultural approaches to pollinator conservation. *Nature Sustainability* 2:214-222. <https://doi.org/10.1038/s41893-019-0244-z>.
- [22] FAO. (2019). The State of the World's Biodiversity for Food and Agriculture. <https://www.fao.org/3/CA3129EN/ca3129en.pdf>
- [23] Haddad, N. M., Brudvig, L. A., Clobert, J., Davies, K. F., Gonzalez, A., Holt, R. D., ... Cook, W. M. (2015). Habitat fragmentation and its lasting impact on Earth's ecosystems. *Science Advances*, 1(2), e1500052. <https://doi.org/10.1126/sciadv.1500052> <https://www.nature.com/articles/s41467-018-07916-1>
- [24] Aguilar, A. G., Flores-Espinosa, M., & Hernández, J. (2025). Metropolization, real estate dynamics, and socio-territorial segregation. The case of Mérida, Yucatán. *EURE Journal - Journal of Urban and Regional Studies*, 51(153), 1–27. <https://doi.org/10.7764/EURE.51.153.03> (The Yucatecan State in the 20th Century).
- [25] Bautista, F. (2007) 'Technical information for agricultural and forestry development in the state of Yucatán.' Theory and Praxis. Mexico, University of Quintana Roo, year 3, no. 4.
- [26] Warren R (2018) Drivers of deforestation and perception of land use changes in livestock landscapes in three municipalities of Campeche, Mexico. Dissertation, CATI.
- [27] Špirić J, Ramírez MI (2021) Policy integration for REDD+: insights from Mexico. *Forests* 12:1075. <https://doi.org/10.3390/f12081075>
- [28] Ashworth, L., Quesada, M., Casas, A., Aguilar, R., Oyama, K., 2009. Pollinator-dependent food production in Mexico. *Biol. Conserv.* 142, 1050–1057. <https://doi.org/10.1016/j.biocon.2009.01.016>.
- [29] 'Assessment of deforestation in the Yucatan Peninsula, 2019 to 2023,' conducted by the Mexican Civil Council for Sustainable Forestry (CCMSS), through the Forest Cover Change Information System (SICAMFOR).
- [30] Haddad, N. M., Brudvig, L. A., Clobert, J., et al. (2015). Habitat fragmentation and its lasting impact on Earth's ecosystems. *Science Advances*, 1(2), e1500052. <https://doi.org/10.1126/sciadv.1500052>
- [31] Goulson, D. (2013). An overview of the environmental risks posed by neonicotinoid insecticides. *Journal of Applied Ecology*, 50(4), 977–987. <https://doi.org/10.1111/1365-2664.12111>
- [32] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2023). Assessment Report on Invasive Alien Species and their Control. <https://www.ipbes.net/ias>
- [33] Mendoza-Ponce, A.V., Corona-Núñez, R.O., Kraxner, F., Estrada, F., 2020. Spatial prioritization for biodiversity conservation in a megadiverse country. *Anthropocene* 32, 100267. <https://doi.org/10.1016/j.ancene.2020.100267>.

- [34] Heinen, R., et al. (2025). Effects of extreme climatic events on evolutionary processes. *Philosophical Transactions of the Royal Society B*.
- [35] Defalque, C., et al. (2025). Drought and high temperatures impact floral traits and pollinator visitation in an entomophilous crop. *Plants*, 14(1), 131. <https://doi.org/10.3390/plants14010131>
- Brunet, J. (2024). Global change aggravates drought, with consequences for plant–pollinator interactions. *New Phytologist*.
- [36] Eichelmann, E., Naber, N., Battamo, A.Y., O’Sullivan, J.J., Salaudin, M., & Kelly-Quinn, M. (2025). A Review of the Impact of Extreme Weather Events on Freshwater, Terrestrial and Marine Ecosystems. *Biology and Environment: Proceedings of the Royal Irish Academy* 125, 101-134. <https://dx.doi.org/10.1353/bae.2025.a966125>.
- [37] IPBES. (2024). Summary for policymakers of the IPBES assessment report on the underlying causes of biodiversity loss and the drivers of transformative change and options to achieve the 2050 biodiversity vision. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
- [38] Eric Vides-Borrell, Luciana Porter-Bolland, Bruce G. Ferguson, Pierre Gasselin, Raúl Vaca, Javier Valle-Mora, Rémy Vandame, Polycultures, pastures and monocultures: Effects of land use intensity on wild bee diversity in tropical landscapes of southeastern Mexico, *Biological Conservation*, Volume 236, 2019, Pages 269-280, ISSN 0006-3207, <https://doi.org/10.1016/j.biocon.2019.04.025>.
- [39] INEGI (2021). Accounts of Mexico's Ecosystems. Results of the Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) Project. Mexico, INEGI, 258 pp.
- [40] IPBES (2016): Summary for policymakers of the assessment report of the Intergovernmental Science-Policy Platform on Biodiversity and production. S.G. Potts, V. L. Imperatriz-Fonseca, H. T. Ngo, J. C. Biesmeijer, T. D. Breeze, L. V. Dicks, L. A. Garibaldi, R. Hill, J. Settele, A. J. Va Freitas, N. Gallai, P. G. Kevan, A. Kovács-Hostyánszki, P. K. Kwong, J. Li, X. Li, D. J. Martins, G. Nates-Parra, J. S. Pettis, R. Rader, and B. F. Viana (eds.). Secret Biodiversity and Ecosystem Services, Bonn, Germany. 36 pages
- [41] Imran M, Sheikh UAA, Rahim J, Nasir M. A Threat to Pollinators: Understanding the Impacts and Solutions: A Review. *Planta Animalia*. 2023;2(2):79–87.
- [42] Quezada-Euán, J. J. G., G. Nates-Parra, M. M. Maués, D. W. Roubik, and V. L. Imperatriz-Fonseca. 2018. The economic and cultural values of stingless bees (Hymenoptera: Meliponini) among ethnic groups of tropical America. *Sociobiology* 65(4):534–557. <https://doi.org/10.13102/sociobiology.v65i4.3447>
- [43] Jha, S., & Kremen, C. (2012). Resource diversity and landscape-level homogeneity drive native bee foraging. *Proceedings of the National Academy of Sciences of the United States of America*, 110(2), 555–558. <https://doi.org/10.1073/pnas.1208682110>
- [44] Aragon-Gastelum, J.L.; Ramirez-Albores, J.E.; Perez-Suarez, M.; Vargas-Contreras, J.A.; Aguirre-Crespo, F.J.; Plascencia-Escalante, F.O.; Serrano-Rodriguez, A.; Plascencia-Vazquez, A.H. Assessment of the Impact of Climate Change on the Potential Distributions of Melliferous Plant Species on the Yucatan Peninsula, Mexico: Implications for Conservation Planning. *Conservation* **2025**, *5*, 44. <https://doi.org/10.3390/conservation5030044>
- [45] Jha, S., & Kremen, C. (2012). Resource diversity and landscape-level homogeneity drive native bee foraging. *Proceedings of the National Academy of Sciences of the United States of America*, 110(2), 555–558. <https://doi.org/10.1073/pnas.1208682110>
- [46] Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT). (2025). *Programa Sectorial de Medio Ambiente y Recursos Naturales 2025–2030*. Diario Oficial de la Federación. <https://sidof.segob.gob.mx/notas/5767440>

[47] Gobierno de México. (2025). *Programa Nacional de Restauración Ambiental 2025–2030*. Secretaría de Medio Ambiente y Recursos Naturales. <https://www.biodiversidad.gob.mx/pais/programanacionalderestauracion>

[48] Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO). (2016). *Estrategia Nacional sobre Biodiversidad de México y Plan de Acción 2016–2030*. Gobierno de México. <https://www.gob.mx/conabio/articulos/estrategia-nacional-sobre-biodiversidad-de-mexico-y-plan-de-accion-2016-2030?idiom=es>

Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO). (2023). *Alineación de la ENBioMex al Marco Mundial de Biodiversidad de Kunming-Montreal*. Gobierno de México. https://www.biodiversidad.gob.mx/media/1/pais/Alineacion_ENBIOMEX_al_MMB.pdf

[49] <https://www.biodiversidad.gob.mx/pais/enbiomex>

[50] <https://www.gob.mx/semarnat/restauracionambiental/documentos/programa-nacional-de-restauracion-ambiental-2025-2030>

[51] <https://www.cec.org/es/>

[52] <https://www.gob.mx/agricultura/documentos/estrategia-nacional-para-la-conservacion-y-uso-sustentable-de-los-polinizadores-encusp>

[53] <https://www.gob.mx/semarnat/polinizadores>

[54] <https://www.iki-cac.org/IKI-en-la-region/pollilac-accion-regional-para-mejorar-la-proteccion-de-los-insectos-polinizadores>

[55] <https://www.ipbes.net/assessment-reports/pollinators>

[56] <https://www.undp.org/es/mexico/redes-de-sororidad-verde-trazan-el-camino-hacia-un-futuro-igualitario-y-sostenible>

B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

Project Description

Theory of Change

This project is grounded in a theory of change that promoting biodiversity-friendly management of productive landscapes in the Yucatán Peninsula requires achieving three outcomes: (i) integration of biodiversity conservation and sustainable management criteria into policies and financing mechanisms; (ii) adoption of biodiversity-friendly productive practices and rehabilitation of native vegetation to improve ecological connectivity; and (iii) generation and use of locally relevant knowledge to support adaptive management and scaling. These outcomes directly respond to the underlying drivers of biodiversity loss in the region, including policy misalignment, economic incentives favoring land-use change, technical constraints in production systems, and limited access to actionable knowledge.

If these outcomes are achieved, then biodiversity-friendly management of productive landscapes in the Yucatán Peninsula will be strengthened through restoration of native vegetation, improved ecological connectivity, and integration of biodiversity-supportive criteria into policies, financing mechanisms, and community-based land management, using pollinators as a functional lever. This will reduce pressures on biodiversity, maintain ecosystem

functions, and enhance ecosystem resilience, thereby achieving the project objective. These changes are expected to counteract habitat loss, fragmentation, and ecosystem degradation by restoring ecological interactions and improving the capacity of landscapes to sustain biodiversity and productive functions simultaneously.

Pollinators serve within this theory of change as a practical entry point to catalyze broader biodiversity-friendly land management practices. Given their sensitivity to land-use change, pesticide use, and habitat fragmentation, pollinators function as indicators of ecosystem health and as a unifying element linking agricultural productivity, biodiversity conservation, and ecosystem resilience.

IF biodiversity conservation criteria that maintain ecological functions are integrated into at least two public programs and financing mechanisms (Outputs 1.1.1 and 1.1.2), THEN producers and institutions will have stronger incentives to adopt biodiversity-friendly practices that conserve native vegetation and improve ecological connectivity within productive landscapes.

Integrating biodiversity criteria reduces structural barriers and creates enabling conditions for adoption. Incentives encourage producers to maintain habitat patches, restore native vegetation, and adopt practices that sustain pollination and broader ecological processes. Embedding these criteria into programs ensures continuity beyond the pilot and supports replication at scale. This directly addresses policy and financial drivers that currently incentivize deforestation, monoculture expansion, and agricultural intensification, thereby helping to realign public and private investments toward biodiversity-positive outcomes.

IF demonstration plots implement integrated management protocols that support biodiversity and ecological functions (Output 2.1.1), AND IF participatory studies demonstrate economic, environmental, and social benefits (Output 2.1.2), AND IF natural habitats are rehabilitated through community agreements and coordinated plant propagation mechanisms (Outputs 2.2.1–2.2.3), THEN producers and communities will adopt biodiversity-friendly productive practices and restore habitat connectivity within productive landscapes.

Demonstration plots show productivity and resilience benefits. Implementing them with a Farmer-farmer approach (campesino-campesino) has shown reduced perceived risks and increased rate of adoption more effectively than top-down approaches in Latin America. While restoration activities improve ecological connectivity and ecosystem functionality. Pollinators provide a visible entry point to promote diversified landscapes, but the resulting benefits extend to broader biodiversity. Improved connectivity enhances ecosystem resilience and reduces pressure on natural habitats.

This pathway addresses key technical and behavioral barriers, including limited access to knowledge, perceived financial risks, and lack of locally validated evidence on the benefits of biodiversity-friendly practices. By restoring native vegetation and reducing pesticide dependency, the project also mitigates key threats such as habitat fragmentation, resource simplification, and pollinator decline, thereby strengthening ecosystem services such as pollination, pest regulation, and soil fertility.

IF community baselines and monitoring networks are established (Outputs 2.3.1 and 2.3.2), AND IF digital tools, monitoring protocols, and knowledge dissemination mechanisms are developed (Outputs 3.1.1–3.1.3), AND IF communication and scaling strategies are implemented (Outputs 3.2.1 and 3.3.1–3.3.2), THEN communities, institutions, and decision-makers will use biodiversity and habitat information to guide adaptive management and replicate biodiversity-friendly landscape management approaches.

Participatory monitoring strengthens community engagement and supports adaptive management as it provides timely, locally relevant information that links environmental changes to community needs. Accessible information increases awareness and institutional uptake. Dissemination and scaling tools promote replication through government programs and complementary initiatives, amplifying Global Environmental Benefits beyond the pilot area.

This component addresses critical knowledge and information gaps, including the limited availability of accessible, locally relevant data on biodiversity and ecosystem services, and the erosion of traditional ecological knowledge. By integrating scientific and indigenous and local knowledge systems, the project strengthens social engagement, supports behavioral change, and enhances long-term sustainability of biodiversity-friendly practices.

Project Description

The project is grounded in a Theory of Change that addresses the main barriers described previously. Its objective is strengthening biodiversity-friendly management of natural and productive landscapes by conserving and restoring native vegetation and habitat connectivity in the Yucatán Peninsula through a community-based management model that uses pollinators as a functional lever to catalyze broader biodiversity outcomes and integration into national policies and financial mechanisms.

To achieve this, the project integrates three strategic and complementary components: Component 1: Policy coherence and financing mechanisms for biodiversity conservation in integrated landscapes; Component 2: Integrated landscape management and restoration for biodiversity conservation; and Component 3: Knowledge management and communication.

Component 1: Policy coherence and financing mechanism for biodiversity conservation in integrated landscapes

Various studies (UNDP, 2024^[1]; Medrano-Sánchez & Cuenca-Silva, 2025^[2]; IPBES, Reyes-García *et al.*, 2025^[3]) identify publicly funded policies and programs, including subsidies, as harmful incentives for biodiversity conservation and an indirect driver of pollinator and habitat loss. Regarding financial mechanisms and considering the project's 3-year duration and budget, the project does not aim to create new mechanisms but to integrate biodiversity conservation criteria into existing, operational ones. Evidence of the benefits of biodiversity habitat connectivity for farmer and rancher productivity and incomes from other geographies (Tibesigwa *et al.*, 2019^[4]; Potts *et al.*, 2016)^[5]. Component 1 relates directly to Component 2, as it uses field-piloted information to substantiate the importance of biodiversity conservation and habitat restoration benefits for ecosystems and people.

Outcome 1.1. Biodiversity conservation and sustainable management criteria integrated and operational in at least two public programs, policy instruments, or financing mechanisms supporting landscape management

This outcome ensures the project's systemic and scaling approach, creating an enabling and sustainable environment that incentives and facilitates on-the-ground conservation actions beyond the project's lifespan.

Outcome 1.1 will be achieved through two key outputs: 1) the analysis, reform, and approval of federal and/or state policy programs or instruments to include biodiversity conservation and sustainable management criteria, and 2) the development of proposals to adjust existing financing mechanisms to incorporate conservation criteria.

The critical assumption for this outcome is the willingness and commitment of SADER to collaborate with SEMARNAT, as the Executing Agency, to reform and adjust programs and instruments under its purview. The main identified risk is opposition from actors benefiting from the status quo, primarily the agrochemical and agribusiness industries, as sustainable practices reduce pesticide consumption and could affect their sales.

Output 1.1.1. National programs or policy instruments adopt and implement biodiversity conservation and sustainable management criteria

The project will build on existing inter-institutional coordination spaces between SEMARNAT and SADER, as well as established technical and policy coordination mechanisms under national biodiversity and environmental policy frameworks, to promote the integration of biodiversity conservation and sustainable management criteria into public programs and policy instruments.

The agricultural sector has increasingly incorporated sustainability considerations into its policy instruments, including efforts to promote more sustainable and agroecological practices and improve the environmental performance of productive systems. These provide an entry point to strengthen the integration of biodiversity considerations into agricultural and rural development programs.

Building on these frameworks, the project will identify and prioritize at least two (02) national or subnational programs, policy instruments, or financing mechanisms—across environmental and agricultural sectors—for the integration and operationalization of biodiversity conservation and sustainable management criteria within integrated landscape approaches. Programs or policy instruments identified for modification include CONANP programs like PROCODES, Protected Area Management Plans and their buffer zones, CONAFOR programs and supports, and SADER agricultural development programs such as “Production for Wellbeing” (Producción para el Bienestar in Spanish) which has the broadest reach and infrastructure for integrating agroecological criteria. At the state level, the 'Programa Especial Concurrente para el Desarrollo Rural Sustentable' will be considered.

Using technical criteria that operationalize biodiversity conservation, co-design, feedback, and validation workshops will be held with technical teams of prioritized programs. Final adjustment proposals for the two selected programs or policy instruments will be drafted, presented, and disseminated.

Output 1.1.2. Existing financing mechanisms incorporate conservation criteria that support biodiversity-friendly conservation and ecosystem restoration

During design, financial mechanisms and instruments operated by public credit institutions like Nacional Financiera (NAFIN), non-bank financial intermediaries (IFNB) including SOFOMs, SOCAPs, and private rural financiers, and commercial banks, among others, were identified. The project will engage these actors to provide feedback and assess the feasibility of the criteria developed in Output 1.1.1, incorporating their inputs and analyzing possible integration into existing mechanisms. This involves policy and technical advocacy with these financial institutions, leveraging outputs from Component 2. The final deliverables are documents and agreements that modify the operational guidelines, criteria, or policies of financial mechanisms to incorporate conservation criteria that support biodiversity-friendly conservation and ecosystem restoration.

The first key activity is prioritizing which mechanisms are most willing to incorporate the criteria. The project's 3-year lifespan is a key factor in selecting mechanisms with the highest probability of short-term success.

With identified mechanisms and developed conservation criteria, working groups will be convened to assess the technical and operational feasibility of integrating these criteria into calls for financing instruments, credits, or guarantee systems, reaching agreements on their implementation. Key aspects include capacity building and technical assistance^[6], identification and prioritization of specific indicators^[7], and a landscape/territorial approach^[8].

Finally, a formal proposal for modifying the guidelines of the determined financial instruments to incorporate conservation criteria will be developed.

Component 2: Integrated landscape management and restoration for biodiversity conservation

This component implements on-the-ground solutions in the states of Yucatán and Campeche, generating livelihood improvements for *ejidos* and communities, farmers and ranchers, while fostering local capacities, knowledge generation, and community participation to inform decision-making and long-term sustainability.

This component directly addresses key drivers of biodiversity loss across natural and productive landscapes, including degradation, fragmentation, and the loss of ecological connectivity. It promotes restoration and sustainable management through biodiversity-friendly practices that enhance ecological integrity and improve the status of biodiversity. The proposed interventions will be grounded in effective, climate-resilient ecological principles and

implemented with the active participation of local actors to strengthen their capacities, promote ownership, and ensure their empowerment beyond the project lifecycle.

This component has three outcomes: 1) Productive systems adopt biodiversity-friendly practices that reduce threats and enhance biodiversity, applying territorial, intercultural, and gender-responsive approaches; 2) Natural habitats are restored and conserved under community-based management, improving ecological connectivity in integrated landscapes; 3) Local communities, with the active participation of youth and women, generate and use reliable biodiversity data for the adaptive management of their productive systems and restored areas, and contribute to the National Biodiversity Information System (SNIB).

The results and products of this component are explained below:

Outcomes 2.1. Productive systems adopt biodiversity-friendly practices that reduce threats and enhance biodiversity, applying territorial, intercultural, and gender-responsive approaches

Representative production systems in the Yucatán Peninsula are agriculture and livestock. Based on identifying biodiversity critical habitats, production systems for demonstration plots are prioritized, and biodiversity-friendly practices to reduce threats are implemented. A participatory assessment of implementation cost versus environmental, social, and economic benefits is also developed. Both outputs will apply intercultural and gender-responsive approaches, and the generated information will serve as technical evidence for Component 1.

The key assumption is that farmers and ranchers perceive a tangible and equitable benefit from adopting the practices. The main risk is that potential community or land tenure conflicts hinder the signing and compliance of agreements.

Output 2.1.1. Biodiversity-friendly practices demonstrated and implemented in productive systems, integrating territorial, intercultural, and gender-responsive approaches

This output focuses on the establishment and operation of demonstration plots that apply integrated management practices to enhance biodiversity conservation within productive systems, using a territorial, intercultural, and gender-responsive approach.

During the initial phase of implementation, a set of biodiversity-friendly technical criteria and practices for productive systems will be defined and adapted to the local context. This will be developed and validated with a group of farmers and ranchers, ensuring the active participation of both men and women and incorporating their inputs and traditional knowledge, including local cosmovision regarding agricultural practices such as milpa, home gardens, and fallow lands (acahuales). These will be translated into visual, practical, and accessible guides to support replication of the intervention. Their content will be discussed in community sessions to ensure local appropriation and understanding.

A comprehensive Training Plan will be designed, including criteria for the selection and number of demonstration plots and the identification of farmers and ranchers to be trained. Selection criteria will follow equity considerations, prioritizing women by considering their time constraints, caregiving roles and contributions to productive systems.

Additionally, agreements will be formalized with selected participants, and inputs for implementing biodiversity-friendly practices will be provided. These include native plants species from the peninsula, cover crops, diversified vegetation strips, hedgerows and trees. Basic tools will be provided as required. Prior to establishing and launching the demonstration plots, a specific baseline will be developed, contributing to Output 2.3.1.

Demonstration plots will be established and fully operational in Years 2 and 3 of the project. Participating producers will be training in the application of technical criteria and practices, promoting their uptake and replication. Training will employ participatory methodologies and be conducted in Mayan language when necessary. These plots will be

monitored by the Community Biodiversity Monitoring Network (Output 2.3.2), applying the adapted and validated multi-user monitoring protocol (Output 3.1.2).

Output 2.1.2. Participatory assessment of implementation costs and economic, environmental, and social benefits of biodiversity-friendly practices, incorporating traditional knowledge

This assessment will utilize data generated by the biodiversity monitoring system (Output 3.1.2), including periodic metrics on: 1) biodiversity indicators, 2) vegetation structure and composition considering phenological data, 3) crop yield (kg/ha) in demonstration plots versus control plots, and 4) input use, among others. Visual documentation from each demonstration plot, managed by men, women, and families, will also be included. This information/data will be complemented by locally sourced qualitative and quantitative information gathered specifically for the study. The integrated monitoring dataset will be analyzed with the participation of project partners and local actors. Findings will be communicated and validated through a participatory process.

The results will be disseminated to other producers to promote and other stakeholders to support the adoption of biodiversity-friendly practices and inform decision-making processes, contributing to improved biodiversity outcomes and more sustainable productive systems via Output 3.1.3.

Outcome 2.2. Natural habitats are restored and conserved under community-based management, improving ecological connectivity in integrated landscapes

The restoration and conservation of critical natural habitats, including native vegetation patches and ecological corridors, will be conducted and implemented under formal community-based management agreements. These interventions will contribute to improving ecological connectivity and strengthening the integrity of natural ecosystems within integrated landscapes.

Coordinated government-community mechanisms will be established for the collection, storage, production, and distribution of native plant material, supporting restoration activities that improve the status of biodiversity. This will ensure a continuous and scalable process for the establishment and maintenance of native vegetation, expanding coverage of forest patches and corridors within and beyond the project scope.

The primary assumption for achieving this outcome is the successful collection and propagation of native plant material in sufficient quantities and quality. The main identified risk is the limited availability of native plant stock and subsequent establishment failure, which could be exacerbated by climate variability and extreme events affecting seed availability, restoration processes, and ecosystem recovery.

Output 2.2.1. Effective community-government mechanisms established for the collection, production, and distribution of native plant material for ecosystem restoration

These mechanisms are designed to support the collection, storage, and production of native plant material in federal, state, or community nurseries for subsequent distribution to owners of productive systems and/or natural vegetation areas via agreements, aimed at rehabilitating degraded areas in both productive systems and natural habitats. Key activities to achieve this output include conducting a participatory diagnostic and planning exercise, native seed collection, post-harvest storage and processing, and seedling production in community and state nurseries.

Available nurseries capacities will be assessed to establish partnerships for native seed storage, production, and distribution. Potential partners already identified include the Yucatán Science and Technology Park (PCTY), nurseries operated by the State Secretariat of Sustainable Development, the Autonomous University of Yucatán (UADY) Nursery, CONAFOR nurseries, and community nurseries such as those in the Puuc Biocultural State Reserve, including the GEF Small Grants Programme-funded Kumche'il Nursery.

Output 2.2.2. Community agreements established for the restoration and long-term maintenance of natural habitats and native vegetation at both natural and productive landscapes to support biodiversity

These agreements establish long-term rules for maintenance, use, and responsibilities, ensuring the sustainability of restoration efforts beyond the project's lifecycle. This mechanism also helps mitigate operational and legal risks by formalizing assembly-endorsed agreements for land use and management.

These agreements will serve as a model for community-based restoration and conservation, supporting potential replication and scaling to other municipalities. The project will fund community transport, logistics, materials, workshops, and training for the georeferenced identification of restoration sites, optimal seasonal timing, and selection of site-appropriate native species, culminating in the formalization and signing of agreements.

Output 2.2.3. Restoration with native vegetation to establish forest patches and ecological corridors

The project will coordinate with multiple stakeholders for landscape planning and design, including the selection of plant species appropriate for the prioritized site ecosystems. This process will actively involve women, local community groups, Indigenous peoples, farmers, and ranchers. The selection of climate-resilient native plant species, among others, will be informed by practical knowledge and data from Protected Natural Areas, research centers, federal and state agencies, and the communities themselves within prioritized habitats, as well as scientific evidence and records and ecological information on species composition and ecosystem dynamics.

Site preparation, transport of plant material, training, and planting by trained crews will be conducted with the participation of students from schools and technical centers, agreement signatories, community women and youth—especially Indigenous students (Yucatec Maya, Maya, Ch'ol, others)—and all other actors willing to join and participate in the effort of restoration process.

Outcome 2.3. Communities, with the active participation of women and youth, generate and use biodiversity data for adaptive management and contribute to the National Biodiversity Information System (SNIB)

Communities, with the active participation of women and youth, generate and use biodiversity data for adaptive management and contribute to the National Biodiversity Information System (SNIB).

As studies indicate^[9], connecting complementary knowledge systems is a way to mobilize existing knowledge for improved assessments and policies, and to support and enhance learning and decision-making mechanisms within the context of dynamic socio-ecological systems (Tengö et al., 2014). Building on this approach, this outcome seeks to strengthen collaboration between scientific and local knowledge, enhancing learning processes, and supporting informed management decisions at the landscape level.

Through the generation, visualization, and collective interpretation of biodiversity data, this outcome is expected to influence behavioral change among participating communities by strengthening awareness of ecological trends, increasing perception of environmental risks (e.g., biodiversity loss, pollinator decline), and reinforcing the perceived benefits of biodiversity-friendly land management practices.

Furthermore, this outcome aims to empower local communities and foster a continuous learning process that leaves installed capacities, valuable biodiversity data, and a more skilled community prepared to respond to ecological and economic challenges. This process is expected to shift local decision-making from experience-based or reactive practices toward more evidence-based and adaptive management of productive systems.

This result is achieved through two products: 2.3.1, the community baseline on biodiversity and forest resources established with the active participation of women and youth; and 2.3.2, the network of community biodiversity monitors that is formed, trained, and operates, applying the monitoring protocol of component 3.

The main assumption for achieving this outcome is that the incentive structure for local communities (including youth and women) is sufficient to strengthen their capacity and motivation over time to undergo training, apply monitoring protocols, receive equipment, collect data systematically, and use this information to inform management decisions within their family-based productive systems and surrounding landscapes. It is further assumed that increased access to locally relevant biodiversity information will translate into behavioral shifts in land-use practices, particularly where communities can directly observe links between management choices and ecological outcomes.

The main risk is the potential abandonment of monitoring activities following the initial training and equipment phase. This risk also includes limited translation of generated data into actual changes in land management decisions if feedback mechanisms and community engagement processes are not sufficiently strong or sustained.

Output 2.3.1. Community baseline on biodiversity and forest resources established with the active participation of women and youth

The baseline will focus on both the demonstration plots within productive systems and the prioritized habitats for restoration. A participatory design and initial training process will be developed, building on the protocol generated in Output 3.1.2. Existing field data will be compiled, and data gaps will be addressed through the active participation of community women and youth, with support from partner universities and research and education centers. The collected data will subsequently be systematized, analyzed, and validated. During the field work stage, in addition to biophysical data, a gender-responsive and intercultural approach will be applied to ensure the baseline captures relevant socio-cultural dimensions.

Output 2.3.2. Community biodiversity monitoring network established, trained, and operational, applying the monitoring protocol from Component 3

The monitoring network will be formed by building upon existing local groups and initiatives in Yucatán and Campeche, with particular emphasis on fostering participation from actors within the project's intervention sites. The network will comprise both men and women and will utilize the monitoring approach and protocol (Output 3.1.1 and 3.1.2), adapted to include intercultural indicators and capture sex-disaggregated data. Community monitors will collect not only quantitative data but also narratives and observations on perceived changes from gender and intercultural perspectives. Furthermore, they will participate in the baseline development process. Monitoring will be implemented across both productive systems and restored habitats.

In coordination with *ejido* leaders, the Intermunicipal Biocultural Board of Puuc (JIBIOPUUC), and other NGOs working with productive and livestock systems, the project will support the selection of network members. Non-monetary incentives provided by the project will include continuous training and capacity building, mentorship from the Project Management Unit (PMU) staff, and the provision of field equipment.

The long-term continuity of monitoring is based on non-economic benefits that strengthen local ownership of the process, such as:

- Access to strategic information for improving productive practices, yield stability, and production volumes;
- Generation of evidence to support territorial management and address pressures from land-use change;
- Strengthening of local capacities and evidence-based adaptive management; and
- Recognition and positioning of communities as key stakeholders in biodiversity conservation and knowledge generation.

Component 3: Knowledge management and communication

This component manages the knowledge generated in Components 1 and 2, linking it to the National Biodiversity Information System (SNIB), among other platforms. It also aims to reduce knowledge gaps and improve access to information for multi-level decision-making in biodiversity conservation. Increased public appreciation and knowledge of biodiversity among citizens—including urban and environmental groups, youth and students, educators, tourism service providers, and the public—will ensure the continued use of the generated tools to produce information post-project. Furthermore, the ' project model (Output 3.3.1)—a suite of generated tools, protocols, policy adjustment proposals, baseline and monitoring data, agreements, and studies—will be systematized, disseminated, and promoted to scale impact through innovative communication campaigns focused on youth and diverse audiences such as decision-makers, donors, and financiers.

Outcome 3.1. Knowledge and information systems strengthened and operational to support biodiversity conservation and ecosystem management in integrated landscapes

Despite ongoing efforts, important knowledge gaps persist regarding the status, distribution, and trends of biodiversity in Mexico's productive and natural landscapes. Existing information is often fragmented and largely generated through scientific processes, remaining at a level that is not always accessible or actionable for local actors and communities. As a result, its use for informing decisions on conservation, restoration, and sustainable management at the local level remains limited. Strengthening the generation and use of standardized, locally relevant biodiversity data is therefore critical to support adaptive management and decision-making across scales.

To reduce knowledge gaps, diverse citizen actors who can potentially generate information through participatory monitoring will be engaged. The project will evaluate available digital tools and propose the design of a tool for data recording and visualization (compatible with existing platforms). Additionally, it will develop a multi-user biodiversity monitoring protocol to ensure the generated information is disseminated and accessible to various audiences.

The main assumption for this outcome is that the responsible institutions are willing to collaborate, share data, and ensure technical interoperability with existing platforms (e.g., SNIB) and the long-term sustainability of the application. The main risk is that the application may lack interoperability with SNIB and other platforms like Enciclovida; SNIRA (CONABIO's Ecological Restoration Information System); SNIARN (SEMARNAT's platform); GBIF (Global Biodiversity Information Facility—an open-access global biodiversity data platform); aVerAves (a platform for bird records), be too complex for community monitors, or lack government guarantees for its maintenance and hosting, resulting in an unused tool that disappears after the project concludes.

Output 3.1.1 Data collection and visualization system for biodiversity monitoring, compatible with existing platforms, developed and operational (prototype)

Platforms such as SNIB, are fundamental pillars for biodiversity recording in Mexico but present limitations, including: difficulty integrating biological data with socioeconomic and landscape management information; a lack of standardized monitoring protocols adapted to productive and cultural contexts; and user interfaces that are not community-monitor-friendly.

Therefore, the project proposes generating a prototype data collection and visualization system that must be adaptable to different audiences, user-friendly, and interoperable with existing information systems such as SNIB. The system aims for biodiversity information to be generated directly by its users through local monitoring. It will have basic functions for data entry, simple map visualization, and basic reporting. Advanced analytical functions and more sophisticated dashboards are not part of this project phase and are expected to be developed in future scaling stages, based on lessons learned from the prototype implementation.

The feasibility of this output will be assessed during the CEO Endorsement stage. Aspects for evaluation include: user types for data input and output; costs associated with hosting and maintenance; and interoperability with SNIB, among others. The final design will prioritize a minimum viable and scalable prototype that can be maintained with low-cost infrastructure and progressively upgraded depending on institutional uptake and resource availability.

Output 3.1.2. Biodiversity monitoring protocol adapted and validated for multiple user groups, with indicators supporting habitat management and ecosystem integrity

This protocol will be based on a review and synthesis of existing protocols, such as those used by the Protected Area Monitoring Program, or protocols for monitoring biodiversity in agroforestry systems from the National Autonomous University of Mexico (UNAM) or The College of the Southern Border (ECOSUR), among others, including broader biodiversity monitoring frameworks focused on species composition, habitat condition, and ecosystem integrity. Iterative adjustments will be made to the protocol through a participatory process, engaging with different actors responsible for monitoring (farmers, ranchers, youth, students, tourism service providers). Training guides and materials will also be developed. This process will be coordinated with the states of Campeche and Yucatán, Protected Areas (PAs), federal agencies like CONANP, and universities. An intercultural and gender-responsive approach will be applied throughout the protocol's development—not just during validation—fostering a dialogue between scientific and traditional knowledge systems and incorporating these insights into the protocol's design.

Output 3.1.3. Biodiversity information generated by diverse stakeholders made accessible through targeted dissemination and knowledge-sharing mechanisms

Using the data collection and visualization system (Output 3.1.1), the project aims to generate new information from farmers, ranchers, youth, students, and tourism service providers, constantly feeding the system and, in some cases, the SNIB. To generate information, activities such as collaborative monitoring events and system training sessions will be scheduled and promoted by the communication strategy (Output 3.2.1). Furthermore, key knowledge products—such as videos, infographics, and other outreach resources—will be systematized and prepared for public availability. Both the monitoring-derived data and the produced materials will be accessible to any interested party.

Outcome 3.2. Increased public awareness and knowledge of biodiversity and its role in sustaining ecosystem resilience

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Addressing limited knowledge, information, and social engagement regarding biodiversity is critical to strengthening conservation outcomes. While information on biodiversity exists, it is often not effectively communicated or translated

into meaningful understanding and engagement among broader society and local actors. At the same time, traditional and local knowledge to understand biodiversity and its contributions to human well-being is being lost due to socio-economic and cultural changes. Strengthening the communication and integration of scientific and local knowledge is therefore essential to foster public awareness, engagement, and support for biodiversity conservation.

This outcome is expected to contribute to behavior change by improving understanding of the links between biodiversity, ecosystem functions, and human well-being, thereby influencing perceptions, attitudes, and willingness to adopt or support biodiversity-friendly practices at both community and broader societal levels.

The main assumption is that exposure to scientifically sound and locally relevant information, presented in a simple, attractive, engaging, and culturally appropriate manner for different audiences (Output 3.2.1), will positively contribute to improve public awareness, perceptions, and behaviors towards biodiversity conservation. It is further assumed that increased awareness will translate into behavioral change only when accompanied by participatory and culturally grounded communication processes that enable audiences to internalize and relate biodiversity information to their own livelihoods and decision-making contexts.

For this increased appreciation to translate into sustained engagement and genuine local ownership rather than being perceived as an external message, it is fundamental to actively involve communities and citizens directly in the generation, adaptation, and dissemination of knowledge. The strategy aims to empower communities to become key actors in leading and transmitting these messages, fostering long-term social engagement and supporting sustainable landscape management and biodiversity conservation. This participatory communication approach is expected to reinforce social norms that support biodiversity-friendly behaviors and strengthen collective responsibility for ecosystem stewardship, including in productive landscapes.

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Output 3.2.1. Communication strategy targeting citizens, designed and implemented with a focus on youth, to promote biodiversity conservation and active engagement

The project will design a communication strategy and implement innovative initiatives that foster social participation and engagement in biodiversity conservation. This will include campaigns on digital platforms (e.g., TikTok, Instagram, X) based on participatory challenges, photo contests, and citizen science activities (e.g., pollinator and plant visitation records, school field trips). This output will utilize the materials generated in Output 3.1.3, transforming them into didactic, accessible, and innovative resources to promote public awareness, appreciation, knowledge, and behavioral change for biodiversity conservation.

The communication strategy will target diverse audiences, including youth, community members, producers, educators, and local organizations, ensuring that messages are culturally relevant and adapted to different contexts.

Additionally, the project will engage key local actors such as community organizations, educators, women and youth groups, and local authorities to act as spokespeople of biodiversity conservation messages. Strategic partnerships will

be established with organizations already working on environmental education, community development, and sustainable land management, leveraging their experience and outreach capacities.

These collaborations will raise community awareness about the importance of biodiversity conservation and strengthen knowledge dissemination and public understanding. By promoting locally relevant narratives and participatory communication approaches, the strategy aims to influence social norms and encourage the adoption of biodiversity-friendly behaviors among communities and broader society.

Outcome 3.3. Project model systematized and disseminated to promote replication and scaling of biodiversity-friendly integrated landscape management approaches

The project is a pilot initiative designed for replication at a larger scale in GEF-9 and through other funders, projects, and initiatives. Therefore, the project model must systematize its suite of tools, protocols, agreement templates, baselines, databases, and materials. This systematized knowledge package will be used to disseminate the experience to other states to support the integration of biodiversity-friendly practices into landscape management approaches, particularly in landscapes where strengthening ecological connectivity and ecosystem integrity is critical to sustain productive systems.

The assumption for achieving this outcome is that there is interest from other states, projects, or donors in replicating the approach.

Output 3.3.1. Guideline for scaling up the project model to other states, emphasizing biodiversity conservation and ecological connectivity, developed

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The guide will serve as a key instrument to facilitate the replication of project actions in other states or regions. It will be sufficiently flexible to incorporate different state contexts while containing useful decision-support tools and data. In this way, it will help operationalize financing from diverse sources, including the GEF-9 replenishment. The guide will outline implementation practices aimed at conserving biodiversity and rehabilitating habitats, as well as tools for participatory monitoring, protocols, training manuals, etc. Furthermore, it will provide a general integration of relevant federal regulations and programs current at the time of its development.

Output 3.3.2. Strategy for knowledge exchange and advocacy with the GWP Program, Coexistence Project, and other GEF/government projects implemented to promote replication and integration

Based on the programs and financial mechanisms identified in outcome 1.1. the strategic projects identified in the baseline, such as GEF 11683 for financing the reduction and management of agrochemicals plus (FARM+) in Mexico, GEF 'From Conflict to Coexistence,' focused on the recovery of predator species, the GEF Global Wildlife Program, and the Stakeholder Engagement Plan, a strategy for advocacy and learning exchange will be developed. The project will fund travel for key project stakeholders to participate in the GWP Program.

Based on the programs and financial mechanisms identified in Outcome 1.1, and the strategic projects identified in the baseline—such as GEF 11683 'Financing Agrochemical Reduction and Management Plus (FARM+) in Mexico,' GEF 'From Conflict to Coexistence' (focused on apex predator recovery), the GEF Global Wildlife Program (GWP), and the project's Stakeholder Engagement Plan—a strategy for advocacy and learning exchange will be developed. The project will fund travel for key project stakeholders to participate in GWP Program events.

Component 4: Monitoring & Evaluation.

This component will establish and operationalize a monitoring and evaluation (M&E) system to support effective decision-making, adaptive management, and learning throughout project implementation.

Outcome 4.1. Effective decision-making and adaptive management

The project will be implemented over three years in a manner that allows for continuous learning and adjustment to evolving socio-ecological conditions. The M&E system will support proactive risk management, identification of implementation bottlenecks, and timely decision-making.

Due to the condensed timeframe, particular emphasis will be placed on early establishment of baselines and periodic reflection points to ensure that lessons learned can inform implementation within the project lifecycle. It will also facilitate the integration of data generated through community-based monitoring (Outcome 2.3) and the data collection and visualization prototype (Output 3.1.1), ensuring that information flows across components and informs both local and project-level decision-making.

The M&E system will be coordinated by the Project Management Unit (PMU), including dedicated M&E capacity, and implemented in close collaboration with executing partners and key stakeholders.

Output 4.1.1. One (01) monitoring and evaluation system is used for the Project's adaptive management with gender sensitive indicators.

The Monitoring, Evaluation & Reporting Program Specialist will oversee the project's M&E system, ensuring adaptive management, gender-sensitive indicators, and effective stakeholder participation. The system will cover the four priority landscapes, track progress, manage risks, monitor finances, and address stakeholder information needs. It will provide tools to collect, analyze, and use data for progress reporting and evaluations. This product will be implemented by the M&E professional from year 1 to year 3.

Stakeholders:

Relevant stakeholders for the project and their respective roles and responsibilities are detailed below. As indicated in the previous section, these proposals are indicative and will be validated during the CEO Endorsement stage. Stakeholders will be convened to gather their inputs and refine the indicative roles and responsibilities, ensuring a

participatory design process and fostering stakeholder ownership. In addition, stakeholders will be further evaluated and reviewed during the PPG stage to confirm relevance, engagement levels, and potential contributions to project implementation.

Particular emphasis will be placed on the meaningful engagement and leadership of Indigenous Peoples, local communities, ejidos, producer organizations, and community-based organizations throughout the project cycle. These stakeholders will not be considered solely as beneficiaries of project interventions; rather, they will serve as key partners in the co-design, implementation, participatory monitoring, adaptive management, and governance of project activities.

The project is grounded in a community-based management approach in which local actors play a central role in identifying priorities, shaping interventions, implementing biodiversity-friendly practices, leading habitat restoration activities, generating and interpreting monitoring data, and contributing to decision-making processes. Through this approach, communities will help guide the implementation and adaptation of project actions, ensuring that interventions are locally relevant, culturally appropriate, and sustainable over the long term.

During the PPG phase, stakeholder engagement processes will further strengthen the incorporation of Indigenous and local knowledge systems, community governance structures, and culturally appropriate implementation approaches. The process will also identify opportunities to enhance community leadership and capacity, while ensuring compliance with project safeguards requirements, including the application of Free, Prior, and Informed Consent (FPIC), where relevant.

Table No. 1: Roles and responsibilities of project stakeholders

Type of stakeholder	List of stakeholders	Role and responsibility
Federal government entities	DGVS-DCB-SEMARNAT, UCAI-SEMARNAT, SHCP Operational Focal Point, CONABIO, CONAFOR, CONANP, INPI, SADER, INMUJERES	Will coordinate the alignment of the project with national policies, ensuring sectoral policy coherence and providing technical oversight. Specific responsibilities include: DGVS-SEMARNAT, CONABIO, CONANP, CONAFOR, SADER, INECC, WWF-US, and the participating state governments will contribute to project governance through their participation in the Project Steering Committee (PSC), while institutions such as INPI and INMUJERES will provide technical inputs and support on Indigenous Peoples and gender-related matters, respectively. • DGVS-SEMARNAT (Lead Executing Agency): Provide overall strategic and technical oversight, coordinate project implementation, ensure alignment with national environmental priorities, chair the Project Steering Committee (PSC), and oversee project monitoring, reporting, safeguards compliance, and adaptive management. • UCAI-SEMARNAT: Facilitate coordination with international cooperation initiatives and support institutional liaison activities, as appropriate. • CONANP: Facilitate the implementation of actions in buffer zones and biological corridors connecting Protected Areas (PAs), including the restoration of critical habitats (Components 1 & 2).

		• SADER: Promote the integration of biodiversity-friendly practices into agricultural and livestock development programs (Components 1 & 2). • CONABIO: Strengthen the generation of information and community capacities for the monitoring and management of biodiversity, including the implementation of participatory protocols and digital recording tools (Components 2 & 3). • INPI: Ensure activities are culturally appropriate and respect the rights and knowledge of Indigenous Peoples (cross-cutting across components). • INMUJERES: Integrate gender perspectives and traditional knowledge into programs and financial instruments/mechanisms. • SHCP (Operational Focal Point): Ensure project implementation aligns with national environmental priorities and GEF implementation procedures. Will oversee project implementation in all phases and support the execution of mid-term and final evaluations.
Managers of Conservation Programs and Economic Instruments	National Forestry Commission (CONAFOR), National Commission for Natural Protected Areas (CONANP). Ministry of Agriculture and Rural Development (SADER)	Managers of Conservation Programs and Economic Instruments National Forestry Commission (CONAFOR), National Commission for Natural Protected Areas (CONANP), and Ministry of Agriculture and Rural Development (SADER). These institutions will contribute to the integration of biodiversity conservation, pollinator protection, habitat restoration, and native vegetation management criteria into relevant federal programs, economic instruments, and initiatives supporting rural and productive sectors. Through their participation in the Project Steering Committee (PSC) and project activities, they will support policy coherence, institutional coordination, and the identification of opportunities to scale up successful approaches beyond the project intervention areas. Specific responsibilities include: • CONAFOR: Promote the incorporation of native vegetation, ecological restoration, and landscape connectivity criteria into relevant forestry, restoration, environmental compensation, and sustainable land management programs. CONAFOR will also support the identification of opportunities to strengthen restoration efforts that contribute to pollinator conservation and ecosystem functionality. • CONANP: Facilitate the implementation of restoration and conservation actions within protected areas and their zones of influence, including the promotion of community-based initiatives supported through programs such as PROCODES and other conservation instruments. CONANP will also support habitat rehabilitation and connectivity efforts that benefit pollinators and biodiversity. • SADER: Promote the integration of biodiversity-friendly and pollinator-friendly practices into agricultural and livestock development initiatives, fostering sustainable production systems

		and facilitating engagement with producer organizations and rural development programs.
Financial and business institutions in the agricultural sector	Nacional Financiera (NAFIN) Non-bank financial intermediaries, including: SOCAP (Savings and Loan Cooperatives), SOFIPOS, SOFOMs (Multiple Purpose Financial Companies), Credit Unions, Private Rural Financial Institutions	Financial and agribusiness institutions will assess opportunities to adjust or co-design financial mechanisms, such as green credit lines incorporating environmental criteria for producers adopting biodiversity-friendly practices, as well as eligibility criteria that recognize the adoption of such practices. They will also assess the feasibility of facilitating access to finance for communities, ejidos, producer organizations, and local governments implementing biodiversity-friendly production and restoration practices, including guarantee mechanisms and linkages with businesses that add value to products derived from compatible practices.
Public Entities and Local Governance Bodies	Yucatan Peninsula: Puuc Intermunicipal Biocultural Board (Junta Intermunicipal Biocultural del Puuc (in Spanish JIBIOPUUC)	The Intermunicipal Biocultural Board of Puuc (JIBIOPUUC) is a multi-stakeholder territorial governance mechanism that promotes intermunicipal coordination through an integrated landscape approach. Its mandate includes the conservation and restoration of ecosystems, sustainable territorial management, and the promotion of social participation across municipalities in the Puuc region. JIBIOPUUC will be a key territorial partner of the project, supporting local coordination and facilitating engagement with municipalities, communities, producer organizations, and other stakeholders in southern Yucatán. Through its existing governance structures and territorial presence, JIBIOPUUC will help strengthen the implementation of project activities at the landscape level. JIBIOPUUC will contribute to the integration of biodiversity conservation, habitat restoration considerations and pollinator protection, into local planning instruments and territorial initiatives. It will support the co-design and validation of technical criteria and locally adapted approaches to ensure that project interventions are contextually appropriate and responsive to local needs (Component 1). The Board will facilitate coordination among local actors involved in habitat rehabilitation, restoration with native vegetation, and the adoption of biodiversity-friendly productive practices. It will also contribute to the co-production of knowledge by fostering dialogue between traditional knowledge holders, communities, and technical and scientific institutions, thereby strengthening community participation and biodiversity monitoring efforts (Components 2 and 3).

		Through its territorial governance role, JIBIOPUUC will support the sustainability of project outcomes by promoting local ownership, institutional coordination, and the incorporation of project lessons and tools into existing territorial management processes and long-term planning efforts.
State government public entities	State of Campeche: Ministry of the Environment, Biodiversity, Ministry of Agricultural Development, Biodiversity, Climate Change, and Energy (SEMABICCE); Ministry of Agricultural Development State of Yucatán: Secretariat of Sustainable Development (SDS), Secretariat of Women (SEMUJERES) and Secretariat of Rural Development (SEDER)	These institutions will serve as key state-level partners, supporting territorial coordination, stakeholder engagement, and the implementation of project activities within their respective jurisdictions. Through their mandates and existing programs, they will contribute to the integration of biodiversity conservation, pollinator protection, habitat restoration, and sustainable production considerations into relevant state-level environmental, rural development, and initiatives (Component 1). The participating state institutions will facilitate local coordination, extension services, technical assistance, and capacity-building activities associated with habitat rehabilitation, restoration with native vegetation, biodiversity monitoring, and the adoption of biodiversity-friendly productive practices (Component 2). They will also support coordination with municipalities, producer organizations, communities, and other local stakeholders to promote the sustainability and scaling-up of project interventions. SEMUJERES will support the active participation of women and their benefits in project activities.
Community-based and rural organizations, ejidos	Campeche: Ejidos / Rural and productive organizations (TBD) Yucatán: Ejidos / Communities Rural and productive organizations (TBD)	These stakeholders are among the project's primary implementation partners and will play a central role in the design, implementation, monitoring, and adaptive management of biodiversity-friendly productive practices, habitat rehabilitation activities, restoration with native vegetation, and community-based monitoring initiatives. Their active participation will contribute to strengthening local livelihoods, food security, ecosystem functionality, landscape resilience, and the long-term sustainability of project outcomes. Local communities, ejidos, producer organizations, and community-based groups will not only be beneficiaries of project interventions but also key project partners throughout implementation. Particularly under Components 2 and 3, they will actively participate in decision-making processes, community agreements, participatory monitoring, knowledge exchange activities, and territorial governance mechanisms. Through these processes, they will contribute to the co-design of interventions, the co-production of knowledge, adaptive management, and the sustainability and scaling-up of project outcomes. Ejidos, producer organizations, beekeepers' associations, and community groups will support the implementation of restoration activities, the propagation and management of native vegetation, the establishment of community agreements, and the adoption of practices that contribute to biodiversity conservation, habitat

		restoration, and sustainable landscape management. They will also play an important role in the dissemination and application of traditional knowledge related to biodiversity management, native vegetation, and sustainable production systems. Organizations working with women, youth, and local producers will contribute to strengthening community capacities, promoting inclusive participation, supporting native plant nursery management, and facilitating the implementation of biodiversity-friendly practices and community monitoring activities. Livestock, agricultural, and beekeeping organizations will contribute to the testing, demonstration, and scaling-up of biodiversity-friendly productive practices, including silvopastoral systems and other sustainable land management approaches, while supporting dialogue with producers and participation in cost-benefit assessments and knowledge-sharing activities. Community groups and organizations that preserve traditional ecological knowledge, including knowledge related to native bees, local flora, and ecosystem management, will contribute to the design, implementation, and validation of restoration and biodiversity conservation practices, ensuring that project interventions are culturally appropriate, socially relevant, and adapted to local conditions. Through their participation in territorial governance mechanisms and project implementation platforms, these stakeholders will help ensure that project activities respond to local priorities, strengthen community ownership, and generate lasting environmental, social, and economic benefits beyond the life of the project.
Citizens	Urban and Environmental Collectives Young People and Students Teachers and Educators Tourism Service Providers	They will participate in the development and implementation of campaigns on digital platforms (e.g., TikTok, Instagram, and X) based on participatory challenges, photo contests, and citizen science activities (records of biodiversity, and field trips or school trips). The campaigns will include accessible and innovative educational materials that promote appreciation, knowledge, and citizen action for the protection of biodiversity.
Indigenous peoples and communities	Mayas, Choles, and Tzeltals	Indigenous People are key partners in the project and will play a central role in biodiversity conservation, ecosystem restoration, and the sustainable management of biocultural landscapes. Their knowledge, practices, and governance systems contribute significantly to the conservation of native vegetation, sustainable natural resource management, and the maintenance of biodiversity and ecosystem functions. The project will promote the full and effective participation of Indigenous Peoples throughout implementation, particularly in the design, implementation, monitoring, and adaptive management of restoration and biodiversity conservation activities. Indigenous communities will contribute traditional ecological knowledge, local management practices, and culturally grounded approaches that

		will help ensure that project interventions are socially appropriate, locally relevant, and environmentally sustainable. The rural landscapes of Campeche and Yucatán are largely shaped by Maya communities, which maintain strong cultural, territorial, and productive relationships with native ecosystems. In southern Campeche, particularly in the Calakmul and Xpujil regions, Ch'ol and Tzeltal communities also contribute to the region's cultural and biological diversity. The project will promote intercultural dialogue and knowledge exchange between Indigenous People, local communities, academic institutions, and government agencies to strengthen biodiversity conservation and landscape restoration efforts.
Private sector	Rural agricultural companies, Voluntarily Designated Conservation Areas (ADVCS).	Private sector actors will contribute to the adoption and scaling-up of biodiversity-friendly production practices, habitat restoration, and sustainable landscape management approaches. They will support the strengthening of local value chains, the identification of market and financing opportunities that incentivize biodiversity conservation, and the dissemination of sustainable production models. ADVCS managed or supported by private actors will contribute to habitat conservation, landscape connectivity, and the demonstration of biodiversity-friendly management practices.
National and local civil society organizations	The Nature Conservancy (TNC) Mexican Fund for Nature Conservation Pronatura Yucatan Peninsula	These organizations will contribute technical expertise, capacity building, and knowledge exchange related to biodiversity conservation, ecosystem restoration, and biological monitoring. They will support coordination with local stakeholders and ongoing initiatives, helping create synergies, strengthen community capacities, and facilitate the continuity and scaling-up of successful conservation and restoration efforts.
International development cooperation agencies and organizations	WWF (World Wildlife Fund), United Nations Development Program (UNDP), World Bank (WB), and International Union for Conservation of Nature (IUCN)	These organizations may contribute technical expertise, knowledge exchange, and opportunities for collaboration related to biodiversity conservation, ecosystem restoration, sustainable landscape management, and community-based approaches. Through engagement with the project and its partners, they may support the dissemination of lessons learned, facilitate exchanges of best practices, and help identify opportunities for replication, scaling-up, and complementary investments aligned with project objectives.
Ongoing Initiatives	• GEF-8 Coexistence Project • PoliLAC (GIZ) • National Restoration Initiatives • ENCUSP	These initiatives and organizations will contribute to technical cooperation, knowledge exchange, capacity building, and the dissemination of lessons learned related to biodiversity conservation, ecosystem restoration, sustainable landscape management, and community-based monitoring. Through coordination with the PMU and project partners, they will help identify opportunities for collaboration, complementarity, co-financing, and the scaling-up and replication of successful approaches. Particular emphasis will be placed on coordinating activities, exchanging experiences, and leveraging synergies with ongoing initiatives operating in the Yucatán Peninsula and other relevant regions to maximize impacts, avoid duplication of efforts, and strengthen the long-term sustainability of project outcomes.
Academic institutions	National Autonomous University of Mexico (UNAM), El Colegio de la	Institutions and organizations responsible for technical and scientific support and scientific dissemination for biodiversity

	Frontera Sur (ECOSUR), Autonomous University of Yucatán (UADY), Yucatán Scientific Research Center, A.C. (CICY).	conservation and native vegetation would contribute information and knowledge on floral and forest species appropriate for rehabilitation, proposals for zones and areas for the implementation of actions, support in the monitoring of biodiversity, and the development of protocols.
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[1] United Nations Development Programme. (2024, January 25). The Nature of Subsidies: A step-by-step guide to repurpose subsidies harmful to biodiversity and improve their impacts on people and nature.

[2] Emilio José Medrano-Sánchez, Lourdes Sofia Cuenca-Silva, Public policies and pollinator conservation: Implications for agricultural sustainability, Trees, Forests and People, Volume 21, 2025, 100921, ISSN 2666-7193, <https://doi.org/10.1016/j.tfp.2025.100921>.

[3] Reyes-García, V., Villasante, S., Benessaiah, K., Aswani, S., Barmon, B. K., Bedelian, C., Bodin, Ö., Bong, I. W., Brady, U., Cámara-Leret, R., Campero, C., Carey, M., Chen, R., Cheng, S. H., Cisneros, A., Daw, T. M., de Almeida, M. W. B., Dressler, W. H., ... Zhu, C. (2025). The costs of subsidies and externalities of economic activities driving nature decline. *Ambio*, 54(8), 1128–1141. <https://doi.org/10.1007/s13280-025-02147-3>

[4] Empirical assessment to evaluate changes in crop yields associated with actual habitat reduction during 2008–2013 found that changes in the natural habitats of wild pollinators have reduced crop yields by possibly up to 29% (mean) and 4% (median).

Tibesigwa, B., Siikamäki, J., Lokina, R. et al. Naturally available wild pollination services have economic value for nature-dependent smallholder crop farms in Tanzania. *Sci Rep* 9, 3434 (2019). <https://doi.org/10.1038/s41598-019-39745-7>

[5] A recent study of small and large farms in Africa, Asia, and Latin America revealed that, on fields of 2 hectares or less, yield differences due to pollination deficits could be reduced by an average of 24% through increased pollinator density. On larger fields, these benefits only occurred when there was a high abundance of pollinator species.

Potts, S., Imperatriz-Fonseca, V., Ngo, H. et al. Safeguarding pollinators and their values to human well-being. *Nature* 540, 220–229 (2016). <https://doi.org/10.1038/nature20588>

[6] The operationalization of criteria for pollinator conservation in the field depends fundamentally on field technicians, who must be trained in pollinator biology and their economic value

[7] Existing programs focused on measuring production should integrate indicators for monitoring functional biodiversity (flower abundance, pollinator sightings, soil health).

[8] This means shifting the focus from individual producers to landscapes. In other words, sustainable practices and habitat restoration must be coordinated among neighbors to create corridors rather than just 'islands.'

[9] Tengö, M., Brondizio, E.S., Elmqvist, T. et al. Connecting Diverse Knowledge Systems for Enhanced Ecosystem Governance: The Multiple Evidence Base Approach. *AMBIO* 43, 579–591 (2014). <https://doi.org/10.1007/s13280-014-0501-3>

Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

The project will establish coordination mechanisms with ongoing initiatives and strategic partners to maximize synergies, avoid duplication of efforts, and enhance the sustainability and scalability of project results. These mechanisms will facilitate technical cooperation, knowledge exchange, capacity building, and the dissemination of best practices across sectors and stakeholders.

Particular attention will be given to coordination with the GEF-8 project From Conflict to Coexistence: Safeguarding Wildlife Corridors in Mexico for Sustainable Development, which is being implemented in complementary landscapes within the Yucatán Peninsula. While the Coexistence Project focuses on ecological connectivity, integrated landscape management, and human-wildlife coexistence, the Living Landscapes project will strengthen biodiversity conservation in productive landscapes through pollinator-friendly practices, habitat restoration, and sustainable production systems. Both projects will collaborate through shared stakeholder engagement platforms, landscape governance mechanisms, restoration activities, and knowledge management processes, generating mutually reinforcing outcomes for biodiversity conservation and landscape resilience.

The project will also coordinate with PoliLAC (GIZ) to exchange experiences and lessons learned related to sustainable landscape management, biodiversity-friendly production practices, policy engagement, and landscape governance. Collaboration with national restoration initiatives will help align restoration efforts, promote the use of native species, and contribute to broader ecological connectivity and ecosystem recovery objectives within the Yucatán Peninsula.

In addition, the project will support the implementation of Mexico's National Strategy for the Conservation and Sustainable Use of Pollinators (ENCUSP) by generating field-level evidence, strengthening local capacities, promoting pollinator-friendly management practices, and contributing lessons learned that can inform future policy development and implementation efforts.

Further opportunities for collaboration, coordination, and knowledge exchange will be identified and refined during the Project Preparation Grant (PPG) phase through a comprehensive stakeholder and initiative mapping process.

Core Indicators

Indicator 1 Terrestrial protected areas created or under improved management

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
1408876	0	0	0

Indicator 1.1 Terrestrial Protected Areas Newly created

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0	0	0	0

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
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Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
1408876	0	0	0

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
Balam Kin Flora and Fauna Protection Area	555783753	Protected area with sustainable use of natural resources	115,658.00						
Balam Kú Biosphere Reserve	555783753	Protected area with sustainable use of natural resources	463,442.00						
Calakmul Biosphere Reserve	306780	Protected area with sustainable use of natural resources	728,909.00						
Los Petenes Biosphere Reserve	306816	Protected area with sustainable use of natural resources	100,867.00						

Indicator 3 Area of land and ecosystems under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0	0	0	0

Indicator 3.1 Area of degraded agricultural lands under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.2 Area of forest and forest land under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.3 Area of natural grass and woodland under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
465	0	0	0

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
265.00			

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
200.00			

Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Documents (Document(s) that justifies the HCVF)

Title

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	623			
Male	439			

Total	1062	0	0	0
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Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

Indicator 1.2 – Terrestrial Protected Areas Under Improved Management Effectiveness

Sub-indicator 1.2 covers 1,408,876 hectares across four terrestrial protected areas: Balam Kú, Balam Kin, Calakmul, and Los Petenes. These protected areas form part of an ecologically connected landscape that is critical for biodiversity conservation and the maintenance of ecosystem services in the Yucatán Peninsula.

The project will contribute to improving management effectiveness by strengthening ecological connectivity between protected areas and surrounding productive landscapes through habitat restoration and the establishment of native vegetation patches and biological corridors. These actions will enhance habitat quality, support pollinator populations and other native biodiversity, and contribute to the maintenance of key ecological processes and ecosystem services.

In addition, the project will strengthen biodiversity monitoring, generate information to support adaptive management, and promote the participation of local communities and landowners in conservation actions. Collectively, these interventions will contribute to improvements in management effectiveness by supporting conservation planning, habitat condition, ecological connectivity, biodiversity management, and stakeholder engagement, thereby strengthening the ability of protected areas to achieve their conservation objectives.

Indicator 4 – Area of Landscapes Under Improved Practices

Sub-indicator 4.1 – Area of landscapes under improved management to benefit biodiversity

Sub-indicator 4.1 covers 265 hectares within the Yucatán Peninsula where management interventions will be implemented to improve habitat quality, strengthen ecological connectivity, and enhance biodiversity conservation outcomes. Activities will focus on the establishment and maintenance of ecological corridors and native vegetation patches through the production of native plant species in forest nurseries, site preparation, planting, maintenance, monitoring, and community-based management arrangements that support the long-term conservation of restored habitats.

These interventions will improve the ecological functionality of the landscape by increasing habitat availability for pollinators and other native species, strengthening connectivity between natural and productive areas, and contributing to the conservation of biodiversity and ecosystem resilience.

Sub-indicator 4.3 – Area of landscapes under sustainable land management in production systems

Sub-indicator 4.3 covers 200 hectares of agricultural landscapes where biodiversity-friendly and sustainable land management practices will be implemented through demonstration plots and producer engagement activities. Practices will include the establishment of native flowering vegetation, maintenance of vegetation cover, reduction of pesticide use, conservation of ecological connectivity features, implementation of agroecological management approaches, diversification of productive systems, and the establishment of nesting and refuge habitats for pollinators.

These interventions will strengthen the sustainable management of productive landscapes by reducing pressures on biodiversity, improving habitat quality within agricultural systems, enhancing ecological connectivity, and promoting the adoption of sustainable production practices that contribute to biodiversity conservation, ecosystem resilience, and long-term productivity.

Indicator 11: People benefiting from GEF-funded investments

The direct beneficiaries of all activities total 1,062 people (439 men, 623 women). This figure includes people who receive training to incorporate pollinator criteria into their institutions' programs, instruments, or financial mechanisms (25 officials, 12 men and 13 women). Farmers and ranchers receive ongoing training on practices to conserve pollinators. Considering 76 plots and the direct participation of the farmer and his wife (or female producer), there are an estimated 122 direct beneficiaries (61 men, 61 women). It is estimated that at least three people for each of the 255 rehabilitated units will benefit from wages, training, and restoration products, totaling 765 people (306 men, 459 women), with a focus on promoting women's participation. Finally, one network per intervention site is estimated, with a total of three locations, training 50 people per community, for a total of 150 community monitors (60 men, 90 women).

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	Moderate	Residual risk: Even considering the implementation of the planned mitigation measures, extreme and unpredictable weather events (such as prolonged droughts, hurricanes, and extreme temperatures) could temporarily affect the survival of native vegetation in nurseries and restoration sites, as well as alter species interactions, regeneration dynamics and habitat availability which could partially delay the achievement of Component 2 results. However, the risk is expected to be moderate, and these impacts are expected to be localized and manageable, without significantly compromising the long-term results of the project. Mitigation measure: Selection of native species with proven climate resilience and high genetic diversity. Design of ecological corridors and habitats with high species diversity. Collection of native plant material and coordinated work with community and state seed banks as reserve mechanisms. Continuous monitoring of the rehabilitation process, including an adaptive management approach to water stress and replanting protocols.
Environmental and Social	Moderate	Residual risk: Following the application of social assessments, participatory processes with a gender and intercultural focus, and the implementation of Free, Prior, and Informed Consent (FPIC), there remains a moderate risk of specific community tensions or differing expectations regarding project benefits, and potential inequities in benefit distribution among stakeholders. Additional risks include possible exclusion of vulnerable groups despite inclusive design efforts. However, these risks are expected to be limited in scope, can be addressed in a timely manner through established complaint and dialogue mechanisms, and are not expected to lead to structural conflicts or the

		failure of rehabilitation agreements (Output 2.2.2). Mitigation measures: Prior to this, a social and land tenure and ownership assessment will be carried out at all demonstration plot sites and critical habitat rehabilitation sites. Application of the principle of Free, Prior, and Informed Consent (FPIC). Participatory design with a gender and intercultural approach for all agreements, training, and financial mechanism schemes. Accessible complaints and consultation mechanism, with a gender and intercultural approach from the start of the project.
Political and Governance	Moderate	Residual risk: Residual risk: Despite early political advocacy actions, the identification of strategic allies, and the generation of technical and economic evidence, there remains a moderate risk associated with changes in political priorities, turnover of key government personnel, resistance from influential actors, or limited institutional willingness to reform programs and financing mechanisms (Outcome 1.1). Additional risks include potential bureaucratic delays in decision making and resource allocation. This risk could slow down the achievement of the expected systemic change; however, it is not anticipated that it will completely prevent the implementation of the project or the demonstration of technical achievements. Mitigation measures From the CEO endorsement and project initiation stage, key allies, technical leaders, and internal decision-makers in SADER, SHCP, CONAFOR, CONNAP, etc., are identified, and political advocacy is carried out. Evidence of the benefits (economic, productive, social, and environmental) of biodiversity conservation practices, generated in Component 2, will be compiled and communicated to technical leaders and strategic decision-makers.

INNOVATION

Institutional and Policy	Moderate	Residual risk: Even with successful implementation, demonstrated results, and the availability of technical guidance for replication, there remains a moderate risk that the project's innovative approaches, particularly the integration of pollinator conservation considerations into public policies, planning instruments, and conservation financing mechanisms, may face limited adoption and scaling beyond the target landscape. Potential barriers include competing institutional priorities, budget constraints, differing environmental and socio-economic conditions across states, and resistance to adopting new approaches. Additional risks include staff turnover within government institutions, changes in political priorities, delays in inter-institutional coordination processes, limited institutional capacity to sustain project innovations, and insufficient integration of project-generated tools and recommendations into formal planning, regulatory, and budgetary frameworks. These factors could affect institutional ownership and the long-term sustainability of Component 1 outputs. However, the residual risk is considered moderate and manageable and is not expected to compromise the achievement of the project's overall objectives. Mitigation Measure: Prioritize outreach and scaling efforts in states with the highest readiness and likelihood of integrating the project's approaches into existing government programs. Establish a clear governance structure, including institutional focal points,
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		letters of commitment, and defined coordination mechanisms. Develop joint work plans and realistic implementation timelines with participating institutions. Provide targeted training and technical assistance through the PMU and WWF GEF Agency. Design project outputs to align with existing policy frameworks and institutional mandates, facilitating adoption by current and future authorities.
Technological	Low	Residual risk: Even if the monitoring prototype is successfully developed following technical feasibility assessments, pilot testing, and agreements with the anchor institution, a low residual risk remains regarding user adoption, data quality, integration into existing monitoring workflows, and long-term maintenance after project completion. There is also a risk that stakeholders may not consistently use the system or that institutional resources for future maintenance may be insufficient. However, this risk is considered low because the proposed tool is intended to complement existing monitoring systems and knowledge-management processes rather than serve as the sole mechanism for data collection and decision-making. Mitigation measure: Conduct technical feasibility and sustainability assessments during project preparation. Adapt or strengthen existing platforms if developing a new prototype is not the most feasible option. Pilot-test the system with community monitors and institutional users during the design phase. Establish formal agreements with CONABIO or the designated anchor institution regarding technical specifications, ownership, maintenance responsibilities, and long-term sustainability.
Financial and Business Model	Moderate	Residual risk: Despite technical and policy engagement efforts, there remains a moderate risk that the project's innovative financial and incentive mechanisms may face limited adoption. Public financial institutions, non-bank financial intermediaries, private rural financiers, and commercial banks may be reluctant to incorporate biodiversity and pollinator conservation criteria into existing financial instruments due to perceived administrative burdens, internal approval processes, risk considerations, or competing institutional priorities. Similarly, despite the expected economic and environmental benefits, some producers may be hesitant to adopt biodiversity-friendly practices because of perceived implementation costs, uncertainty regarding returns, or dependence on incentives during the early stages of adoption. As a result, replication and scaling may occur more gradually than anticipated. Nevertheless, the residual risk is considered moderate because the project will generate evidence of economic benefits and strengthen enabling conditions for broader adoption beyond the pilot phase. Mitigation measure: Prioritize engagement with financial institutions that demonstrate the greatest willingness and capacity to incorporate biodiversity criteria. Conduct a participatory cost-benefit analysis (Output 2.1.2) to quantify and communicate the economic advantages of biodiversity-friendly production systems. Facilitate access by participating producers to adjusted financing mechanisms developed under Output 1.1.2. Promote non-monetary incentives, including access to plants, basic tools, technical assistance, public recognition, and visibility at community and state

		levels. Document and communicate economic, environmental, and social benefits through the project's communication and knowledge-management strategy to support long-term adoption and scaling.
EXECUTION		
Capacity	Moderate	Residual risk: After forming a PMU with robust technical capabilities and establishing strategic alliances, a moderate risk is identified associated with coordination with multiple actors and cross-cutting approaches, staff turnover or workload constraints, and possible administrative or procurement delays. This risk could lead to adjustments in schedules or operational workloads for the PMU team, but it is not expected to significantly affect the quality or delivery of project outputs. Mitigation measure: Formation of a PMU team with a robust technical profile and experience in the three components (institutional and policy coordination, sustainable practices for biodiversity conservation and critical habitat rehabilitation, and knowledge management and communication). Strategic alliances with specialized partners (NGOs, universities, community organizations) are included to implement specific products/activities. Adequate budget for adaptive management and monitoring.
Fiduciary	Low	SEMARNAT and Fondo Sostenible-Nafin (FSN) have extensive experience in executing various GEF projects under different executing agencies, which positions them as low-risk entities. However, WWF-GEF assessed the Implementing Partner's capacity to manage financial execution using WWF's Due Diligence methodology. This methodology establishes policies and procedures for assessing capacity, fund transfer methods, auditing, guarantees, and monitoring. The assessment concluded that the Implementing Partner represents a low risk. In accordance with WWF-FEM policy and as a mitigation strategy, spot checks will be carried out at least once a year, in addition to the annual audit. WWF-FEM will also provide support for national implementation, which will help mitigate any risks associated with project execution. This support will also ensure project oversight through a clear process of segregation of duties.
Stakeholder	Low	Residual risk: Despite having a robust Stakeholder Engagement Plan and mechanisms for ongoing dialogue, there remains a low residual risk related to variations in the level of commitment of some key stakeholders or the emergence of specific opposition. These risks are considered manageable and limited in scope and are not expected to compromise the legitimacy or overall implementation of the project. Mitigation measure: Robust Stakeholder Engagement Plan, updated periodically, with differentiated strategies for each group. Regular and meaningful spaces for dialogue and feedback within the framework of annual monitoring of achievements and the adaptive management process. Relationships built by the safeguards and gender professional promote transparency, clear communication, manage expectations, and demonstrate inclusive benefits. Mechanism to identify and address concerns of potential opponents at an early stage.

Other		
Overall Risk Rating	Moderate	According to the Preliminary Environmental and Social Safeguards Assessment, it is concluded that the Project presents a moderate risk rating (Category B), due to the fact that certain interventions in the landscape and project activities have triggered safeguard standards. Additionally, the presence of actors linked to drug trafficking and the prevalence of gender-based violence in the landscapes must be duly considered in the design and planning of the project.

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

The Living Landscapes: Integrated management for biodiversity conservation through pollinators project is directly aligned with the GEF-8 framework and the priorities of the Biodiversity Focal Area. The project aims to address key drivers of biodiversity loss, unsustainable agricultural practices, as well as habitat loss and fragmentation. In response, it promotes better agricultural practices while strengthening community-based natural resource management and enhances ecological connectivity through targeted habitat restoration in natural and productive landscapes of the Yucatán Peninsula.

In parallel, the project reduces critical knowledge gaps on biodiversity's contribution to crop yields and wellbeing in a vulnerable biodiversity hotspot that is also an agriculturally dependent landscape, advancing on building socio-ecological resilience. It also advances biodiversity mainstreaming through policy and financing mechanisms.

The project will contribute to the Integrated Food Systems and Ecosystem Restoration Programs and, in a complementary manner, to the Global Wildlife Program IP, by operating in territories shared with the GEF-8 project 'From Conflict to Coexistence' as well as through thematic synergies. By restoring ecosystem structure and functionality, the project is expected to generate positive, cross-cutting impacts on biodiversity conservation.

At the national level, the project responds to the priorities of PROMARNAT 2025–2030, ENBioMex 2016–2030, Alignment with the Global Biodiversity Framework, and ENCUSP, by incorporating into the project prioritized lines of action such as restoration, biodiversity conservation criteria in the agricultural sector, territorial governance, and community monitoring. Its territorial approach contributes to Mexico's roadmap for Target 3 (30x30) and to the integration of biodiversity into state and municipal planning instruments in the Yucatan Peninsula.

No national policies have been identified that contradict the expected results; however, the project recognizes that certain agricultural incentives and patterns of pesticide use or intensive practices can put pressure on

pollinators. The Living Landscapes project will promote technical evidence, programmatic adjustments through intersectoral dialogue, and the adoption of incentives that favor the transition to production systems more compatible with the objectives of GEF-8.

The relationship between the Kunming-Montreal Global Biodiversity Framework and the Living Landscapes project

Following the publication of Mexico's National Biodiversity Strategy (EnBioMex) and its 2016–2030 Action Plan^{[\[1\]](#)} and in view of the adoption in 2022 of the Kunming-Montreal Global Biodiversity Framework, the National Commission for the Knowledge and Use of Biodiversity (CONABIO) carried out an alignment exercise to update the consistency between the two frameworks. The process^{[\[2\]](#)} consisted of comparing each of the 160 actions of ENBioMex with the objectives and targets of the new global framework, identifying direct and enabling contributions to guide national policies and investments.

Mexico has also defined its national targets under the Kunming-Montreal Global Biodiversity Framework, and it is under these targets that the alignment and contribution of the Living Landscapes Project is identified:

Reducing threats to biodiversity

Target 2: Restoration of degraded ecosystems. The National Environmental Restoration Program identifies the Yucatan Peninsula as a priority area for restoration, and the proposed project plans to work in this region to rehabilitate it with native vegetation that will help transform agricultural landscapes and connect natural areas through community participation.

Target 4: Endangered and threatened species are reduced. Due to its relationship with the Coexistence project, the interventions in the selected landscapes will support the habitat of endangered species such as the jaguar. The conservation of endangered species also involves the protection of the ecosystems in which they live, which is crucial for the maintenance of biological diversity in general.

Meeting people's needs through sustainable use and sharing of benefits

Target 10: Enhance Biodiversity and Sustainability in Agriculture. Promotes improved production systems that integrate biodiversity-friendly practices to promote conservation and economic benefits for local communities, especially women and young people.

Target 11: Enhance Nature's Contributions to People. Contribute to ecosystem restoration, enhancing their benefits to people, while providing guidelines and lessons to reduce knowledge gaps on nature's contributions to human wellbeing through a community-based, intercultural, and coherent policy approach.

Tools and solutions for implementation and integration

Target 14: Integration of biodiversity into other sectors. The project supports biodiversity mainstreaming efforts by integrating biodiversity considerations in policy and financial instruments through a multi-

stakeholder approach which also amplifies its impact and creates the conditions for scaling impact beyond the project's lifetime.

Targets 20–21: Citizen education, participation, and access to information, through component 3 of the project, focuses on citizen participation and on stakeholders generating information and knowledge, which will promote their involvement and awareness of the value biodiversity. Scientific and traditional data are integrated to guide community monitoring. In addition, a gender and intercultural approach is incorporated into all activities, from demonstration plots to participation in monitoring, recognizing the leadership of women and young people in conservation.

[1] <https://ort.cbd.int/nbsaps/my-country/6A31AC05-A346-3681-B113-A76F2897B276/view>

[2] <https://www.biodiversidad.gob.mx/pais/estrategias-sobre-biodiversidad/enbiomex-2022/alineacion-enbiomex-km>

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations: Yes

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

The main stakeholder participation process for this project is planned for the Executive Director Approval Request (CEO ER) stage, during which all necessary consultations will be carried out to develop the Stakeholder Participation Plan, the Gender Action Plan, and the Environmental and Social Management Framework (ESMF).

However, given that the project is located within one of the landscape areas of the GEF-08 GWP project 'From Conflict to Coexistence: Safeguarding Wildlife Corridors in Mexico for Sustainable Development' (GEF Coexistence), we are capitalizing on the substantial and recent participation efforts made under that initiative.

In November 2024, intensive field visits and workshops were held with key stakeholders at the national, state, and local levels in the Yucatan Peninsula, contributing to our understanding of the diversity of stakeholders in the region. A total of 61 participants took part in the GEF Coexistence project consultations, including representatives from SEMARNAT (Yucatán delegation), CONANP, the state governments of Campeche and Yucatán, the Puuc Intermunicipal Biocultural Board, civil society organizations, academia, the Union of Livestock Associations, and ejidos in Campeche.

The stakeholder table included in this PIF is based on the results of the GWP project consultations and has been supplemented by a document review with specialists to ensure the inclusion of actors directly relevant to the objectives of this project.

For this project, local communities, ejidos, and civil society organizations will be central actors in the adoption of biodiversity-friendly practices. Their participation will be essential in the rehabilitation with native vegetation, participatory monitoring, and the application of traditional knowledge, actions that together strengthen territorial governance and local livelihoods. Local communities will play a key role in integrating biocultural knowledge into the conservation of biodiversity and sustainable landscape management.

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate			

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non- Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
WWF-US	GET	Mexico	Biodiversity	BD STAR Allocation: BD-1	Grant	1,784,862.00	160,638.00	1,945,500.00
Total GEF Resources (\$)						1,784,862.00	160,638.00	1,945,500.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

50000

PPG Agency Fee (\$)

4500

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
WWF-US	GET	Mexico	Biodiversity	BD STAR Allocation: BD-1	Grant	50,000.00	4,500.00	54,500.00
Total PPG Amount (\$)						50,000.00	4,500.00	54,500.00

Please provide justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
WWF-US	GET	Mexico	Biodiversity	BD STAR Allocation	2,000,000.00
Total GEF Resources					2,000,000.00

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
BD-1-4	GET	1,784,862.00	8230557.85
Total Project Cost		1,784,862.00	8,230,557.85

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	WWF	In-kind	Recurrent expenditures	214183
Recipient Country Government	SEMARNAT DGVS	In-kind	Recurrent expenditures	1118057.18
Recipient Country Government	SEMARNAT (SBRA & DCB)	In-kind	Recurrent expenditures	368277.82
Recipient Country Government	UCORGT SEMARNAT	In-kind	Recurrent expenditures	444892
Recipient Country Government	CONABIO	In-kind	Recurrent expenditures	338961.3
Recipient Country Government	PROFEPA	In-kind	Recurrent expenditures	1100000
Recipient Country Government	CONAFOR	In-kind	Recurrent expenditures	1000000
Recipient Country Government	CONANP	In-kind	Recurrent expenditures	800000
Recipient Country Government	AGRICULTURE, General Coordination of Sustainability and Climate Resilience	In-kind	Recurrent expenditures	1000000
Recipient Country Government	SEMABICCE Campeche	In-kind	Recurrent expenditures	999000
Recipient Country Government	Economic Development Department of the municipality of Calakmul	In-kind	Recurrent expenditures	50000
Others	Autonomous University of Yucatán	In-kind	Recurrent expenditures	750000

Others	The College of the Southern Border	In-kind	Recurrent expenditures	47186.55
Total Co-financing				8,230,557.85

Describe how any "Investment Mobilized" was identified

Not Applicable

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	WWF US	4/24/2026	Renae Stenhouse	2022771466	Renae.Stenhouse@wwfus.org
Project Coordinator	WWF US	4/24/2026	Lucia Chuquillanqui	2022771466	lucia.chuquillanqui@wwfus.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name	Position	Ministry	Date (MM/DD/YYYY)
Mr. Raúl Fernando González Romero	Director of Sustainable Financing Ministry of Finance and Public Credit	Ministry of Finance and Public Credit	4/24/2026

ANNEX C: PROJECT LOCATION

Please provide geo-referenced information and map where the project interventions will take place

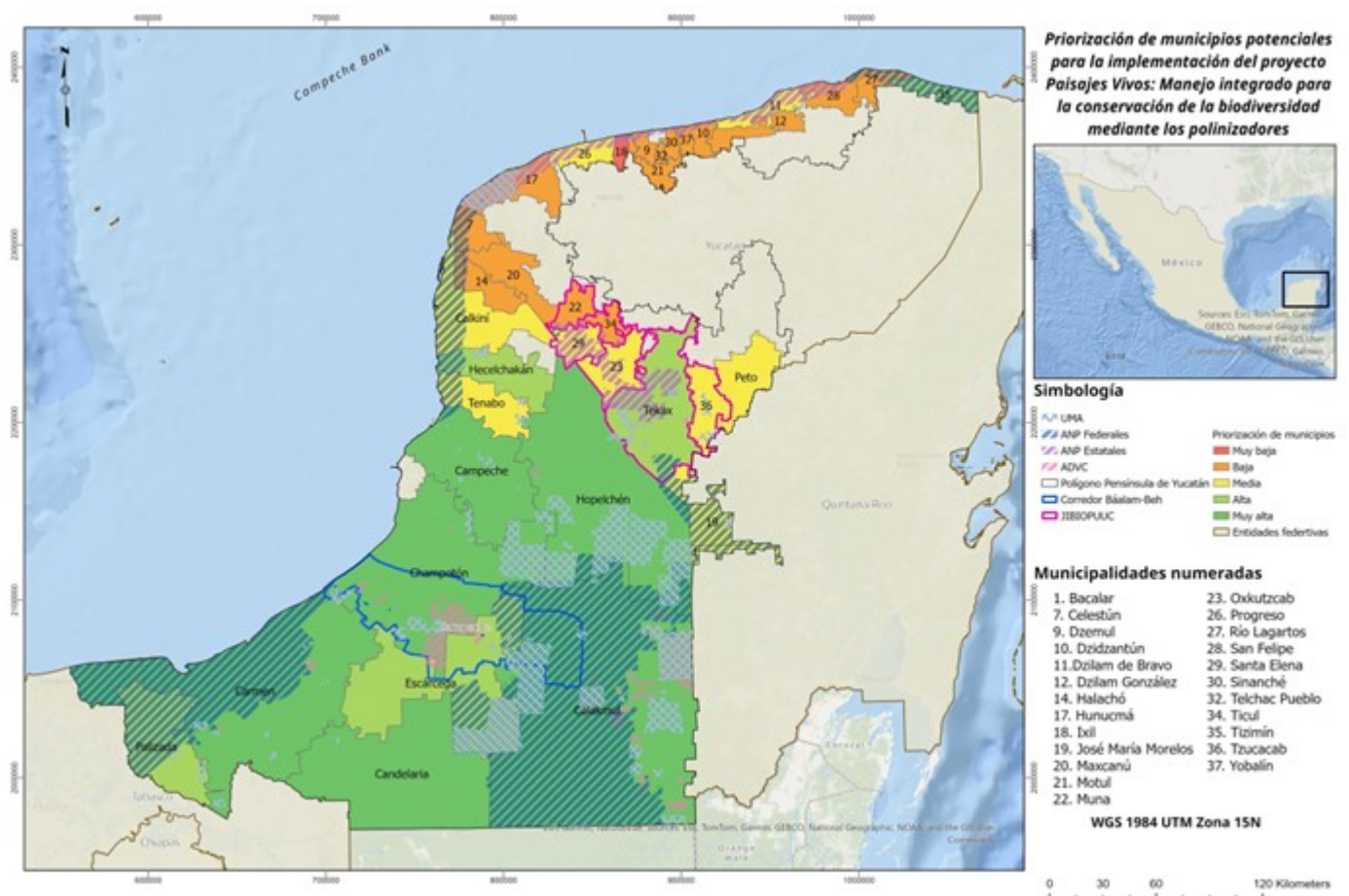
Geo name ID: 3514210

Location name: Yucatan Peninsula

Latitude (WGS84, decimal degrees): 19.69302

Longitude (WGS84, decimal degrees): -89.05037

Geo name (administrative reference): Yucatan Peninsula, Mexico



ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

Mexico_ESSF PIF pre-screen (1)

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
No Contribution 0	No Contribution 0	Principal Objective 2	Significant Objective 1

ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
Influencing Models	Transform policy and regulatory environments	Strengthen Institutional capacity	Demonstrate Innovative approaches

Stakeholders	Stakeholder Engagement	Beneficiaries	Civil Society / Local Communities.
Capacity, Knowledge, and Research	Knowledge generation and exchange	Targeted Research	Capacity Development
Gender Equality	Gender Mainstreaming	Gender Result Areas	
Focal Area/Theme	Biodiversity		