

GEF-8 REQUEST FOR CEO ENDORSEMENT/APPROVAL

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General Project Information

Project Title

Restoration of Wetlands and other important Amazonian Ecosystems - Capacity-building, innovation, development and technological transfer for ecological restoration and climate change mitigation

Region

Latin America and the Caribbean

GEF Project ID

11167

Country(ies)

Brazil

Type of Project

FSP

GEF Agency(ies):

FAO

GEF Agency Project ID

744042

Project Executing Entity(s)

Mamiraua Institute for Sustainable Development (IDSM)

Project Executing Type

CSO

GEF Focal Area (s)

Multi Focal Area

Submission Date

3/28/2025

Type of Trust Fund

GET

Project Duration (Months)

60

GEF Project Grant: (a)

5,000,000.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

475,000.00

Agency Fee(s) Non-Grant (d)

0.00

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

5,475,000.00

Total Co-financing

49,127,320.00

PPG Amount: (e)

150,000.00

PPG Agency Fee(s): (f)

14,250.00

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

5,639,250.00

Project Tags

CBIT: No NGI: No SGP: No Innovation: No

Project Sector (CCM Only)

AFOLU

Taxonomy

Climate Change Mitigation, Climate Change, Focal Areas, Agriculture, Forestry, and Other Land Use, Biodiversity, Protected Areas and Landscapes, Forest, Forest and Landscape Restoration, Influencing models, Stakeholders, Gender Equality, Indigenous Peoples, Beneficiaries, Participation, Type of Engagement, Partnership, Private Sector, Local Communities, Civil Society, Individuals/Entrepreneurs, Academia, Communications, Gender Mainstreaming, Sex-disaggregated indicators, Capacity, Knowledge and Research, Capacity Development, Innovation, Knowledge Exchange, Biomes, Convene multi-stakeholder alliances

Rio Markers

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

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. (max. 250 words, approximately 1/2 page)

The Amazon Forest is the largest tropical forest in the world. It shelters a significant part of the planet's biodiversity and is essential for the regulation of the region's climate. Due to infrastructure construction works and the conversion for agriculture and cattle ranching, estimates are that 17 percent of the forest cover has already been cleared. Scientists expect that the forest is very near to a tipping point at which the Amazon's hydrological cycles will be disrupted and dryer parts of the forest be transformed into tropical savannah.

To prevent the Amazon from reaching this tipping point, new public policies have been adopted to combat deforestation and promote the restoration of 12 million hectares of degraded areas. However, until now, three important ecosystems have been overlooked in restoration initiatives: the Central Amazon lowlands, floodplains and mangroves. These ecosystems are of critical importance, both for the conservation of the entire region - a recent study concluded that one sixth of Amazonian tree diversity is dependent on river floodplains- but also for the livelihoods of communities and farmers who depend on their resources.

The overall **objective** of this project is to restore wetland and lowland forest ecosystems and biodiversity in the Amazon mainland and coast through strengthening people and Local Communities capacity for ecosystem restoration, improving the enabling environment, and initiating restoration in overlooked areas of the Amazon. The theory of change is that deforestation and forest degradation in Central Amazon lowland forests, floodplains and mangrove ecosystems, can be reversed through forest restoration combining recovery of ecological functions with the creation of incentives for the conservation, management and sustainable use of the restored forest landscape.

To achieve the overall objective, the project needs to overcome three **barriers**:

Scientific and technological underpinnings for successful wetland and lowland ecosystem restoration, that consider local livelihoods and cultures of the Amazon do not exist;

Human resources gap. Absence of trained people and poorly structured restoration chain;

Economic gap. Lack of commercialization and access to markets, including in Non-Wood Forest Product value chains;

The project expects to achieve the overall objective and overcome the barriers through the implementation of four **components**: (i) improvement of the enabling environment for ecosystem restoration, through which an advisory panel of experts and stakeholders is established and develops a strategic plan to restore selected wetlands and lowland forest ecosystems in the Amazon, leading to

agreed-upon integrated landscape management models for sustainable forest resource use; (ii) strengthening people, institutions and ecosystem restoration capacities in selected regions in Central Amazon lowlands, floodplains and mangrove regions, through a gender-sensitive capacity-building program that strengthens restoration networks with seed collection and nurseries, and supports farmers and communities in integrating into Non-Wood Forest Product (NWFP) value chains through training, technical advice, and commercialization assessments. (iii) Implementation of forest landscape restoration initiatives in selected areas in the Central Amazon lowlands, floodplains and mangrove ecosystems, including botanical and fauna surveys, the preparation and implementation of restoration practices and of a system to monitor its progresses; (iv) Awareness raising and knowledge management, focusing on mainstreaming and sharing knowledge generated with beneficiaries, key stakeholders, national relevant actors and partners.

The expected **global environmental benefits** (GEBs) of this project are: i) the restoration of 25,774 hectares in important Amazonian ecosystems (GEF Core Indicator 3); ii) the improved management of at least 1,869,230 hectares (GEF Core Indicator 4); iii) avoiding emissions of -876,416 tCO₂e (GEF Core Indicator 6). Direct project co-benefits are delivered to 1,669 people (GEF Core Indicator 11). The project is aligned with GEF-8 strategy by promoting the conservation of biodiversity, enhancement of carbon sinks and maintenance of environmentally significant ecosystems for mitigation of global climate change.

Project Description Overview

Project Objective

To restore wetland and lowland forest ecosystems and biodiversity in the Amazon mainland and coast through strengthening people and Local Communities capacity for ecosystem restoration, improving the enabling environment, and initiating restoration in overlooked areas of the Amazon.

Project Components

1. Improving the enabling environment for ecosystem restoration

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
293,534.00	2,843,981.00

Outcome:

1.1 Integrated landscape management approach agreed upon and adopted by main stakeholders in overlooked areas of the Amazon (*varzeas*, mangroves, *Terra Firme* lowland forests of Central and Western Amazonia), with a gender-sensitive vision

GEF Core Indicator 4: Area of landscapes under improved practices

Target: 1,869,230ha

Output:

1.1.1: Strategic plan for the restoration of selected wetlands and lowland forest ecosystems in the Amazon

Target: Plans published and adopted, at least one *varzea*, one mangrove and one lowland forest site

1.1.2: Report on the state of the art of wetlands/ lowland ecosystem restoration

1.1.3: An interdisciplinary scientific and technical advisory panel established to provide advice and recommendations on best ecological and socioeconomical restoration practices

2. Strengthening people, institutions and ecosystem restoration capacities in selected regions in the Central Amazon, lowlands, floodplains and mangrove regions

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
1,348,605.00	13,116,395.00

Outcome:

2.1: Technical, institutional and organizational capacities for ecological restoration in public, private and civil society organizations strengthened

GEF Core indicator 11: Number of direct beneficiaries disaggregated by gender. Target: 1,669 people (50% women).

2.2: Participation of communities and farmers in relevant Non-Wood Forest Products (NWFP) value chains linked to restoration activities strengthened and opportunities for income generation widened

Output:

2.1.1: Gender-sensitive capacity development program on restoration techniques and practices created and implemented

2.1.2: Restoration networks identified and strengthened with a gender-sensitive approach in Central and Amazon coasts to promote ecological restoration

2.2.1: Gender-sensitive capacity development program to process and commercialize NWFP developed and implemented

3. Implementation of forest landscape restoration initiatives in selected areas in the Central Amazon lowlands, floodplains and mangrove ecosystems

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
2,458,761.00	24,028,280.00

Outcome:

3.1: Restoration initiatives launched in overlooked wetlands and lowland forest ecosystems mangrove (Varzea and mangroves wetlands, and Lowland Terra Firme Forests)

GEF Core Indicator 3: 25,774 ha (400 ha active restoration, 25,374 ha passive restoration)

GEF Core Indicator 6.1: -876,416 tCO₂e of GHG emissions mitigated in the AFOLU sector

Output:

3.1.1: Botanical and fauna surveys conducted in the areas of ecological restoration targeted by the project

3.1.2: Monitoring systems for the areas of ecological restoration targeted by the project developed and implemented

3.1.3: Laboratory tests to determine the optimal temperature and humidity conditions for seed germination, storage, and production of robust and resilient seedlings for planting

3.1.4: Forest restoration protocols for *varzeas* and lowland *terra firme* forests of Central Amazonia developed, incorporating local communities and women in decision-making, improving their access to natural resources, and increasing their forest-based benefits

3.1.5: Seedling nurseries built and in operation, involving women networks in project target areas

3.1.6: Areas ecologically restored in three project target areas (Central Amazon, Manaus municipality and Pará State Coast)

4. Awareness raising and knowledge management

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
354,950.00	3,438,421.00

Outcome:

4.1. Communication and knowledge management system about restoration of overlooked ecosystems in the Amazon in place

Project Indicator 2: Indirect beneficiaries: Number of people reached out by the project communication outputs: 200,000.

Output:

4.1.1. participatory and gender-inclusive project's communication strategy developed and under implementation

4.1.2. Knowledge management plan developed and implemented with a gender-sensitive approach

M&E

Component Type	Trust Fund
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Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
308,150.00	3,273,353.00

Outcome:

M&E 1. Project implemented according to results-based management (RBM) principles

Output:

M&E 1.1. Project M&E system designed and operational

M&E 1.2. Gender- sensitive and responsive project monitoring reports, mid-term review and terminal evaluation contribute to the successful delivery of the project

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
1. Improving the enabling environment for ecosystem restoration	293,534.00	2,843,981.00
2.Strengthening people, institutions and ecosystem restoration capacities in selected regions in the Central Amazon, lowlands, floodplains and mangrove regions	1,348,605.00	13,116,395.00
3. Implementation of forest landscape restoration initiatives in selected areas in the Central Amazon lowlands, floodplains and mangrove ecosystems	2,458,761.00	24,028,280.00
4. Awareness raising and knowledge management	354,950.00	3,438,421.00
M&E	308,150.00	3,273,353.00
Subtotal	4,764,000.00	46,700,430.00
Project Management Cost	236,000.00	2,426,890.00
Total Project Cost (\$)	5,000,000.00	49,127,320.00

Please provide Justification

PROJECT OUTLINE

A. PROJECT RATIONALE

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

Global environmental significance

The Amazon Forest is the largest tropical forest in the world, encompassing approximately 5,8 million km². The Amazonian vegetation exhibits a complex phytophysionomic diversity that includes “terra firme” forests, floodplain forests, igapós, mangroves, campinas, and campinaranas. This ecological diversity supports a wide variety of species, many of which have economic, cultural, or ecological significance. It shelters 10 percent of the planet's biodiversity, including close to 50 thousand plants, almost 2.500 fish species, 427 amphibians, 371 reptiles, 1.300 birds and 425 mammals¹. The Amazon is considered one of the biomes with the highest endemism on the planet, housing unique species that play crucial roles in ecosystems and are essential for the subsistence of local communities. Studies suggests that approximately 30% of the tree species in Amazon are endemic, including species of highly economic importance, especially for local communities, such as *Caryocar villosum* (pequiá) and *Carapa guianensis* (andiroba). The Amazon Forest provides important ecosystem services and plays a critical role in the maintenance of the global climate. It stores more than 150-200 billion tons of carbon and contributes up to 50 percent of rainfall in the region, including the Pantanal wetlands and the La Plata River basin which without this contribution would be much more arid².

Over 60% of the Amazon forest (4.3. million km²) is within Brazilian borders³. The Amazon Forest provides subsistence for more than 34 million people⁴, including 420,000 Indigenous people from over 300 ethnic groups, who depend directly on natural resources for their subsistence and cultural identity. The Brazilian portion of Amazon Forest is protected by 336 conservation units and 424 indigenous lands that protects approximately 48,7% of the region.⁵ Economically, the region's Gross Domestic Product (GDP) represents about 8% of Brazil's economy, driven mainly by agriculture, mining, logging, and fishing.

Adequate management of this quintessential tropical forest and its globally significant biodiversity is necessary for maintaining global climate and regional hydrological cycles and mitigating the impacts of climate change and human population growth on environmental sustainability and food security for the indigenous peoples and local communities⁶. Such biophysical, sociocultural and economic importance makes the conservation and sustainable management of the Amazon Forest a global priority.

Despite its importance, estimates are that 17 percent^{7 8} of the original forest cover has already been cleared and converted into pastures or arable lands, encroaching the agricultural frontier. Since the beginning of the century as much as 54 million hectares of forest may have been lost⁹. General drivers behind deforestation are large infrastructure construction works which attract migrants and labour force, which make parts of the forest more accessible for, among others, illegal loggers, and which increase land value, linked to land grabbing and land speculation. Another driver is the expansion of the agricultural frontier. Soy, corn, cotton and sugarcane monocultures in the Cerrado biome of the Legal Amazon region are pushing cattle ranching ever further north into the Amazon forest region¹⁰ where it is converting forest into pastures.

In the 2000s, deforestation reached annual rates exceeding 27,000 km². The implementation of the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm) reduced these rates to around 4,500 km² per year between 2012 and 2014. However, after 2018, there was a significant increase, reaching 13,038 km² in 2021, driven by setbacks in environmental policies, agricultural expansion, and illegal mining. Land-use changes in the Amazon have been characterized by the replacement of forests with pastures and monocultures, such as soy and corn. Cattle ranching accounts for 80% of deforestation in the region, often occurring in degraded areas where productivity is low. The figures 1 in (see Annex 1) shows these trends of deforestation rates in Brazilian amazon.

In Annex 1 the figure 2 shows the transformation in land use change in Amazon in the last decades. The map on the left shows the land use cover in 1990, while the map on the right shows the land use cover in 2023. The most prominent trend shows a decrease in land covered by forest, of more than 49 million hectares, and an increase in the land occupied by agriculture and livestock activities, of more than 51 million hectares. This trend can be better observed in the figure 3 (Annex 1). The map in the left shows the area of forest lost in the period from 1990 to 2023, while the map in the right shows the area of agriculture and livestock production gained in the same period.

According to data from the Climate Observatory (2023¹¹), land use and forest change is the main factor responsible for greenhouse gas emissions in Brazil, driven by deforestation in the Amazon, which accounted for approximately 38% of the country's total GHG emissions in 2021. In that year, Brazil emitted 2.4 billion gross tons of greenhouse gases. Amazon deforestation alone was responsible for about 911 million tons of GHG emissions. The primary driver of deforestation in the Amazon is the conversion of forested areas for agricultural use, which accounted for 601 million tons of GHG emissions in 2021. Thus, if we consider these two factors as part of the same unsustainable economic development process, land use change and agriculture together account for 74% of Brazil's greenhouse gas emissions.

The project area will focus in two States of the Legal Amazon: Pará and Amazonas states. According to the National Institute for Space Research (INPE)¹², the state of Pará leads the deforestation rates in Brazilian Amazon, with more than 34% of its original cover already deforested, which represents more than 172 thousand square kilometers. The Amazonas State, in turn, occupies the fourth position, with 7,27% of the original cover deforested, representing more than 36 thousand square kilometers.

Scientists expect that the forest is very near to a tipping point at which the Amazon's hydrological cycles, which are based on the transpiration of the forest's leaves and the evaporation from its surface, will be disrupted. The disruption of these cycles is expected to lead to the transformation of the dryer parts of the forest into tropical savannah¹³. Studies indicate that this critical tipping point may be reached when 20-25% of the original forest is deforested, particularly in the eastern, southern, and central regions of the Amazon. This scenario would trigger a series of negative effects, such as the disruption of the hydrological cycle, the loss of climate regulation, and a drastic reduction in resource availability for local populations, leading to irreversible impacts on biodiversity and ecosystem services.

The continuation of the current trend of deforestation and degradation in the Amazon will trigger irreversible impacts on the global climate, in addition to negatively affecting the provision of ecosystem services that form the basis of life for more than 34 million people and a unique biodiversity in the world. The unsustainable use of resources, through activities such as deforestation and forest degradation, threatens the region's ecological balance and economic security, with negative implications for Brazil and the world. Amazonian communities are particularly vulnerable to changes in land use and land cover, which irreversibly alter ecosystems. Additionally, populations living in floodplains and mangroves face challenges such as land pressure and reduced fishing productivity due to environmental degradation.

The implementation of activities for ecosystem and biodiversity conservation, sustainable forest management, and ecological restoration of already degraded areas, is crucial to prevent the Amazon to reach its tipping point. In this context, the ecological restoration of the Amazon is a priority reflected in Brazil's goals to reverse the degradation scenario in the region.

New public policies have been adopted to combat deforestation and promote the restoration of degraded areas. To address the first, the Ministry of Environment and Climate Change's Action Plan for Prevention and Control of Deforestation in the Legal Amazon (PPCCDAm) which sets an ambitious goal of achieving zero deforestation in the Amazon by 2030. While to promote restoration, a new National Forest Restoration Plan (Planaveg) has been published in 2024¹⁴ with a new set of actions for 2025 to 2028. One of the goals of the New Planaveg is to restore 12 million hectares of Forests until 2030, linked to the Target 2 "Restore

30% of all degraded Ecosystems” of the Kunming-Montreal Global Biodiversity Framework. This new version of the Planaveg recognises that to achieve the restoration goals and for it to be viable and meaningful, there are at least six dimensions that need to be addressed¹⁵. These includes the support for science and research in order to improve our understanding of the working of ecosystems and to develop new restoration techniques, the integration of restoration with the conservation of flora and fauna and the development of economic alternatives and legal instruments that benefit Indigenous Peoples, Local Communities and smallholders and their livelihoods.

To achieve these objectives, it is of outmost importance to have a concerted effort from actors across different sectors, including the public sector, private agents, civil society organizations, universities and research institutes, as well as Indigenous Peoples and Local Communities (IPLCs), as existing environmental problems are affecting socio-economic conditions and vice-versa. Strengthening governance frameworks and expanding spaces that promote dialogue, the exchange of experiences and information, and the integration of different actors is fundamental to ensuring synergy and complementarity between projects, programs, public policies, and other restoration initiatives. This process must guarantee the participation of local communities and the integration of traditional knowledge into the established strategies and arrangements.

Furthermore, expanding the capacity for restoration in the Amazon from a technical, organizational, structural, and financial perspective is another strategic action that must be included in the efforts of restoration programs and projects. This includes training and capacity-building for local actors, including state and municipal government agencies and local communities, which should be increasingly integrated into restoration processes, both as practitioners and beneficiaries. It also involves the development of methodologies, protocols, techniques, technologies, and practices suited to the socio-environmental context of each region, always seeking to maximize the benefits of restoration in terms of promoting ecosystem services, including through the creation of new economic opportunities and income generation via value chains linked to restoration. In this context, the emerging bioeconomy, based on the sustainable use of biodiversity, presents significant potential to transform the Amazonian economy. Economic models that combine technological innovation with the enhancement of ecosystem services can generate jobs and income while promoting environmental conservation and social inclusion.

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To maintain the forest’s functions, it is critical to include strategically important ecosystems. The lowland Amazon can be divided into freshwater bodies, terrestrial ecosystems and wetlands. Wetlands can be further subdivided into freshwater wetlands; floodplain forests; permanently flooded swamps; flooded savannahs and mangroves¹⁶. Restoration has, however, mainly taken place in lowland forests in the Eastern Amazon. The vast majority of the restoration projects carried out over the past 30 years and the scientific studies published apply to the lowlands of the Eastern Amazon. For these ecosystems, restoration strategies^{17 18 19 20} and operational manuals²¹ have been prepared suggesting methodologies and providing cost estimates. Very little has been done with respect to restoration in the lowland forests of Central Amazon and in floodplains and mangroves.

The International Society for Ecological Restoration (SER) defines ecological restoration as “the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. A restored ecosystem is one that contains sufficient biological resources and ecological processes to sustain its structure, resilience, and functionality over time.” To support the implementation of the UN Decade for Ecosystem Restoration and help achieve its objectives, a shared vision of ecosystem restoration was created, defined as ‘the process of halting and reversing degradation, resulting in improved ecosystem services and recovered biodiversity. Ecosystem restoration encompasses a wide range of practices, depending on local conditions and societal choice.’ These definitions will guide the activities developed in this project, following the principles highlighted below:

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- Engagement of stakeholders: emphasizing the importance of involving local communities, Indigenous people, and other actors in the process

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- - Integration of multiple types of knowledge: including scientific, traditional, and local knowledge
- - Use of native reference ecosystems as models for restoration, considering environmental changes
- - Support for natural ecosystem recovery processes
- - Evaluation by measurable goals and indicators to monitor progress
- - Seeking the highest level of recovery possible, considering technical and social limitations
- - Achieving cumulative benefits at large scales, which expands ecological and social benefits
- - Understanding restoration as part of a continuum of restorative activities, which ranges from impact reduction to rehabilitation and full restoration

Project Area and ecosystems

The project will focus on three strategic ecosystems in Brazilian amazon: floodplain forests, lowland forests and mangroves. All these ecosystems, have been suffering from the increasing and intensifying impacts of climate change, resulting in prolonged droughts that lower river levels and negatively affect the lives of thousands of people. In this context, the proposed restoration and sustainable management actions for the project area are critical to promoting the mitigation and adaptation of local communities to climate change.

Floodplain forests

The Amazon floodplain forests, also known as *várzea* forests, are a unique and highly biodiverse ecosystem within the Amazon rainforest. They are seasonally flooded by nutrient-rich waters from the Amazon River and its tributaries. These forests play a critical role in the ecology and hydrology of the Amazon Basin. *Várzea* floodplain forests, which occur along the Amazon River and its main white-water tributaries, are characterized by an annual flood pulse that can reach over 15m. These forests are submerged for 6-8 months annually during the rainy season. Floodplain wetlands represent 11% of the Amazon Basin area. The Central Amazon floodplain is one of the largest freshwater ecosystems in the tropics and extends over approximately 300,000 km², showed in figure 4 (Annex 1) in light green in the map.

Floodplains (or *várzeas*) play an essential role in the storage of water during the seasonal high-water phase and the reduction of erosion. Due to the seasonal renewal of soil nutrients and deposit of sediments caused by the annual flood, the soils are fertile compared to the nutrient-poor upland (*terra firme*) forest soils^{22 23} and, consequently, *várzeas* are some of the most productive ecosystems in the Amazon and serve as an important breeding ground for birds, mammals, and reptiles and offer food and shelter to many fish species²⁴. In addition, the wetlands provide important environmental services, such as the filtering and retaining of water and sediments, the recharging of aquifers, the regulation of microclimates, and as important reserves of terrestrial carbon. They produce and recycle organic material, and they interact with the atmosphere through water, carbon and nitrogen cycles²⁵. A recent study concluded that one sixth of Amazonian tree diversity is dependent on river floodplains²⁶. Also, it is estimated that approximately 50% of the Amazon fish Species occur in flood plain systems associated with large rivers, including most species of commercial importance. Because of their relative fertility and easy access, floodplains are also the areas most impacted by anthropogenic influences.

The alternation between flood and dry periods shapes the life cycles of plant and animal species that depend on these ecosystems. Floods promote seed dispersal, nutrient transport, and food access for aquatic species such as the tambaqui (*Colossoma macropomum*), which feeds on fruits during inundation. During the dry season, terrestrial species use the exposed soils for feeding and reproduction, taking advantage of the temporarily available resources. In the dry season, the exposed soils in Várzeas are also used by human communities to practice agriculture, producing mainly manioc and maize.

Floodplain species play crucial roles in maintaining the balance of Amazonian ecosystems, providing food for wildlife, supporting biodiversity, and sustaining nutrient cycles. Some species face specific conservation challenges due to their low population density or limited dispersal. Human pressures, such as deforestation, agricultural expansion, and climate change, have put many of these floodplain species at risk of extinction. Some of these species have restricted distribution (endemism) and perform essential ecological functions. Notable examples include: *Ceiba pentandra* (kapok tree), one of the tallest trees in the Amazon, playing a key ecological role in seed dispersal and providing shelter for wildlife; *Pseudobombax munguba* (munguba), crucial for ecological balance and used as a food source by fish like the tambaqui (*Colossoma macropomum*) during floods; *Hura crepitans* (sandbox tree), a large floodplain-endemic tree valued for its role in forest regeneration and widely used as flotation material for floating structures.; *Caryocar villosum* (pequiá), an Amazonian endemic species that is an important food source for mammals, birds, and humans; *Parkia inundabilis* (floodplain faveira), essential in the diet of fish and bird species during floods and highly vulnerable to exploitation; *Swartzia polyphylla* (paricá), a leguminous tree with ecological importance for nitrogen fixation in flooded soils, but under intense pressure for its timber; *Attalea speciosa* (babaçu), vulnerable due to the conversion of floodplain areas into agricultural land; *Macrolobium acaciifolium*, a species adapted to flooding, important for ecological balance and as a source of shade for wildlife.

Floodplain forests also have species with high economic value, highlighting *Mauritia flexuosa* (buriti), *Euterpe oleracea*, and *E. precatoria* (açai). These species are used in extractive, agroforestry, and medicinal activities and play a crucial role in food security and income generation for local communities. Some notable examples include: *Calophyllum brasiliense* (jacaréuba), a tree species used for timber and known for its medicinal properties; *Virola surinamensis* (ucuúba), used in the cosmetics and pharmaceutical industries but facing pressure from overexploitation; *Carapa guianensis* (andiroba), widely harvested for medicinal and cosmetic oil production; *Simarouba amara* (marupá), valued for its lightweight wood, commonly used in shipbuilding and furniture manufacturing; *Astrocaryum murumuru* (murumuru), whose fruits are used to produce cosmetic oils; *Mauritia flexuosa* (buriti), utilized in the production of oils, cosmetics, and food products.

Floodplains play a crucial role for riverside communities, providing ecosystem services that support food and economic security. The main products and services include: **Fishing:** Species such as *Arapaima gigas* (pirarucu) and *Colossoma macropomum* (tambaqui) are essential for both commercial and artisanal fishing, generating income and food for thousands of families; **Seasonal agriculture:** The fertility of floodplain soils, renewed annually by floods, allows for the cultivation of crops such as cassava, rice, corn, and beans; **Plant extractivism:** Products such as *Euterpe oleracea* and *E. precatoria* (açai), *Mauritia flexuosa* (buriti), and *Hevea brasiliensis* (rubber tree) are widely used for local consumption and commercialization; **Hydrological regulation:** Floodplains act as buffer zones, reducing the impact of extreme floods and helping to recharge regional aquifers.

Exploitation of the floodplain's resources, especially of timber, has been largely unsustainable²⁷. Small-scale agriculture and cattle raising is either not adapted to local conditions, commercially not very promising or clearly degrading the natural environment. Once Floodplains are among the most productive ecosystems in the Amazon and rank among the most diverse floodplain forests in the world and although they store less timber than lowland forests, their high productivity, combined with the ease of access and log transportation via rivers, especially during the flood season, makes these areas more intensively exploited for timber extraction. In addition, Changes in rainfall patterns due to climate change and deforestation can disrupt seasonal dynamics, affecting biodiversity, ecosystem services, and the resilience of these ecosystems.

The Amazon floodplain forests are an irreplaceable component of the Amazon Basin. Their seasonal rhythms sustain countless species and provide vital resources for both biodiversity and human livelihoods. Protecting and restoring them is essential for the ecological and economic stability of the region.

Mangroves

Mangroves are coastal ecosystems located at the interface between terrestrial and marine environments, predominantly in tropical and subtropical regions. Covering approximately 12,000 km², Brazilian mangroves form a discontinuous strip extending from the state of Santa Catarina to Amapá, including the Fernando de Noronha archipelago. The northern region, particularly in the states of Amapá, Pará, and Maranhão, holds 80% of this area and is known for having the largest continuous stretch of mangroves in the world. They are the inundated land in and around the estuary of the Amazon River in eastern Brazil. They are located in coastal zones in areas inundated by daily tides, with flooding occurring twice a day when the ocean tide pushes a large volume of river discharge onto the landscape, elevating the water levels 2-3m. In this region, the macrotidal regime, with variations exceeding four meters, enables the growth of trees that can reach up to 30 meters in height, thriving on mudflats that extend up to 30 km wide.

Mangroves have soils that present low levels of oxygen, different levels of salinity, and high concentration of organic matter. Mangroves are ecosystems rich in biodiversity, serving as habitats and breeding grounds for various species of fauna and flora. They act as natural nurseries for fish, crustaceans, mollusks, and seabirds while supporting a variety of plant species adapted to extreme conditions such as high salinity and waterlogged soils. The diversity of plant species in Brazilian mangroves is relatively low, with around 20 species. The mangroves of Bragança, a region near the project site, are home to six mangrove tree species: *Avicennia germinans*, *Avicennia schaueriana*, *Rhizophora racemosa*, *Rhizophora mangle* (red mangrove), *Laguncularia racemosa*, and *Conocarpus erectus*. They form a protective barrier of coastal areas, are important carbon sinks as mangrove trees require a high amount of carbon for their growth, a rest place for different animals, in particular birds, and they function as biological filters of particles and pollution²⁸. On a global scale, the conservation of mangroves is crucial for maintaining biodiversity and the ecological processes that benefit the planet as a whole, highlighting the need for protection policies and sustainable management practices.

For climate policies, estimates suggest that Brazilian mangroves store about 8.5% of the global carbon stock of these ecosystems, ranking second in global extent. A study by Rovai et al. demonstrates that the soils of Brazilian mangroves have a carbon sequestration capacity 15% to 30% higher than the global average, contributing to approximately 13.5% of the carbon buried annually in the world's mangroves. These figures highlight the potential of these ecosystems as 'blue carbon,' reinforcing their importance in Brazil's climate mitigation strategies and their role in global warming scenarios.

Furthermore, when compared to other Brazilian biomes, mangroves have a high carbon density per area, storing up to four times the carbon found in the first meters of soil in biomes such as the Amazon and Pantanal. This unique carbon sequestration capacity makes mangroves key elements for carbon credit policies and emission offsetting. Rovai et al. recommend that mangroves be integrated into the carbon credit market, a measure that could help Brazil meet its Nationally Determined Contributions (NDCs) and attract financial resources for the conservation and restoration of these ecosystems.

In addition, mangroves are also important in the livelihoods of local communities. From a sociocultural and economic perspective, mangroves are vital for local communities, which directly depend on their resources for activities such as fishing, shellfish harvesting, and timber extraction, ensuring food security and income generation. Additionally, these ecosystems hold cultural and spiritual value for many traditional populations, integrating into their practices and ways of life. Although the main source of income and subsistence of coastal communities usually comes from fishing activities or small-scale agriculture, communities also use the mangroves for the collection of crustaceans and it provides them with firewood and wood for construction, essential oils and other materials²⁹.

The Amazon estuary and Mangroves constitutes a Ramsar site (site 2337). It is the largest fluvial marine archipelago on the planet. The site consists of a corridor of 23 protected areas with an area of over 3.8. million hectares. On this stretch of coast lies one of the biggest continuous mangrove formations in the world with over 8,900 km² stretching over 700km. Already more than half of coastal wetlands have been lost as cities and infrastructure have expanded along the coastlines.

Mangroves face threats such as habitat destruction due to urbanization, expansion of infrastructure and coastal development, tourism, unsustainable exploitation and, including the expansion of aquaculture, especially shrimp farming, and pollution, including industrial waste and oil spills, that also affects the health of these ecosystems, reducing their capacity to capture carbon and mitigate climate change. Additionally, rising sea levels and ocean acidification pose significant risks to mangroves, potentially submerging areas and altering the composition of these ecosystems. It is estimated that a quarter of all mangrove forest in Brazil have already been deforested and several of the still existing mangrove forests have been degraded³⁰. The figure 5 in Annex 1 shows the pressure over amazon Mangroves. We can see the pressure of cities development and agriculture and livestock production near the frontiers of the mangroves. The light green areas represent the mangroves in the amazon Estuary region, The yellow areas represent the advancement of the agriculture and livestock frontier upon those mangroves.

While the overall drivers behind deforestation are infrastructure construction works, the advancing agricultural frontier in combination with land grabbing and land speculation, deforestation in the Central Amazonia lowlands, floodplains and mangroves is often the result of local socioeconomic conditions.

Communities and smallholders in Central Amazonia typically combine in their livelihood's strategy extensive cattle ranching, subsistence farming, low-input commercial farming for the local market, exploitation of timber and non-wood forest products. Without proper knowledge and resources to maintain pastures, their degradation over time obliges famers to open new pastures at the expense of forest and the resources it provides.

Floodplains are public lands, but communities and farmers can obtain the right of use through the creation of extractive reserves or concessions³¹. Communities typically combine in their livelihood strategy fisheries in floodplain lakes with subsistence farming, cattle ranching and extraction of natural resources. During the period that water levels are low, the floodplains usually consist of natural levels that separate the main riverbed from grasslands and lakes. The lakes are, in principle, a common resource, but fishing accords along the river basin have been adopted that give local communities control over access. Access to the grasslands is often disputed because farmers see it as pastures for their cattle while community members see it as an area to cultivate fast-growing crops during the period that water levels are low. The natural levee is the place where residents build their houses and grow their crops. Levee property is perceived by the residents as private property defined in terms of the extension of the front along the riverbank³².

Mangrove communities typically combine subsistence farming with fishing and crab collection and extraction of wood for domestic use and the sale of charcoal. Unsustainable crab collection or decreasing stock because of external influences, for example pollution, increases pressure to extract more wood causing further degradation and a decrease in the crab population³³.

Degradation of these ecosystems puts the delivery of ecosystem services at risk: (1) provisioning services: fish and other aquatic and estuarine species, species of terrestrial fauna, construction materials, vegetable fibers, materials for construction, medicinal plants, firewood, materials for navigation, nursery for many species of fish, and pastures; (2) regulation services: water

purification, aquifer recharge, water storage, river current regulation and flood mitigation, climate regulation, nutrient recycling; (3) cultural services: ecotourism, education and awareness, knowledge and understanding of wetlands ecology and biogeochemistry, aesthetic and spiritual relevance for various peoples.

Lowland Forests (*Terra Firme*)

Terra firme forests represent about 80% of the Amazon's forest cover, occurring in non-flooded areas. They are divided into Dense Evergreen Rainforest of Terra Firme and Open Evergreen Rainforest of Terra Firme. These ecosystems are characterized by their high biodiversity and ecological, economic, and cultural importance. The lowland forests of Amazon have a high carbon storage capacity and are of vital global importance. "Terra firme" forests harbor a vast biodiversity, playing a crucial role in maintaining the biological richness of the region. These ecosystems contain a high diversity of tree species, many of which are endemic or rare, contributing to the structural and functional complexity of the forest. In addition to the flora, the fauna of these forests is equally diverse, including mammals, birds, amphibians, reptiles, and an immense variety of insects and microorganisms, many of which are still unknown to science.

Amazonian *terra firme* forests play a crucial role in maintaining ecosystem services, contributing to climate regulation, the water cycle, carbon storage, and biodiversity conservation. These ecosystems function as important carbon sinks, absorbing large amounts of CO₂ from the atmosphere, and play a key role in global climate balance. Additionally, their dense vegetation and forest soils regulate water flow, reducing erosion and ensuring the hydrological stability of watersheds (Chave et al., 2014). Terra firme forests also support exceptional biodiversity, housing thousands of plant, animal, and microorganism species that perform essential ecological functions such as pollination, seed dispersal, and nutrient cycling. Covering a significant portion of Amazonia, these forests support unique plant and animal species, help regulate climate patterns, and serve as natural water filters, maintaining water quality and supporting aquatic ecosystems. Additionally, they are a source of traditional medicine and play a crucial role in the cultures and livelihoods of IPLCs. Protecting and conserving these forests is essential for global climate mitigation, the preservation of biodiversity and the wellbeing of local populations, making them a cornerstone of Amazonia's ecological environmental significance.

Climate change in lowlands, along with associated droughts and altered precipitation patterns, place additional pressure on these forests, potentially disrupting their delicate ecological balance. These areas are even more vulnerable to anthropogenic pressures due to their ease of access and lack of flooding. Like wetlands, the degradation of these environments results in a loss of ecosystem services, including: (1) the harvesting of plant species common in regional cuisine and medicinal plants, construction materials, and terrestrial wildlife species; (2) services associated with hydrological cycles; (3) and cultural services.

All three ecosystems have in common that they play an essential role in the overall functioning of the forest ecosystem, including in the livelihoods of the communities that depend on their natural resources which are under threat from unsustainable exploitation. Restoration of degraded areas is important to guarantee the ecosystem functions but also to halt the vicious circle of degradation and impoverishment in which communities are often trapped.

However, these ecosystems differ in several aspects, and specific models for the sustainable management of forests in each ecosystem need to be developed to be in tune with local livelihoods strategies and to provide incentives for the sustainable use of the forest's natural resources, including Non-Wood Forest Products and its integration in local value chains.

To assess the main drivers of degradation and to promote restoration activities in those three ecosystems, the Project will intervene in three regions: Médio Solimões and Manaus, both in Amazonas State; and Salgado Paraense, in Pará state. These regions were selected for their representativeness in relation to the ecosystems targeted by the project: floodplain areas, with a focus on the Mamirauá Reserve and the municipality of Manacapuru, which have extensive landscapes of this ecosystem; mangroves, covering much of the Salgado Paraense; and terra firme forests, which occur across the three macroregions, primarily along the borders of the other two ecosystems and in areas with restoration needs, as this ecosystem is one of the most degraded in the Amazon due to widespread land use and occupation possibilities. These areas face a growing scenario of increased threats and drivers of degradation, mainly related to land opening for agricultural production, pasture, timber exploitation, and forest fires.

In the Médio Solimões region, the municipalities of Tefé, Alvarães, Uarini, and Maraã are part of the project, with extensive occurrences of floodplain and terra firme ecosystems. Similarly, in the Manaus region, the municipalities of Manaus, Manacapuru, Novo Airão, Careiro Castanho, and Careiro da Várzea are included. In Salgado Paraense, the municipalities of Marapanim and Curuçá were chosen due to the relevance of coastal mangrove areas and the challenges related to the sustainable use of these ecosystems.

To achieve the proposed objectives, the project's intervention strategy focuses on areas both inside and outside of protected areas. Protected areas include Conservation Units (UCs), agro-extractive settlements, and Indigenous Lands (TI), directly involving public agencies and beneficiary local communities. This approach is essential to ensure the preservation and restoration of floodplain ecosystems and other important Amazonian ecosystems while promoting the sustainability and well-being of the communities that depend on these natural resources.

All of the protected areas involved in the project in the state of Amazonas (including the Tefé National Forest, the Mamirauá Sustainable Development Reserve, the Amanã Sustainable Development Reserve, and the Miratu Indigenous Land), as well as many of the municipalities (Tefé, Uarini, Alvarães, Manacapuru, Novo Airão, and Manaus), are part of the Central Amazon Corridor. This corridor was established in 2002 by the Ministry of the Environment, covers approximately 52 million hectares, and includes 55 conservation units and 65 Indigenous Lands. Its objective is to ensure connectivity between protected areas through initiatives that promote conservation and expansion of these spaces, as well as supporting the adoption of sustainable natural resource management practices in surrounding areas. It encourages low-impact environmental activities, such as forest management and the implementation of agroforestry systems (AFSs) in sensitive regions, both within and around the conservation units, while discouraging high-impact practices, such as large-scale deforestation.

Regionally, the Central Amazon Corridor contributes to maintaining and connecting organisms within Amazonian ecosystems, which are crucial for the region's climatic and hydrological balance. Globally, it plays a vital role in mitigating climate change by preserving one of the planet's largest carbon reserves, helping regulate the climate not only in Brazil but worldwide. Therefore, it represents a significant strategy by the Brazilian government to promote integrated management and conservation of biodiversity in the Brazilian Amazon. The actions of this project are aligned with the objectives of the Central Amazon Corridor, contributing to these goals particularly through restoration initiatives and the implementation of sustainable forest management practices and agroforestry systems. More information about the project areas and communities can be found in Annex E "Project Maps and coordinates" and Annex F "Environmental and Social Safeguards"

Barriers

There are three main barriers that need to be overcome in order to implement restoration of degraded areas in the Central Amazon, the floodplain and mangrove forests, which the project address: (i) Technical gap. Scientific and technological underpinnings for successful wetland and lowland ecosystem restoration that consider local livelihoods and cultures of the Amazon do not exist; (ii) Human resources gap. Absence of trained people and poorly structured restoration chain; (iii) Economic gap. Lack of commercialization and access to markets.

Barrier 1: Technical gap. Scientific and technological underpinnings for successful wetland and lowland ecosystem restoration that consider local livelihoods and cultures of the Amazon do not exist.

Several initiatives and strategies for ecosystem restoration are being implemented in the Brazilian Amazon. A recent study shows that, over the past 30 years, 405 restoration projects and 105 scientific studies have been carried out. Most of these initiatives were conducted in areas of lowland forests and involve planting seedlings, followed by agroforestry techniques and natural regeneration^{34, 35}. For these ecosystems several studies are available pertaining to different restoration strategies^{36, 37, 38, 39} and few manuals⁴⁰ providing cost estimates and suggesting methodologies that can be implemented. These protocols and models were based on lowland forest areas in the Eastern and Southern fringes of the Amazon because of the higher deforestation and degradation rate due to advancing agricultural frontier. Despite being the same forest type, those areas have different soil, floristic

composition, and structure than Central Amazon, underscoring the need to build specific technical and scientific knowledge and protocols for these different regions. These protocols should also be in tune with local livelihoods and provide incentives for the sustainable use of Non-Wood Forest Products. Projects that consider local species help recreate healthier and more resilient ecosystems, preserve biodiversity, and promote greater long-term success

Efforts are predominantly focused in areas that are easily accessible, in Eastern Amazon and upland areas. This indicates a shortage of basic and applied research to reinforce the selection of best practices for ecosystem restoration and a lack of restoration initiatives in certain regions. The selection of a restoration strategy relies on various factors, encompassing the type of existing forest cover, the extent of degradation, the potential for natural regeneration, and the goals/objectives of the restoration. Furthermore, ensuring ecosystem services and integrating these strategies with activities that have the potential to yield socioeconomic benefits is of paramount importance. The below table (Table 1) illustrates the biophysical differences between Eastern Amazon and Central-Western Amazon forests.

Table 1. Biophysical differences between Eastern Amazon and Central-Western Amazon forests

Features	Eastern Amazon forests	Central-Western Amazon forests
Soils ⁴¹	Haplic Gleysol Petroplinthic Soil Quartzarenic Neosol Red-Yellow Argisol Red-Yellow Latosol Yellow Latosol	Argisol Haplic Gleysol Luvisol Red-Yellow Argisol Red-Yellow Latosol Spodosol Yellow Latosol
Main Phyto physiognomies ⁴²	Alluvial Dense Rainforest, Lowland Dense Rainforest	Submontane Dense Rainforest, Alluvial Dense Rainforest, Lowland Dense Rainforest
Predominant climate ⁴³	Tropical without dry season (Af)	Tropical monsoon (Am)

There are no well-established models of socio environmental restoration for Amazon wetlands. A low number of the existing initiatives are participatory models⁴⁴, even though there is a wide recognition of their relevance⁴⁵. The first protocols, although still very generic, are beginning to be elaborated for wetlands of global importance or relevance and offer important inputs for Brazilian initiatives⁴⁶, although they are more focused on coastal areas of mangroves, and other permanently flooded environments, which have undergone sudden changes in their hydrological regime. Even so, the main principles and guidelines are beginning to be elaborated and will be consolidated as they are adopted by the initiatives that are carried out.

Location and ecosystem-specific protocols are important because the success of restoration efforts depends on a range of variables including soils, floristic composition and structures, climate, hydrological balance and others. Ensuring that restoration protocols are in line with local customs and livelihoods strategies is essential because it not only provides local communities and farmers with the opportunity to generate additional income from the sustainable use of the forest and the commercialization of Non-Wood Forest Products, but it is also a strong incentive for the conservation and the sustainable use of the standing forest. In the lowlands this implies that the restoration model needs to include wood and non-wood forest products that generate revenue. For floodplains this means that the restoration model needs to create incentives for sustainable management in combination with freshwater fishing, subsistence farming and often also cattle ranching and in the mangrove forests with fishing, crab collection and other wood and non-wood forest products.

Barrier 2: Human resources gap. Absence of trained people and poorly structured restoration chain

The conservation and restoration of Amazon Forest ecosystems largely depend on local communities adopting sustainable management practices and an appropriate natural resource management and governance system. However, communities in the project area lack the technical skills and do not receive the necessary assistance and incentives to implement these practices. Currently, the predominant approach involves using fire to clear forest land for agriculture, combined with management practices that contribute to further degradation of forests and associated ecosystems. Furthermore, unsustainable socio-economic practices, such as illegal and informal gold mining and illegal logging, are often more profitable and generate a revenue more rapidly than sustainable land management practices; hence producers and landowners tend to adhere to these practices. Therefore, it is essential to strengthen community capacities and provide technical support for implementing sustainable practices, such as agroforestry systems, proper fire management, or alternative methods.

Specifically, in *varzeas* and mangroves there is no technically trained labor in critical activities such as seed collection and processing, production and planting of seeds and seedlings, and monitoring of restored areas. In lowland forests, there is also a lack of technically trained labor in the expertise described above for wetlands. Furthermore, these territories lack institutional and organizational technical capacities for ecosystem restoration, including lack of law enforcement, poorly planned infrastructure and monitor of agricultural expansion.

Restoration requires a chain of seed collectors and nurseries to produce the required seeds and seedlings and technical expertise to implement restoration models and monitor their implementation. Apart from local and informal initiatives, there do not exist consolidated seed collector associations with seed storage or quality assessment and monitoring facilities nor nurseries with the capacity to handle the expected demand for seedlings of specific floodplains or mangrove species. Potentially the demand for seeds and seedlings is guaranteed within the context of the regularization of farms in the context of the Forest Code and the obligation to restore degraded permanent protection areas and legal reserves on private properties, but without supply and the availability of restoration models that ensure economic return, motivation of the implementation of restoration initiatives has been weak. The scarcity of well-established networks hampers the ability of restoration projects to access and utilize genetically similar propagules from the same ecoregions and hydrographic basins.

Besides that, the restoration chain in the Amazon is poorly structured and lacks coordination among relevant stakeholders to implement public policies, programs, projects and activities in an integrated way, and to promote synergies and complementarities between the organizations to achieve greater impacts and a better functioning of the restoration chain.

Barrier 3: Economic gap. Lack of commercialization and access to markets, including in Non-Wood Forest Product value chains.

Although studies in Apuí (AM) show a satisfactory return within 10 years after restoration (revenues from agroforestry products)⁴⁷, rural and smallholders producers struggle to commercialize sustainable products and by-products obtained in restored areas in the Amazon areas⁴⁸. In the project intervention areas, forest associations are unaware of how to sell their sustainable products in the regional and national markets. Intermediaries dominate the process of aggregation, and unfair prices are tendentially paid to the primary producers. Logistical problems, low level of entrepreneurial maturity, lack of knowledge of administrative aspects to access formal markets, poor understanding of existing policies related to forestry products, and the lack of technical support, prevent the development of a sustainable forest and wood value chains (including both products and services).

In the project location area different opportunities exist to strengthen value chains for Non-Wood Forest Products. Açai (*Euterpe oleracea* Mart.) which is native to the Brazilian Amazon and is mostly found in the floodplains, has a relatively well-established value chain and, recently, the cultivation of cacao (*Theobroma Cacao*) has been promoted in the face of diminishing supply from the traditional West African producing countries. Other relatively well-established value chains are those of essential oils, such as andiroba and copaiba. In mangrove areas, the value chains of crabs and other mollusks and tannin from the bark of *Rhizophora mangle* are reasonably well established. However, communities are often badly organized and usually sell to intermediaries (or *regatão* in Portuguese) with trade and credit relations with regional up-and downstream value chain actors. The relation between the collector or producer of forest products and the *regatão* is called *aviamento* in Portuguese, defined as a debt-peonage relation or a form of barter system in which debt is paid back to the lender with the workforce of the borrower. This system weakens producers bargaining power and poses challenges to access competitive markets.

Baseline Initiatives and Investments

Under this scenario the Brazilian Government has created the Action Plan for Prevention and Control of Deforestation in Legal Amazon (PPCDAm) and set the goal of restoring 12 million hectares of native forests by 2030. In the Amazon biome, Brazil's National Plan for the Restoration of Native Vegetation (PLANAVEG) establishes the goal of recovering 4.8 million hectares of native vegetation. It is important to emphasize that this is a federal government goal without allocated resources. Therefore, investments and initiatives are still required to carry this value off. It is urgent to establish the capabilities for investments and other initiatives to achieve these goals. The delivery of a package of restoration interventions involving multistakeholder interactions is a priority measure in this sense.

The Native Vegetation Protection Law (Brazilian New Forest Code⁴⁹) is the primary legal instrument that regulates the protection and restoration of native vegetation on private rural lands, establishing two categories of preservation areas: the Permanent Preservation Areas (APP) and Legal Forest Reserves (RL)⁵⁰. The Brazilian deficit of APP and RL revolves around 21 million hectares that need to be restored or reforested⁵¹.

The National Plan for Recovery of Native Vegetation (PLANAVEG) - under the framework of the National Policy for the Recovery of Native Vegetation (PROVEG)⁵² - regulates the coordination, integration, and promotion of policies, programs, and actions for the restoration of forests and native vegetation⁵³.

Brazil has committed the restoration and reforestation of 12 million hectares of forests in the Nationally Determined Contribution (NDC) and the Bonn Challenge⁵⁴. Under the REDD+ framework (Reducing Emissions from Deforestation and Forest Degradation, Plus Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks), Brazil announced in 2015, during COP21, the National Strategy for Reducing Emissions from Deforestation and Forest Degradation, Conservation of Forest Carbon Stocks, Sustainable Forest Management, and Enhancement of Forest Carbon Stocks (ENREDD+)⁵⁵. This strategy aims to mitigate climate change mitigation through the prevention and control of deforestation and forest degradation and the promotion of forest recovery and conservation based on sustainable development⁵⁶. The Amazon Fund has been the largest REDD+ initiative (over US\$1 billion between 2008 and 2017)⁵⁷, incentivizing projects aligned with the objectives of Action Plan for Prevention and Control of Deforestation in Legal Amazon (PPCDAm).

The National Policy for Payment for Environmental Services (PNPSA)⁵⁸; the National Registry for Payment for Environmental Services (CNPSA), and the Federal Program for Payment for Environmental Services (PFPSA) aim to financially reward individuals, communities, or organizations that provide environmental services, thereby encouraging the adoption of sustainable land use practices, conservation, and ecosystem restoration.

Considering the states within the coverage area of the project, the state of Pará has the State Policy on Climate Change (PEMC/PA)⁵⁹ to develop and implement actions for the protection, management, conservation, and restoration of ecosystems⁶⁰. The State Plan for Native Vegetation Recovery (PRVN)⁶¹ maps restoration actions in the state of Pará and assist in the development of a state policy to drive the recovery of native vegetation⁶². The state of Amazon Plan (PEAA)⁶³ aims to execute strategies for the recovery of degraded areas and the promotion of measures to reduce deforestation⁶⁴. It sets a target of regenerating 5.65 million hectares of vegetation by 2030.

B. 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 guidance document. (Approximately 3-5 pages) see guidance here

Theory of change and detailed description of project components

The main thrust of the theory of change is that deforestation and forest degradation in Central Amazon lowland forests, floodplains and mangrove ecosystems, can be reversed through forest restoration combining recovery of ecological functions with

the introduction of non-wood forest products for commercialization and the generation of revenues, hence, providing incentives for the sustainable exploitation of the restored forest vegetation. The objective of this initiative, therefore, is to **restore wetland and lowland forest ecosystems and biodiversity in the Amazon mainland and coast through strengthening people and Local Communities capacity for ecosystem restoration, improving the enabling environment, and initiating restoration in overlooked areas of the Amazon.**

The above-described baseline initiatives and barriers will continue in the absence of an intervention. The project strategy is to tackle this challenge with outcomes that address the barriers. To overcome these barriers the project improves the organizational and institutional capacities for ecosystem restoration, developing a Strategic Plan for restoring in the Amazon, focusing on integrated landscape management, gathering background information on knowledge gaps and restoration priorities and forming an interdisciplinary panel to guide restoration initiatives and to address (Component 1.). Furthermore, technical capacities are strengthened through capacity-development program and the enhancement of restoration networks, including local communities and public agencies as beneficiaries. In addition, capacity to access the markets and commercialize Non-Wood Forest Products related to restoration sites and activities needs to be enhanced (Component 2). Restoration models and extension services to advise farmers and communities on the implementation of restoration plans and the sustainable management of the restored areas need to be improved or developed, tested and implemented. This includes strengthening restoration chains of seedlings with seed collection, storage, quality testing and monitoring, and the production of seedlings (Component 3). Finally, to upscale project results, its activities need to be monitored and documented to allow replication in other areas of the Amazon region through a knowledge management and communication system (Component 4).

The enabling environment will raise awareness about the importance of the three ecosystems and mobilize public, private, civil society and scientific stakeholders to help define integrated management models for the sustainable use of forest resources in the selected areas and for the restoration of degraded areas. The strengthening for ecosystem restoration in the selected regions will mobilize and consolidate existing seed collection initiatives, create nurseries and train community members and farmers in management and operational activities related to seed collection and the implementation of nurseries. It should result in a steady supply of seeds and seedlings for the implementation of restoration activities in the three ecosystems.

Strengthening of the capacity of farmers and communities to participate in the value chains of Non-Wood Forest Products or the implementation of agroforestry systems is expected to provide strong incentives for the conservation and sustainable management of forest resources through the generation of additional income for smallholders and community members. To ensure women inclusion and active participation, women priorities and specific necessities related to value chains are considered. The project strengthens women capacities and access to the markets by designing women tailored trainings and inclusion of their perspectives and recommendations in project activities. The Project will consider the FAO Guidelines for Developing Gender sensitive Value Chains to develop methodologies for strengthening women role in restoration related value chains.

The actual restoration and implementation of agroforestry systems will restore degraded areas, improve farming productivity and restore important ecosystem services. Knowledge-sharing and dissemination of the results of the project and the lessons learned is expected to stimulate and facilitate the implementation of similar restoration initiatives in the three ecosystems.

The combination of different conditions, private lands, protection units and indigenous areas and different social and cultural arrangements, smallholders, floodplain and mangrove communities and indigenous peoples is believed to be representative of many if not most situations in the three ecosystems, which means that sustainable management and restoration models, the knowledge and lessons generated on the basis of their implementation are likely to have relevance for much broader application in Central Amazônia lowlands and floodplains and in mangrove ecosystems.

Specifically, Component 1 will address Barrier 1 and 2, described in the Barriers sub-section. Through Component 1, GEF financing will promote the creation of the necessary technological background and technical support structure for restoration, making sure to support the scaling up and implementation of restoration methods developed in this project in other areas of the

Amazon. The development of activities under component one will be designed to guarantee the effective participation of women in decision making process, including their perception, needs and demands on the outputs delivered on this component.

Component 2 will help address Barrier 2 and 3. GEF financing will strengthen restoration networks at different levels and with different actors involved, making sure to include IPLC and with a gender-sensitive approach, by carrying out different types of training and courses. To address Barrier 2, it is essential for people to be trained, with a particular emphasis on including traditional people who possess knowledge and a connection to the land, and who play a fundamental role in the long-term preservation of forests, ensuring the success and sustainability of these projects. It is also imperative to create protocols for selecting the most suitable restoration techniques, considering the phytophysiology and the current condition assessment of each area. This emphasis should particularly target previously overlooked regions, like Amazonian wetlands.

Component 3 will help address Barrier 1, 2 and 3. It will support the execution of surveys, inventories, protocols, and monitoring tools to enhance the use of active restoration techniques, incorporating IPLCs and women in the decision-making and execution process.

The project will overcome the previously mentioned barriers by fostering cooperation among actors and aligning conservation, restoration, and rural development policies at regional, subnational, municipal and community levels. This will be ensured by promoting local communities' participation, and supporting a long-term planning vision, enabling uptake by local stakeholders (policymakers, local communities, and private sector) and ensuring scalability and long-term sustainability through tailored financial mechanisms.

Component 4 will help overcome Barrier 1 and 2, described in the Barriers sub-section. **GEF financing will** enhance the creation of local spaces for learning and territorial knowledge management practices to spread the awareness about restoration practices and their importance, involving IPLCs and using a gender sensitive approach. In component 4, interchanges at international level at Amazon Basin will be promoted with FAO's support, both to learn from experiences in other countries, as well as to make visible the project results and lessons learned.

For the successful implementation of the project and the realization of its objectives, several **assumptions** must hold true:

Stakeholders, including government agencies, NGOs, local communities, and private sector actors, must remain engaged throughout the project lifecycle and beyond. The success of the project depends on the effectiveness of capacity-building efforts, ensuring that trained individuals apply restoration techniques and sustainable practices in their respective areas. Moreover, it is essential that local communities recognize the long-term benefits of ecosystem restoration and actively participate in restoration and conservation efforts.

Governments at both national and local levels need to maintain political commitment to restoration efforts, integrating project outcomes into policies and regulatory frameworks. The sustainability of restoration initiatives relies on the creation and enforcement of policies that favor sustainable land use practices, forest restoration, and biodiversity conservation. Furthermore, effective coordination among government institutions, research organizations, and local communities is crucial to fostering synergies in restoration efforts and ensuring the project's long-term success.

The strategic plan developed through the project must be widely accepted and implemented by relevant stakeholders. Restoration technologies and best practices should be practical, cost-effective, and adapted to the local socio-ecological context to increase their likelihood of long-term adoption. Additionally, research institutions and universities should continue to support and refine restoration techniques, integrating scientific advancements and field experience to ensure ongoing improvements in restoration methodologies.

For the project to succeed, restoration activities must align with the cultural practices and economic interests of local communities, ensuring social acceptance and long-term engagement. A gender-sensitive approach in capacity-building and

decision-making processes should be actively promoted, ensuring that all members of the community benefit from and contribute to restoration efforts. Moreover, integrating the traditional knowledge and practices of Indigenous peoples and local communities into restoration strategies enhances the effectiveness of interventions and fosters local ownership of the initiatives.

The success of restoration efforts is also contingent upon climate and environmental conditions. Climate change should not significantly alter ecosystem dynamics in a way that undermines restoration activities, such as prolonged droughts, extreme weather events, or disruptions to hydrological cycles. Seed collection and nursery operations must remain viable to ensure the availability of appropriate native species for restoration activities. Additionally, natural regeneration processes, combined with active restoration interventions, should be sufficient to restore ecosystem functions and biodiversity in the targeted regions.

Knowledge-sharing mechanisms play a vital role in ensuring the widespread adoption and sustainability of restoration efforts. Effective dissemination of lessons learned and best practices to stakeholders at different levels will contribute to the project's success. The project should also serve as a model for other regions facing similar restoration challenges, leading to replication and scaling of successful approaches. Partnerships with research institutions, NGOs, and other restoration initiatives will facilitate continuous learning and innovation, further enhancing the impact and longevity of the project.

The project will deliver the following **global environmental benefits**: 25,774 hectares of land under restoration; 1,869,230 hectares of landscapes under improved practices; 876,416 tCO₂e of GHG mitigated in the AFOLU sector. The project will deliver **socio-economic co-benefits** for 1,669 local people (of which at least 50% women). See more details are provided in the Project Overview table. The Theory of Change is illustrated in the below image (figure 6).

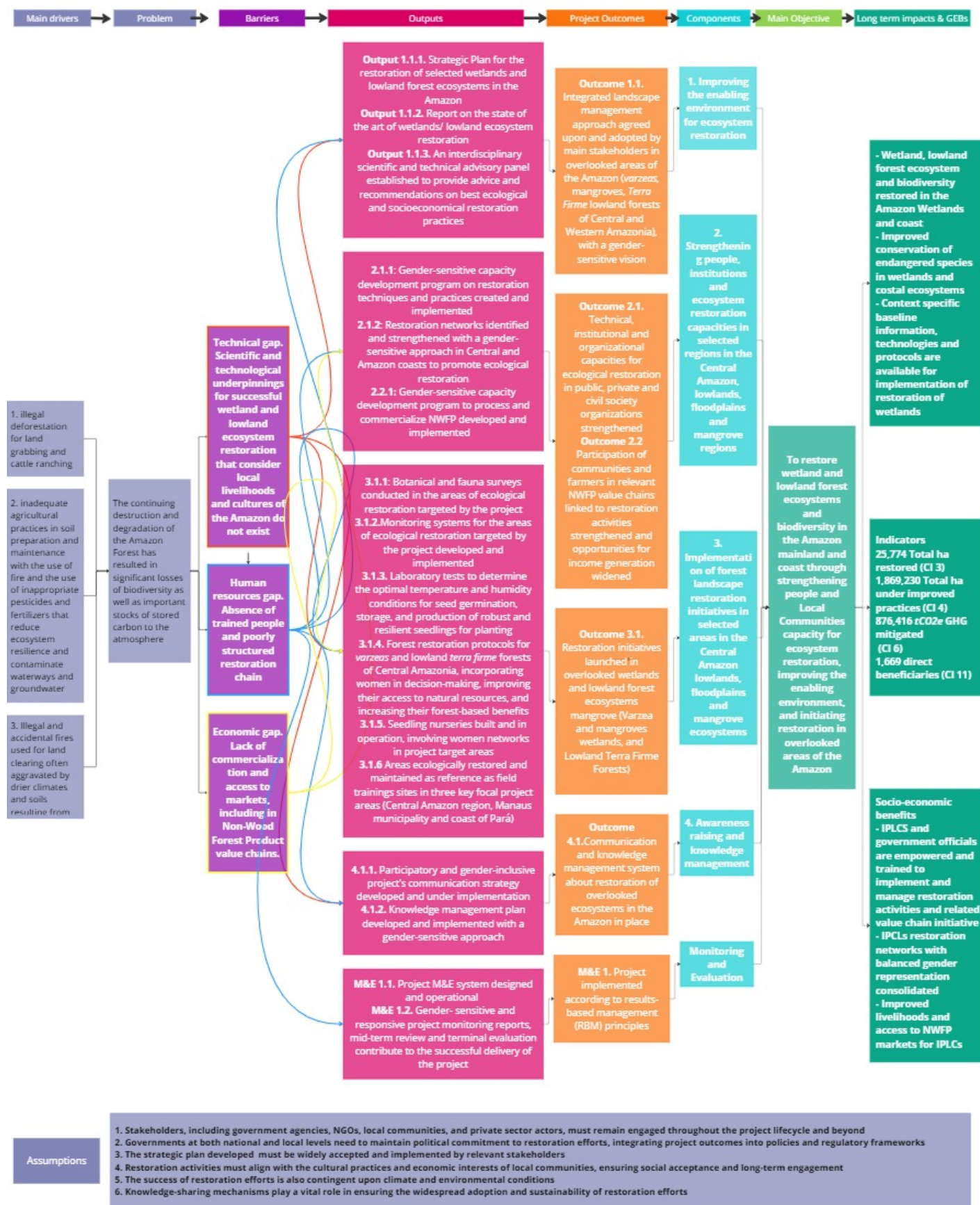


Figure 6: Project's Theory of change

COMPONENT 1: Improving the enabling environment for ecosystem restoration

1. This component aims to overcome the barriers 1 and 2 by adopting an integrated landscape management approach in neglected areas of the Amazon. It seeks to create the necessary steppingstone for the construction of a Strategic Plan with an Integrated Landscape Management approach for restoration and the sustainable use of forest resources in selected areas in the Central Amazonian lowlands, floodplains and mangrove forests that is agreed upon and adopted by main stakeholders (Outcome 1.1.). For this outcome, the necessary background information is collected to identify priority gaps in knowledge for restoration of wetlands and lowland forests of the Amazon with the development of a report (Output 1.1.2.). The Strategic Plan will be developed in close dialogue with an interdisciplinary Scientific and Technical Advisory Panel (Output 1.1.3.), operational, which will be formed to help execute activities need for delivery of Output 1.1.2 and to promote its adequate implementation in Brazil. The interdisciplinary Scientific and Technical Advisory Panel will be formed by experts coming from different sectors and disciplines, it will follow a gender-sensitive approach and will incorporate and include gender experts, women's organizations, indigenous women's organizations and IPLC organizations present in the project area.
2. The implementation of this integrated approach will enhance the efficiency of ecosystem recovery, promoting connections between different conservation areas and encouraging sustainable land-use practices. Additionally, strengthening technical-scientific panels will ensure that restoration actions are based on research and evidence, providing a solid foundation for public policies and private initiatives focused on the recovery and preservation of the Amazon.
3. During the project's consultation phase, discussions with various stakeholders identified gaps as well as possible strategic actions to address these issues. This information served as the basis for adjusting the project's activities, strategies, and objectives. The table below synthesize the gaps and the strategic action identified in the scope of the component 1.

Gaps	Strategic Actions
Absence of engagement with key stakeholders and promotion of communities' participation and inclusion	Promote engagement and governance forums with stakeholders, including communities representatives, public and private sectors,
	Articulation with stakeholder to strengthen policies, programs and projects
	Cooperate and engage with public agencies in federal, state and municipality levels, including managers of protected areas.
Absence of strategic and participative planning	Promote participative planning and shared decision-making process to support the implementation of robust public policies, in cooperation with private sector
Lack of dialogue and understanding about communities' reality	Integrate communities in participative planning and decision-making process
	Improve the dialogue between communities and main stakeholders, especially public agencies.

4. It is expected that this approach will lead in the short-term to increased awareness about the importance of restoration of the overlooked degraded ecosystems and the engagement of a wide range of actors, including famers, local communities and women's groups. In the medium term it should ensure recovery of ecosystem functionality, the reduction of socio-environmental conflicts, and the promotion of sustainable economic alternatives. In the long term, this component will contribute to the restoration of floodplain ecosystems, mangroves, and terra firme forests, generating positive impacts on biodiversity, carbon sequestration, and the quality of life of local communities. This component contributes to the GEF Core indicator 4.4.

This component, through its outputs, will contribute to the development of policies and strategies with a gender-sensitive approach. The Strategic Plan (Output 1.1.1.) and the report on the state of art of Restoration in Amazon (output 1.1.2) will consider gender issues and propose strategies to address gender inequalities on the restoration value chains and associated value chains, including topics such as capacity building, strengthening of restoration networks, market access, income generation, and others. The Scientific and Technical Advisory panel (output 1.1.3.) will contribute to the development and proposal of policies and strategies regarding Amazon restoration, working together with the Governments of the States of Amazonas and Pará and with CONAVEG. These policies and strategies will include gender sensitive views, incorporating women and women led organizations needs and demands. The decision making process under this component will be designed to guarantee effective participation of women.

Output 1.1.1 - Strategic plan for the restoration of selected wetlands and lowland forest in the Amazon

5. This Output, with inputs of the Technical Scientific Advisory Panel, aims to conduct strategic planning for the restoration of wetland ecosystems and lowland forests in the Amazon, identifying priority areas, key stakeholders, bottlenecks, and opportunities to strengthen the restoration value chain. It will also map funding opportunities, available techniques, technologies, and methodologies, as well as monitoring methodologies and other relevant aspects. As a result, an action plan for the restoration of these Amazonian ecosystems will be developed, aligning with the guidelines of the new **Planaveg**, launched in November 2024.

6. This activity will be coordinated within the **Technical-Scientific Advisory Panel** to be implemented by the project, encouraging the participation of project partners and stakeholders from various sectors. The methodology for developing the plan will be **participatory and inclusive**, ensuring **effective participation** with access to **clear, accurate, and relevant information** for local communities, including **traditional communities, Indigenous peoples, and women**. The strategic plan elaboration will include the traditional knowledge of local communities and indigenous people regarding biodiversity and ecosystems functioning and processes.

7. The **Operational Partner (Instituto Mamirauá)**, will be responsible for overseeing the execution of this output, activities of Output 1.1.1 are:

1.1.1.1. Mapping and Analysis of the Amazon Restoration Value Chain

8. Throughout the first year of the project, a mapping of the restoration forest value chain will be conducted. This will be based on existing data research and active data collection on the chains and stakeholders involved. The mapping and analysis will be performed for each stage of the restoration value chain, considering at least the following: **Seed and seedling production; Restoration planning/design; Implementation and management; Monitoring and adaptive management; Commercialization and markets.**

9. For each of these stages, the activity will identify the actors involved, installed capacity, gaps, necessary and available inputs, as well as the networks and flows between each stage and stakeholders. Additionally, a market potential analysis will be conducted for the sale of products from restored forests, including non-timber forest products (NTFPs), identifying opportunities for income generation and economic benefits for communities impacted by restoration actions. As part of this process, commercialization strategies that may be adopted by participating groups will be analyzed, aiming to expand market access and strengthen local value chains. The mapping gives also a specific attention to women needs, necessities, roles in the communities and relationship with natural resources and value chains. This will serve as basis for the project and will allow the design and implementation of gender-specific outputs, actions, trainings and workshops based on identified women necessities in each project targeted area.

10. The mapping design, as described above, may be modified based on recommendations from the advisory panel. A member of the operational partner's team (Instituto Mamirauá) will be responsible for coordinating this activity. Upon completion of the study, a report will be published and distributed to key stakeholders. The study results will also be used in advocacy efforts within the advisory panel's activities. This activity will involve collaboration with partners within the advisory panel and other relevant stakeholders to compile and analyze information, strengthening a network of organizations that support the improvement of bottlenecks in the restored forest value chain, particularly in enhancing market access.

1.1.1.2. Mapping of Synergistic Projects and Creation of a Restoration Project Monitoring Panel

11. The large-scale restoration of the Amazon requires a coalition of multiple stakeholders. Therefore, strategic restoration planning must consider various ongoing projects, their operational territories, beneficiary groups, executed activities, developed capacities, and other relevant aspects. Accordingly, the project will map restoration initiatives currently underway or in development in the Amazon.

1.1.1.3. Meetings and Seminars for the Development of the Strategic Plan

12. Initially, monthly meetings will be held during the first six months to define objectives, strategies, and align expectations among all participants. Following this initial phase, bi-monthly meetings will be conducted to monitor progress, address issues, and adjust strategies as needed. Additionally, bi-annual seminars and meetings will be organized to bring together stakeholders, share progress, discuss challenges, and promote knowledge exchange. Lastly, annual evaluation meetings will be held to comprehensively review project progress, assess achieved results, and plan next steps. This structure ensures continuous monitoring and necessary adjustments throughout the project, keeping all stakeholders aligned and informed about progress and challenges.

1.1.1.4. Development of the Strategic Plan

13. The combined efforts of the advisory panel activities and the development of the state of the art in restoration in the project areas will lead to the adoption of an integrated landscape management approach in neglected regions of the Amazon (floodplains, mangroves, and terra firme floodplain forests in Central and Western Amazonia). The development of this document will be the responsibility of the Project's Operational Partner (Instituto Mamirauá) in collaboration with the advisory technical/scientific panel's participating partners. The Strategic Plan will support the development and implementation of public policies and decision-making regarding priority strategies, actions, and projects for restoration in the Amazon. The strategic plan for Amazon restoration will include strategies to address women needs and to improve women participation in restoration related value chains, including effective participation in decision making process through adequate designed methodologies.

Responsible Entities: Mamirauá Institute team

Partners: Amazon Restoration Alliance, Indigenous People and Local Communities, Universities, NGOs, Private sector and local public institutions

Output 1.1.2 Report on the State of the art of Wetland/lowland Ecosystem Restoration

14. In the first year of the project, a study on the State of the Art of Restoration in wetlands and lowland forests in the Amazon will be conducted. The objective is to identify, systematize, and analyze the available knowledge, techniques, and technologies, successful case studies, lessons learned, priority knowledge gaps, monitoring systems, and data analysis frameworks relevant to the restoration of wetlands and floodplain forests in the Amazon. The study includes the identification of women specific knowledge,

techniques and technologies but also priority knowledge gap and necessities and role in specific value chains and restoration activities. This subsequently allow the designs and implementation of women-targeted and specific interventions. This activity will be carried out within the scope of the advisory panel's work. The executing agency (Instituto Mamirauá) will be responsible for coordinating this activity. Upon completion of the study, a report will be published and distributed to key stakeholders. The study results will be discussed in meetings and workshops and will serve as a basis for advocacy actions within the advisory panel's activities. Activities of output 1.1.2 are:

1.1.2.1 Identification, systematization and analysis of available traditional and scientific knowledge, techniques, technologies and data on ecosystem restoration in project location area

1.1.2.2 Identification of priority gaps and development of the report

1.1.2.3 Dissemination of the report among key stakeholders for the integration on the Strategic Plan

Output 1.1.3 - An interdisciplinary scientific and technical advisory panel established to provide advice and recommendations on best ecological and socioeconomical restoration practices

15. The technical and scientific advisory panel aims to strengthen integration and collaboration among key stakeholders, projects, and restoration initiatives in the region, addressing the lack of coordination that limits the expansion of positive impacts. Additionally, it seeks to tackle challenges related to access and dissemination of knowledge on techniques, methodologies, and guidelines, particularly concerning wetlands.

16. The panel will be implemented in partnership with the Alliance for the Restoration of the Amazon, the Ministry of Science, Technology, and Innovation (MSTI), and the Ministry of Environment and Climate Change (MMA). It will leverage existing synergies with the Alliance for the Restoration of the Amazon, a network linked to the Brazilian Society for Ecological Restoration, whose mission is to promote and strengthen restoration strategies in the region. The Alliance is organized into three main thematic groups (Research and Extension, Public Policies, and Bioeconomy), with the Research and Extension Working Group (WG) being particularly relevant to the objectives of the panel.

17. Furthermore, the MMA, responsible for CONAVEG (National Commission for the Recovery of Native Vegetation), plays a central role in restoration governance in Brazil. Both the MSTI, as the project's national executing agency, and the Alliance for the Restoration of the Amazon, as a partner in this initiative, hold seats on CONAVEG, ensuring that documents, recommendations, and discussions from the panel are directed for consideration and endorsement by the commission.

18. The panel will also contribute to the development of solutions related to two thematic chambers of CONAVEG: 'Spatial Intelligence and Monitoring' and 'Implementation Arrangements of PLANAVEG.' Regarding the former, the scientific panel will provide critical technical information for decision-making and contribute to mapping ongoing restoration projects in the Amazon, facilitating the development of monitoring mechanisms.

19. Based on a stakeholder analysis, line ministries and other public entities, universities and academic organizations, civil society organisations, including organisations of indigenous peoples and traditional communities, farmers' organisations and extension services will be invited to propose members for a panel with expertise in among others, ecology, forestry and forest management, social sciences (sociology, anthropology), gender, fisheries, agriculture, value chain development.

20. The advisory group will establish operational regulations for its functioning, for example, on the creation of specific working groups and seek engagement with strategically important, public, private and civil society stakeholders

21. It is important to highlight the cross-cutting and complementary nature of the project components, as this initiative also contributes to strengthening restoration networks and their ability to influence public policies, the production and dissemination of knowledge related to restoration, as well as the capacity-building of local and regional stakeholders.

22. The Technical-scientific panel will also work as a technical and scientific consultative committee for the project under the project implementation arrangements. implementation arrangements and coordination with other initiatives. The activities of Output 1.1.3 are:

Activity 1.1.3.1. Mapping of organizations, experts, and key stakeholders for the composition of the panel.

Activity 1.1.3.2. Define and implement mobilization strategy and criteria for panel composition.

23. These two activities are interrelated. The first step in implementing the technical-scientific advisory panel is mapping key stakeholders and interested parties across various sectors and audiences. This will be carried out by the project's operational partner in collaboration with other strategic partners, such as the Amazon Restoration Alliance. The advisory panel for the restoration of wetlands and other important Amazonian ecosystems should be diverse, inclusive, and gender-sensitive, ensuring the participation of women, representatives of local communities, and experts from different sectors and specialties. During this mapping, the project coordinator will define criteria for a resources and partners mobilization strategy for the implementation of the panel.

24. The panel will be composed of: **Researchers:** Specialists in Ecology, Hydrology, Forestry Sciences, Environmental Sciences, Agricultural Sciences, and Climatology; **NGO Representatives:** Members of conservation organizations and experts in public policies; **Traditional and Indigenous Communities:** Representatives of local and Indigenous communities from the project areas, as well as women's and youth organizations; **Political Representatives:** Authorities at national, state, and municipal levels; **Private Sector:** Companies in ecotourism, sustainable agriculture, and businesses focused on restoration; **Educators and Communicators:** Professionals dedicated to environmental education and scientific dissemination.

1.1.3.3. Implementation of the Advisory Panel, Development of Internal Regulations and Operational Plan, and Regular Meetings of the Panel

25. The implementation of the technical-scientific advisory panel will be carried out through the following steps, in addition to the stakeholder mapping already described in the previous activity:

- **Step 1: Preliminary Meetings with Strategic Partners:** concurrently with the stakeholder mapping, preliminary meetings will be held with strategic partners, such as the Amazon Restoration Alliance, the Governments of the States of Pará and Amazonas, among others. These meetings aim to discuss and define the best methodologies, formats, and strategies for implementing the advisory panel, as well as to allow these partners to contribute to identifying strategic actors to be invited to participate in the panel.
- **Step 2: Opening Meeting of the Panel:** Once the best strategy has been defined with key partners, the stakeholders mapped in the previous activity will be invited to an initial opening meeting. This meeting will introduce the proposal and initiate discussions on the panel's structure and methodology. The goal of this meeting is to confirm the commitment of the invited stakeholders to participate in the panel and to establish a schedule for defining the internal regulations, objectives, and operational plan of the scientific panel. This meeting is expected to take place within the first half of the project.
- **Step 3: Development of Internal Regulations and Operational Plan:** Following the opening meeting, the internal regulations—defining the rules for the panel's functioning—and the first cycle of the operational plan—outlining the panel's key goals and deliverables throughout the project's duration—will be developed. These documents will serve as guides for the panel's activities and will be defined collaboratively with the participating partners. It is proposed that the advisory panel will have at least the following operational structure: a *Panel Chair* to coordinate the Panel, its activities and meetings; *Thematic Working Groups*, focused on specific areas such as scientific research, public policies, education, and communication will form the Panel; a *Secretariat* will provide administrative support to organize meetings, documents decisions, and facilitate communication among members.

This structure ensures an inclusive approach, bringing together diverse perspectives and expertise to address the challenges of restoring Amazonian wetlands. Among the priority topics and deliverables to be addressed by the scientific panel, as identified during the project design phase, the following stand out:

- a) *Development of a Strategic Plan for the Restoration of Amazonian Wetlands* (Output 1.1.1.)
- b) *Organization of events:* such as workshops and seminars, to promote discussions and knowledge dissemination
- c) *Education and training:* Develop and implement training programs suitable for the different audiences involved in restoration. This deliverable is directly related to Component 2 of this project. The scientific panel will play a key role

by supporting the development of methodologies and materials, identifying training gaps, and fostering integration between distinct projects and training programs related to ecological restoration in the Amazon;

- d) *Development of the Restoration Panel:* Mapping, systematization, and data analysis on restoration projects in the Amazon and presentation of the mapped project information in a panel/dashboard for external audiences. This mapping could contribute to monitoring strategies for restoration actions under the National Native Vegetation Plan (Planaveg), identifying impacted territories, beneficiary populations, ecosystems, number of hectares, techniques, and restoration actions developed, among other relevant information. The panel could be hosted on the website of the Alliance for the Restoration of the Amazon;
- e) *Technical publications:* The advisory panel will coordinate the development of technical publications on the theme of ecological restoration, with a focus on flooded areas, for the dissemination of knowledge.

- **Step 4: Regular Meetings of the Technical-Scientific Advisory Panel:** Based on the panel's internal regulations and operational plan, regular meetings will be held for both the advisory panel and its working groups, following a predefined schedule. These meetings may take place in person and/or virtually. Preferably, at least one in-person meeting will be held per semester. The frequency of these meetings may be adjusted according to members' needs. Continuous monitoring systems will be implemented to assess the panel's progress and adjust strategies as needed.

The project team will work with main stakeholders participating on the panel to guarantee equity in participation of men and women in the forums and work groups, and to include a gender sensitive approach, women needs in the documents, policies and strategies delivered by this panel. The equity in women participation includes the effective participation in decision making process. The methodologies to implement the panel will be designed to guarantee women participation in decision making.

1.1.1.4. Conduct Advocacy, Dissemination, and Advisory Actions for Strategic Stakeholders, Including Governments, Civil Society, and Restoration Networks

26. Advocacy campaigns will be developed to raise awareness and influence public policies in favor of restoration, using scientific data and success stories. Information dissemination will be carried out through informative materials and digital platforms, reaching a broader audience, in addition to events involving identified stakeholders.

27. A team of experts will be available to provide technical advice and ongoing support, creating an open communication channel to answer questions and offer guidance. This will strengthen collaboration and promote effective and sustainable ecological restoration in the region.

28. The Project's Operational Partner (Instituto Mamirauá) will be responsible for carrying out this action and coordinating other activities related to the scientific panel.

Partners: Amazon Restoration Alliance, Researchers, NGOs, Traditional and Indigenous Communities, Political Representatives, Private Sector.

COMPONENT 2: Strengthening people, institutions and ecosystem restoration capacities in selected regions in Central Amazon lowlands, floodplains and mangrove regions

29. For ecological restoration in the Amazon to be effective, sustainable, and scalable, it is essential to strengthen the technical and institutional capacities of local communities, seed collectors, nursery staff, public and private sector actors, and civil society. One of the main barriers to achieving long-term restoration success in the Brazilian Amazon is the fragility of these capacities, which limits scalability and resource efficiency. This component aims to address these challenges by providing the necessary training, tools, and support structures to empower stakeholders across all stages of the forest restoration chain.

30. Beyond capacity building, fostering collaboration and integration among key actors—governments, civil society, and local communities—can maximize restoration impacts and improve coordination efforts. Strengthening restoration networks is a strategic action to enhance organizational and institutional capacities, ensuring a continuous and regionally adapted restoration process. In the short term, this component is expected to increase stakeholders' technical capacities and strengthen collaborative networks. In the medium term, these efforts should result in more effective restoration initiatives with greater community

engagement. In the long term, they will contribute to the sustainable restoration of Amazonian ecosystems, embedding restoration within the socio-environmental realities of the region.

31. To address barriers 2 and 3 this component has two expected outcomes: (i) the technical, institutional and organizational skills for ecological restoration in public, private and civil society organizations strengthened; (ii) participation of communities and farmers in relevant Non-Wood Forest Products value chains linked to restoration activities strengthened and opportunities for income generation widened.

32. In this regard, this component will strengthen the institutional, organizational, and technical capacities of public, private, and community organizations for ecological restoration (Outcome 2.1.) and the value chains of non-timber forest products (NTFPs) in the project's restoration sites, benefiting local communities (Outcome 2.1.).

33. To achieve this, a gender-sensitive training program will be implemented on restoration practices and techniques for key actors including, local communities, producers, public institutions, and Non-Governmental Organizations (ONGs) in the project's target ecosystems (Output 2.1.1.), trainings include all key restoration activities, such as ecological restoration techniques, sustainable ecosystem management, botanical training and seedling production. Furthermore, this component aims to strengthen restoration networks across the continental and coastal areas of the Central and Western Amazon to promote ecological restoration (Output 2.1.2.), and to improve the capacity of farmers to process and commercialize NWFP to enhance ecosystem service benefits and generate income for local communities (Output 2.2.1). Special attention will be given to gender-balance in participation and the inclusion of themes relevant to women's groups. These activities aim not only to transfer knowledge but also to empower local communities, making them protagonists in the implementation and maintenance of restoration initiatives. The objective is to build capacity among IPLCs (Indigenous Peoples and Local Communities), as well as among various other stakeholders, to implement and sustain restoration initiatives while creating favorable conditions to promote the restoration-related value chain. The project ensures that women can actively participate in the trainings and capacity building activities by offering childcare services and activities.

34. During the project's consultation phase, discussions with different stakeholders identified barriers as well as possible strategic actions to overcome these challenges. This information served as the basis for adjusting the project's activities, strategies, and objectives.

Gaps	Strategic Actions
Lack of technical capacities and Knowledge about restoration, sustainable management of natural resources and access to adequate technologies.	Capacity building program for communities, to strengthen local technical and technological capacities
	Realization of Seminar and workshops, involving young people and women in fire management, sustainable agroecological practices.
	Technical assistance for communities to implement restoration and sustainable management activities
	Environmental Education and awareness raising activities
Difficulty in community engagement with the project	Support the development of value chains that are of interest to the communities, including capacity building and support for access to markets.

Outcome 2.1: Technical, institutional and organizational capacities for ecological restoration in public, private and civil society organizations strengthened

35. To achieve the first outcome two outputs are planned: Output 2.1.1. Gender-sensitive capacity development program in restoration techniques and practices created and implemented; Output 2.1.2. Restoration networks identified and strengthened with a gender-sensitive approach in Central and Amazon Coast to promote ecological restoration.

Output 2.1.1: Gender-sensitive capacity development program on restoration techniques and practices created and implemented

36. Under this output, the project will prepare and implement four training courses. To ensure their gender-sensitivity, they will be based on gender-specific demands and uses of forest resources. The project will analyze specific requests and needs of women inside the communities and, the trainings will be developed taking into consideration women perspectives, considerations and the role they play in the specific communities and related to specific value chains. This involves the implementation of a training program aimed at community members and public agents, structured in training modules that cover the processes and stages of the forest restoration chain. The program focuses on enhancing the technical and organizational capacities of individuals and regional institutions involved in restoration processes. The courses offered will ensure gender parity, guaranteeing the participation of at least 50% women and the participation of women associations present in the territories. Likewise, young people, especially those from the involved local communities, will be included in the training courses. The first training course will be on the collection, processing and storage of native seeds for seed collectors and seed collector associations. The second training course is intended to improve the managerial and operational capacity of nursery managers and staff. The third capacity building exercise is to increase taxonomy knowledge of farmers, community members, seed collectors and nursery staff. The final training course will train farmers and community members in the design, implementation and management of agroforestry systems. Activities of Output 2.1.1. are:

2.1.1.1. Training in Native Seed Management

37. Six training courses will be conducted: two in Curuçá-PA (mangrove), two in Manacapuru (floodplain and upland forests), and two in Tefé (floodplain and upland forests). These courses will take place in the municipal centers to facilitate participation from all territories covered by the project in these regions. One course will be held in each region in Year 1 and another in Year 2 of the project. A total of 120 people will be trained, with 20 per year in each of the three project regions. The training will be structured to meet the demands of Component 3 of the project, ensuring that the collected seeds can be used both for seedling production and direct seeding techniques, according to the needs of the project's restoration actions and other related initiatives.

38. The content will cover practices that ensure seed quality, promoting higher germination rates and healthy plant development. Techniques will include identifying seed source trees, best practices for collection and transportation, quality control, processing, proper storage, and record-keeping for seed traceability. The training will include theoretical and practical sessions, emphasizing the sustainable use of forest resources, biodiversity conservation, and local income generation. This action is essential to strengthening the native seed and seedling production chain, directly contributing to the success of ecological restoration initiatives in the Amazon.

2.1.1.2. Training in Nursery Management and Seedling Production

39. Six training courses will be conducted: two in Curuçá-PA (mangrove), two in Manacapuru (floodplain and upland forests), and two in Tefé (floodplain and upland forests). These courses will take place in the municipal centers to facilitate participation from all territories covered by the project in these regions. One course will be held in each region in Year 1 and another in Year 2 of the project. A total of 120 people will be trained, with 20 per year in each of the three project regions, in the construction, maintenance, and management of forest nurseries for native seedling production. The training will be structured to meet the demands of Component 3 of the project, ensuring that the seedlings produced support the restoration activities of this project and other related initiatives.

40. The content will include guidance on nursery planning and establishment, site selection, structural types, substrate preparation, seeding, irrigation, pest and disease control, and seedling management until planting. The training will involve theoretical and practical sessions, promoting technical skill development and knowledge exchange among participants. This action is essential to ensuring the production of high-quality seedlings, which are crucial for the success of ecological restoration initiatives in the Amazon. Another challenge impacting seedling availability for restoration projects in the Amazon is that many community nurseries are not officially registered with the Ministry of Agriculture and Livestock, preventing them from legally selling and distributing seedlings. Consequently, these seedlings can only be used for forest recovery by the communities themselves, without commercial distribution. Therefore, this topic will be addressed in the training, encouraging existing nurseries to seek legal registration and connect with restoration networks.

2.1.1.3. Parataxonomist Training

41. One training course will be conducted in Tefé, spanning six months, with one week of instruction per month, totaling 240 hours. Participants will be selected from the native seed management course, choosing those who excel, regardless of their project region. Selected trainees will receive a stipend. Twelve individuals will be trained as local professionals capable of correctly identifying plant species throughout this project and other future initiatives. The training will cover plant species identification, sample collection, specimen preservation, herbarium preparation, and botanical record-keeping. Topics will also include forest ecology, fieldwork tools, georeferencing techniques, and field report preparation.

42. The training will combine theoretical and practical sessions in both laboratory and forest environments. This initiative aims to strengthen botanical research and expand knowledge of local flora while creating job opportunities and income generation for communities engaged in ecological restoration efforts. The training will be designed to meet the demands of Component 3 of the project, ensuring the accurate identification of seed source trees and other species in floristic inventories to support restoration activities and related initiatives.

2.1.1.4. Professional Training in Floodplain Management and Restoration

43. This training will be offered as an academic course for institutions, with one session per year during the last two years of the project. The courses will take place in the municipality of Tefé in an intensive format lasting 15 days, totaling 120 hours of instruction. Fifty spots will be available (25 per year), training local professionals in floodplain forest management and restoration for this and other projects. Course topics will include forest ecology, forest inventory, field tools, georeferencing techniques, seed collection, seedling preparation, planting, and restoration techniques. The training will combine theoretical and practical lessons conducted in laboratory environments and forest management areas. This initiative aims to strengthen technical training for regional professionals, offering practical learning opportunities for young professionals and students from technical and higher education programs focused on forest management and restoration.

Partners: Federal Institute of Amazonas (IFAM); Maniva Agroecology Network; Association of Agroextractivist Producers of FLONA Tefé and Surrounding Areas (APAFE); Chico Mendes Institute for Biodiversity Conservation (ICMBio); Amazonas State Secretariat for the Environment (SEMA); Amazonas State Institute for Sustainable Agricultural and Forestry Development (IDAM); National Foundation for Indigenous Peoples (FUNAI)

Output 2.1.2: Restoration networks identified and strengthened with a gender-sensitive approach in Central and Amazon Coast to promote ecological restoration

44. The strengthening of restoration networks in the Amazon aims to increase the organizational capacities of local actors to engage in the forest restoration chain. Networking enables joint and strategic action in identifying bottlenecks, weaknesses, and strategies for overcoming them, as well as leveraging regional potential. To achieve this output, the project will support the engagement of existing seed collection initiatives into a network to exchange information, technical know-how and operational experience and organize exchange meetings and events. This action aims to address one of the bottlenecks identified in the forest restoration chain in the Amazon—the availability of seedlings and seeds. The aim is to ensure a steady supply of local seeds of the required quality and to generate new market opportunities in the restoration chain for local communities. These networks will facilitate regional cooperation, the exchange of experiences, engagement of different actors, and the dissemination of best practices, this include facilitating the inclusion of local communities in restoration networks, generating new job and income opportunities, as well as providing technical training and involving youth and women in the forest restoration value chains. The network will drive discussions on local (municipal) public policies for the implementation of ecosystem restoration, and will involve the participation of municipal environmental departments, rural unions, fishing colonies, universities, and research institutions. Strengthening the restoration networks in the Amazon is only viable with the inclusion of women and women organizations that are present in the territories and in the communities. The project will partner with local, national and international women organizations, cooperations and Non-Governmental Organizations to guarantee women necessities and priorities. This will occur in combination with an analysis of women necessities and needs and the subsequent design and implementation of specific trainings based on women perspectives, considerations, role in the society and specific value chains involvements.

2.1.2.1. Formation of the Seed Network and Monitoring of Collector Activities

45. At least two seed networks will be created, one in Amazonas and one in Pará. Participatory methods will be applied with community organizations (and other grassroots representations) for awareness-raising, mobilization, productive organization, capacity-building, and market relationships for the demand of products (seeds) and services (collections, nurseries, plantings, establishment, etc.) for the restoration of degraded areas of wetlands in the regions covered by the project and the main target

groups of the project: communities, rural landowners, rural enterprises, etc. The networks will also involve the discussion of local public policies (municipal) for the restoration of areas, with the participation of Municipal Environmental Secretariats, rural unions, fishermen's colonies, universities, and/or research institutions.

46. This activity, in addition to supporting the mobilization, organization, and capacity-building for strengthening the seed networks, will also be important for Component 3, as these strengthened networks may be directly linked to the supply of seeds for the restoration areas. With this strategy, the project will foster all links in the restoration chain, from seed and seedling collection and production to planting and monitoring of restoration areas, promoting capacity-building and inclusion of local actors in all stages of the chain, especially local communities, as well as generating knowledge and expertise for the replication and scalability of forest restoration processes. The strengthening of the forest seed networks will be the responsibility of the project's operational partner and will be executed in partnership with the Federal University of Amazonas, particularly with the Native Seed Center of Amazonas and possibly by the governments of Amazonas and Pará.

47. The strengthening of forest seed networks will be the responsibility of the project's operational partner. In the state of Amazonas, it will be carried out in partnership with the Federal University of Amazonas, especially with the Native Seed Center of Amazonas. In Amazonas, the Institute of Agriculture and Forest Development of the State of Amazonas (IDAM), an agency linked to the State Department of Rural Production (SERPRO) of the Government of the State of Amazonas, may be involved in the actions. In the State of Pará, the Institute of Forest Development and Biodiversity of the State of Pará (IDEFLOR-BIO) may be the priority interlocutor. These two public agencies have the mandate to implement actions related to forest restoration, including strengthening the production of seedlings and seeds. It is worth noting that IDEFLOR-Bio is currently executing a project for the formation and strengthening of community forest seed networks in the Amazon. Partnerships will be coordinated with this agency for the joint implementation of actions, to support the State of Pará in achieving its goals and scaling the impacts of this project.

2.1.2.2. Knowledge Exchange on the Seed Network

48. Two exchanges will be held, both in consolidated seed network organizations participating in the 'Redário,' an association of seed networks that supports the formation, consolidation, development, and articulation of seed networks in Brazil. Redário is also known as the 'Network of Networks' as it brings together various seed networks. It is promoted and supported by the Socioenvironmental Institute (ISA) and currently includes 27 seed networks across Brazil, with notable networks such as the Xingu Seed Network, Mutum Amazonian Seeds, and RESEBA, networks located in the Legal Amazon. Each exchange will involve 12 collectors, covering all territories encompassed by the project. The goal is to provide a platform for the exchange of experiences and understanding the challenges and progress of local seed networks.

49. In addition, a meeting will be held between the two networks supported by the project, for the exchange of experiences and discussion of the challenges, opportunities, and benefits of participating in seed networks and the forest restoration chain. The event will also be an opportunity to foster dialogue with strategic partners, such as state and municipal governments and non-governmental organizations working in restoration, as a way to strengthen ties and explore new partnerships, opportunities, and support for the continuous development of the networks.

2.1.2.3. Structuring of Seed Houses

50. The project will support the structuring of seed houses in selected communities to support the seed networks activities. The seed houses are fundamental for the proper storage and processing of seeds, after the seed collection activities held by seed networks.

Outcome 2.2: Participation of communities and farmers in relevant Non-Wood Forest Products (NWFP) value chains linked to restoration activities strengthened and opportunities for income generation widened

51. The second outcome in this component seeks to promote economic inclusion and strengthen the participation of local communities in the restoration chain, by exploring opportunities linked to the production and commercialization of Non-Wood Forest Products (NWFP) linked to restoration activities. A potential market mapping for restored forest products will be carried out and presented during courses for community organizations. The mapping includes women necessities, considerations, needs, role in the society and involvement in specific value chains. The result would entail the development of specific trainings and workshops focused on their needs with the objective to reduce the gender gap and access to markets of value chains in which women are involved. It will also implement training courses for communities and community organizations such as cooperatives in entrepreneurship, small businesses, sustainable use of NWFP and bioeconomy, encouraging entrepreneurial culture and strengthening knowledge on business management, making sure to include women organizations and small businesses. Activities will focus on the difficulties that IPLCs and women productive collectives involved in socio-biodiversity value chains face in marketing

their products at a fair price. Bottlenecks in most value chains include the dependence of communities on intermediaries, logistical difficulties, insufficient first-stage processing capacities, lack of access to information and training in topics such as financial organization, management, marketing, sales, among others. The project will also work with the communities to guarantee the participation of women regarding the decision making process related to the use of resources, management strategies and improvement of value chains.

Output 2.2.1: Gender-sensitive capacity development program to process and commercialize NWFP developed and implemented

52. To achieve this output, the project will support farmers and community members in sustainable exploitation of NWFP with commercial potential and train staff of cooperatives and farmers' associations in adequate storage and first-stage processing practices of commercial NWFPs. The activities of Output 2.2.1 are:

2.2.1.1. Market Mapping

53. A market mapping will be conducted through specialized consultancy with buyers for products resulting from restoration activities. The goal is to generate information on potential buyers and market prices, which will be presented to producers in the restoration chain in order to foster possibilities for fair and ethical commercialization. The mapping includes women considerations, perspectives and an analysis of their role in specific value chains, trainings will be designed and implemented following the results of the mapping, including the role and importance of women in decision making process regarding the entire value chain.

2.2.1.2. Training in Entrepreneurship, Innovation, and Bioeconomy in all project areas.

54. Online and in-person entrepreneurship training will be offered using popular education methodologies, focusing on administrative and financial management and marketing to encourage new actors to work in the restoration production chains, including women and the creation of women businesses. Training programs will be developed in collaboration with local Sebrae offices to train members of cooperatives and farmer associations in areas such as business administration, commercialization of NTFPs (Non-Timber Forest Products), price setting, fair trade mechanisms, certification, and value chain networks. The goal is to encourage connections with processing companies or wholesalers. For cooperatives, including women organizations present in the territories, and farmer organizations to establish direct connections with wholesalers, it is essential that they ensure product quality, compliance with sanitary procedures, and, in the case of certification, adherence to sustainability requirements, social and labor regulations, among others. Since roles and responsibilities in several associations may be sensitive to gender issues, the training courses will take these differences into account and include modules or courses specifically aimed at women. Below is an overview of the course content.

- **Module 1: Business Modeling:** Introduction to entrepreneurship with presentation and application of the Canvas model, aiming to perform business modeling of existing or new initiatives, encouraging innovation. Financial, administrative management, and pricing topics will also be covered.
- **Module 2: Pathways to Access the Formal Market:** Legal model for sales transactions, issuing invoices, sanitary specifications, and certification for accessing the formal market. Along with partners, the necessary infrastructure, packaging, and certifications for the businesses addressed in the business modeling from Module 1 will be discussed.
- **Module 3: Negotiation, Promotion, and Sales:** The market mapping of potential suppliers will be presented, along with guidance for interaction with companies, as well as the presentation of the entrepreneur(s) and their product. Basic strategies for online and offline marketing and trademark registration will also be covered.

Responsible Parties: Innovation and Sustainable Technologies Hub (NITS) and Mamirauá Incubator and Accelerator for Sustainable Businesses

Partners: Amazon Innovation and Entrepreneurship Network (RAMI), Brazilian Service for Support to Micro and Small Enterprises (Sebrae), National Association of Entities Promoting Innovative Enterprises (Anprotec), Amazon Sociobioeconomy Business Association (Assobio), Federal Institute of Amazonas (IFAM), Paulista University (UNIP).

COMPONENT 3: Implementation of forest landscape restoration initiatives in selected areas in the Central Amazon lowlands, floodplains and mangrove ecosystems.

55. The wetlands of the Amazon are ecosystems with high biodiversity, playing a crucial role in providing environmental, cultural, and economic ecosystem services that benefit the regional population, including Indigenous peoples and traditional communities. Due to their environmental, social, and economic importance, as well as their vast extent within the Brazilian Amazon, restoring floodplain areas in the region is a strategic approach to achieving Brazil's global commitments (Convention on Biological Diversity, Kunming-Montreal Global Biodiversity Framework and Nationally Determined Contribution). However, as a unique ecosystem with ecological dynamics closely linked to the flooding and receding cycles of rivers, there is currently a lack of knowledge, guidelines, methodologies, techniques, and technologies for large-scale restoration in the Amazon.

56. In this context, Component 3 aims to overcome barriers 1, 2 and 3, by initiating ecological restoration efforts in project target ecosystems, namely floodplain areas of the Amazon, and establishing a solid knowledge base for replication and scalability of impacts. This represents a significant innovation potential, as it seeks to develop guidelines and methodologies based on scientific data and specifically adapted to these ecosystems. The component's goals include implementing restoration actions and preparatory measures in the project's target ecosystems and areas, as well as strengthening key links in the restoration chain that are essential for the initiative, such as the production and availability of suitable seedlings.

57. Active and passive restoration practices will be implemented in target ecosystems, adapted to the characteristics of each area. Active restoration will include planting native species seeds and seedlings and the implementation of agroforestry systems, combining ecological restoration with sustainable food production, generating economic benefits for local communities and promoting the integration of conservation and sustainable development. Passive restoration practices will focus on facilitating the natural regeneration of the areas, taking advantage of the potential of the target ecosystems to restore naturally.

58. Specifically, restoration activities in wetland ecosystems and *terra firme forests*, under this component will be implemented as follows:

- Active restoration: 400 hectares will be targeted by using six different restoration strategies: complete planting (10 ha), primarily targeting more degraded areas with exposed soil; densification (10 ha), in plots with low individual density; enrichment planting (10 ha); *Muvuca* (natural regeneration through seed dispersal – 150 ha); Natural regeneration without seed dispersal (150 ha); agroforestry techniques (70 ha) (Output 3.1.6). These areas will be covered by intensive restoration practices, which are highly expensive and labor intense. Additional *extensive* restoration will be targeted. Trained farmers and community members are expected to apply restoration on at least 1 hectare of their degrade lands, totaling a minimum of 1,669 hectares. Women networks will be actively involved in these activities.
- Passive restoration: 23,705 hectares will be restored by addressing the degradation drivers, avoiding fire use, enabling natural regeneration, and through the monitoring and replacement of land clearing practices.

59. Based on the implementation of its activities, the component is expected to produce technical methodologies to guide restoration practices in target ecosystems that can be internalized and replicated by the project stakeholders and, hence, contribute to their scalability. In the medium term, the techniques applied will lead to partial restoration of vegetation cover, increased biodiversity, and improved ecosystem functionality. In the long term, the component will contribute to the more advanced restoration of these ecosystems, with positive impacts on carbon sequestration, water regulation, and the quality of life for local communities. Component 3 also generates technology and background knowledge to reduce costs and increase efficiency of restoration initiatives in Amazonian wetlands and other lowland forest ecosystems.

60. The project will also support the Chico Mendes Institute for Biodiversity Conservation (ICMBio) to develop and implement public policies and activities related to fire management as a strategy to halt the degradation of forest ecosystems. This will include strengthening the governance, involving local communities in the efforts for fire management, implementation of adequate fire management practices and/or sustainable management practices, monitoring and early warning systems, and firefighting practices, including training and implementation of fire brigades in protected area. This will strengthen not only fire management activities at project areas, but the government strategy to manage fire in the Brazilian Amazon as a Whole. In this sense, the strategies that will be developed and implemented by the project have a large potential for scaling-up and replicability, led by ICMBio and the Brazilian Government. Finally, the under this output the project will support communities and local stakeholders in the development of agreements and implementation of activities for the sustainable use, conservation, protection and restoration of Headwaters and springs in Central Amazon and of Mangroves in Pará State. The Conservation and restoration of headwaters are fundamental for ecosystem services generation, impacting local communities. In Brazil, the environmental legislation states that headwaters, springs and mangroves are permanent protected areas, that must be maintained with

vegetational cover. The project will support local communities to protect and restore those areas to improve ecosystem services benefits and contribute to biodiversity conservation

61. During the project's consultation phase, discussions with various stakeholders identified barriers as well as potential strategic actions to overcome these challenges. This information served as the basis for adjusting the project's activities, strategies, and objectives.

GAPS	Strategic Actions
Lack of support for communities' restoration initiatives	Enable the construction and maintenance of seedling nurseries and other necessary infrastructure.
	Promote income generation from the restoration chain for communities.
	Engage local communities in restoration activities
	Promote income generation from the restoration value chain for communities.
	Development of restoration with a productive focus to add value to communities.
Low productivity of agricultural areas and low diversification of land use	Support productive diversification with sustainable agricultural practices.
	Promote progressive restoration of commercial forests in ILPF (Integrated Crop-Livestock-Forestry) systems.
	Support the revival and inclusion of traditional knowledge
	Assessment of the potential for assisted natural regeneration in the region.
Lack of adapted techniques and technologies for the target ecosystems	Development of participatory research aimed at establishing methodological guidelines for restoration.
	Selection of native species adapted to the conditions (including flooding).
Lack of adequate infrastructure to promote restoration and sustainable management activities	Support the development of infrastructure for restoration, such as seedling nurseries and seed houses
	Training with communities, focusing on young people and women to operationalize seedling nurseries and seeds networks (collection, storage, processing, selling)
Lack of identification of priority areas	Conducting a thorough environmental diagnosis of the degraded areas.
	Identification of priority areas
	Planning of ecological corridors
Limited restoration networks	Integrate initiatives into existing networks.
	Strengthening restoration networks.
	Participatory and integrated planning.

62. To achieve this outcome, six outputs were defined: (i) Botanical and fauna surveys conducted in the areas of ecological restoration targeted by the project; (ii) Monitoring systems for the areas of ecological restoration targeted by the project developed and implemented; (iii) Laboratory tests to determine the optimal temperature and humidity conditions for seed germination, storage, and production of robust and resilient seedlings for planting; (iv) Forest restoration protocols for *varzeas* and lowland *terra firme* forests of Central Amazon developed, incorporating local communities and women in decision making, improving their access to natural resources and increasing their forest based benefits; (v) Seedling nurseries built and in operation, involving women networks in project target areas; (vi) Areas ecologically restored in three project target areas (Central amazon, Manaus Municipality and Pará State Coast)

Output 3.1.1: Botanical and fauna surveys conducted in the areas of ecological restoration targeted by the project

63. The botanical and fauna surveys are a highly relevant preparatory action because they help guide appropriate restoration practices and serve as a baseline for monitoring the restored areas. Information gathering in the field will be conducted in the areas to be restored, as well as in areas in good conservation status within the same ecosystem and nearby areas. The information collected in the restoration areas will allow for monitoring the progress of restoration in terms of structure, composition, biodiversity, ecological interactions, and other relevant elements. In turn, the area in good conservation status will be considered a model area, providing a comparison and analysis parameter for monitoring and facilitating the identification of the need for course adjustments.

64. To achieve this output, as a first step in the restoration process, the project supports botanical and faunal inventories to gather information about local biodiversity, species composition, and the state of ecosystem degradation. This data will serve as the basis for the planning of restoration activities and as baseline for monitoring the areas under restoration. The inventory will also help determine matrices for seed collection that will be used in subsequent phases, and in seedling production. The phenological stages of tree species will be monitored to select the most productive parent trees and determine the optimal time for seed collection. To obtain data on structure and floristic composition, botanical plots will be determined. Furthermore, a biological monitoring system will be set up to assess restoration effectiveness and its impact on biodiversity. The inventory will gather gender-specific data on the use of NWFP in general and of commercially interesting NWFP, in particular. Once analyzed, the project will support the publication and dissemination of the results. The activities of Output 3.1.1. are:

3.1.1.1. Conduct and publicize inventory: flora and fauna, involving local communities and integrating traditional knowledge

65. In each location involved in the project, sampling areas will be determined based on the specific objectives established for the site. The inventory areas will be of two types: (1) preserved forest areas, intended to identify the local flora and fauna, serving as a reference for planning the composition and structure of species in restoration and for comparison with areas undergoing restoration; and (2) areas to be restored, where an initial inventory will be carried out to characterize the baseline conditions before the start of activities, providing the foundation for future monitoring. The size and distribution of the plots will be determined after a detailed evaluation of the selected areas.

66. Data on the structure and composition of plant and animal communities will be collected. These data will be analyzed for diversity, species richness, relative abundance, distribution patterns, and ecological interactions, providing essential information to assess the current state of ecosystems and support restoration and monitoring strategies.

67. The inventory results, according to pre-established agreements on ownership and permissions, will be systematically organized and presented through technical reports, scientific articles, and accessible public outreach materials. Presentations will be held at scientific events and local workshops to share the findings and their implications with researchers, managers, and the communities involved in the project. Additionally, the collected data may be integrated into regional and national databases, contributing to the expansion of knowledge on biodiversity and the impacts of ecological restoration efforts.

Responsible: Forest Ecology Research Group (Darlene Gris), Amazon Felid Ecology and Conservation Research Group (Emiliano Ramalho).

Partners: ICMBio (Monitora Program)

Output 3.1.2: Monitoring systems for the areas of ecological restoration targeted by the project developed and implemented

68. To ensure proper monitoring of progress in restoration, the project develops monitoring methodologies (including participatory methodologies) and routines for the areas under restoration and implement a monitoring regime able to measure progress and detect possible problems, including restoration effectiveness and its impact on biodiversity. The monitoring systems for the restoration areas of the project will be suitable for the restoration methodology implemented and the selected area. The monitoring will allow the assessment of the progress of the restoration processes, identifying successes and failures, and enabling, when necessary, corrections and/or new interventions to ensure good ecological restoration results. Monitoring will also be an important tool for knowledge management, as it will evaluate the most suitable techniques for different socioecological conditions, identifying those with the most positive results under various conditions. In this way, these techniques can be replicated and enrich the guidelines developed for the target ecosystems of the project.

69. This activity is, therefore, fundamental for the project's objectives, for the sustainability of the restored areas, and for the replicability and scalability of the actions implemented. It will feed back into the development chain of new knowledge for

restoration in the socio-environmental context of the Brazilian Amazon, which will, in turn, be internalized and disseminated by the partners and key actors in the restoration chain in the region, including the Alliance for Restoration in the Amazon. The activities of output 3.1.2. are:

3.1.2.1. Development of Monitoring Methodology for the Areas in Restoration by the Project.

70. The monitoring methodology will be developed with the support of strategic project partners, such as ICMBio, SEMA-AM, UFAM, Museu Emílio Goeldi, UFRA, and the Alliance for Restoration in the Amazon. For this, the most appropriate indicators for each restoration technique will be identified, ensuring the possibility of comparison between areas restored using the same technique and areas restored using different techniques. Various indicators will be used for ecological monitoring of restoration. At each phase of the restoration process, one or more of the following indicators may be used, such as native vegetation cover; soil cover by undesirable plants; canopy cover; biomass; structural heterogeneity; biodiversity; and native regenerants.

71. The methodology and field monitoring techniques will also be defined. Monitoring actions will be carried out by the technical teams of the project and the involved communities. Therefore, the monitoring guidelines should foresee participatory monitoring. For this, the communities will be involved throughout the design and planning process of monitoring actions, including the definition of methodologies and the indicators to be used. In this way, it facilitates the inclusion of indicators that are sensitive to the socio-environmental context of local communities, expanding the assessment of the benefits, successes, and weaknesses of the ongoing restoration processes, not only those with a technical-scientific nature regarding the evolution of ecosystem structure and functioning.

72. In addition to field monitoring actions, geoprocessing and remote sensing tools will also be used to ensure precision and efficiency in data collection. It is intended that, in this way, monitoring of the areas in restoration can also contribute to the restoration monitoring carried out by the Brazilian Government within the Planaveg framework, not only by collecting, analyzing, and disseminating data but also by developing and proposing methodologies to enrich and improve national-level restoration monitoring.

3.1.2.2. Implementation of Monitoring Methodologies for the Areas in Restoration by the Project.

73. Monitoring will be implemented according to the guidelines defined in the previous action, considering the frequency of data collection, defined indicators, and sampling practices. The data collected during the monitoring actions will be analyzed and systematized, producing reports that allow for evaluating the progress of the areas in restoration individually, as well as comparatively. The monitoring reports will indicate the need for course corrections, new interventions, and/or reinforcement of the restoration actions implemented. The results of the monitoring will also be highly relevant for the project's knowledge management, generating data and information that will support the development of new restoration projects in the Amazon, indicating techniques and methodologies appropriate for each context.

74. The project will also implement participative monitoring of biodiversity. In this sense, Professionals, researchers, and communities will be trained for biodiversity data collection and monitoring (flora and fauna) across different ecosystems. The process includes learning field techniques such as sampling different biological groups, using specific equipment, and diagnostic methods, as well as an introduction to geographic information systems and conservation.

Responsible Parties: Forest Ecology Research Group, Amazon Felidae Ecology and Conservation Research Group; Community Forest Management Program; Agroecosystem Management Program; Terrestrial Vertebrate Ecology Research Group.

Partners: Federal Institute of Amazonas (IFAM); Maniva Agroecology Network; Association of Agroextractivist Producers of the Tefé National Forest and Surroundings (APAFE); Chico Mendes Institute for Biodiversity Conservation (ICMBio); Amazonas State Environmental Secretariat (SEMA); Institute for Sustainable Agricultural and Forestry Development of the State of Amazonas (IDAM); National Foundation for Indigenous Peoples (FUNAI), Emílio Goeldi Museum, Rural university of Amazonas (UFRA).

Output 3.1.3 Laboratory tests to determine the optimal temperature and humidity conditions for seed germination, storage, and production of robust and resilient seedlings for planting

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75. The tests will be conducted, in partnership with key stakeholders, such as universities and research institutions, representatives from local communities, farmers and indigenous people, public agencies and the private sector, in three main laboratories: the Seed Laboratory (Federal University of Amazonas), the Seed Biotechnology Laboratory (Emílio Goeldi Museum),

and the Plant Ecology Laboratory (Mamirauá Institute). Germination chambers and other specialized equipment will be used to measure seed viability and moisture levels, controlling environmental conditions. These tests will explore a variety of scenarios to simulate different temperatures and humidity, allowing researchers to identify the ideal conditions for seed viability and seedling vigor. The data collected will guide the development of seed handling and nursery practices, ensuring higher survival rates during planting and better adaptation to the restored sites.

76. The product resulting from this output will assist in defining the species and restoration strategy to be used, based on the type of ecosystem and the users' objectives, ensuring that the choices align with the expectations and practices of local communities and producers. This integrated approach will allow for the selection of species suited to the ecological conditions of each region, as well as the definition of restoration strategies that are effective, sustainable, and socially inclusive, promoting ecosystem recovery in a participatory and contextualized manner.

3.1.3.1. Tests with different substrates for the production of robust and resilient seedlings for planting.

77. Experiments will be conducted to evaluate seedling performance in different types of substrates, such as organic compost, soil mixtures, and inert materials. The goal is to identify the substrates that provide the best root development, growth, and resistance of the seedlings, ensuring greater success in field planting. Physicochemical analyses will be performed to determine the characteristics of soils and substrates, such as texture, fertility, pH, and water retention capacity. These data will be essential for selecting the most suitable materials for seedling production and recommending soil preparation practices in restoration areas.

3.1.3.2. Analysis of the best conditions for seed germination

78. From the previous experiments, the ideal conditions of light, temperature, humidity, and nutrition for seedling growth will be evaluated. The objective is to establish parameters that ensure vigorous and resilient seedlings, capable of adapting to the environmental conditions of the restored areas.

3.1.3.3. Analysis of the best conditions for seed storage

79. Based on the results of the two previous activities, optimal conditions for seedling storage is analyzed, best practices are shares with Local Communities, Indigenous Peoples and key stakeholders.

Output 3.1.4: Forest restoration protocols for varzeas and lowland terra firme forests of Central Amazon developed, incorporating local communities and women in decision making, improving their access to natural resources and increasing their forest based benefits

80. Based on output 3.1.3, this output 3.1.4 draft strategies and protocols on forest restoration of *varzeas* and lowland *terra firme*. Based on the tests and input from communities and farmers final drafts of restoration strategies will be developed. Following consultations with women from the communities, aimed at identifying their needs, role and relationship with natural resources, the protocols will incorporate gender-specific uses of forest resources. The consultative process will ensure to target and include women specific necessities, enhancing women engagement and active participation in designing the protocols and in improving their access to natural resources and forest-based benefits. The development of these protocols is expected to have the active involvement of the Technical and Scientific Advisory Panel.

81. Furthermore, The restoration guidelines will be built from the integration and connection of knowledge and experiences gained with other project outputs, namely the technical information about the state-of-the-art of wetland and upland ecosystem restoration obtained in Component 1; practical learnings generated during training sessions in Component 2; and concrete data collected through forest inventories, laboratory tests, experiments, and the monitoring system in Component 3. Traditional knowledge from local communities and indigenous peoples in the project will also be included in the development of the protocols, through their participation in all stages of the process, in addition to incorporating women in decision-making and improving their access to natural resources.

82. These guidelines will support all stages of the restoration process, from selecting the most appropriate methodology and defining the species to be used, to implementing restoration actions and post-implementation monitoring. The activities of Output 3.1.4. are:

3.1.4.1 Development of forest restoration protocols for *varzeas*

83. Building on results from output 3.1.3, protocols for *verzeas* are developed, supporting all stages of the restoration process, from selecting the most appropriate methodology and defining the species to be used, to implementing restoration actions and post-implementation monitoring.

3.1.4.2 Development of forest restoration protocols for lowland *terra firme*

84. Building on results from output 3.1.3, protocols for lowland *terra firme* are developed, supporting all stages of the restoration process, from selecting the most appropriate methodology and defining the species to be used, to implementing restoration actions and post-implementation monitoring.

3.1.4.3. Restoration in pilot areas

85. Restoration activities in pilot areas will be conducted to test the protocols and guidelines developed. Those pilots restored areas will work as field tests to validate and improve the proposed restoration strategies and methodologies, ensuring their effectiveness, adaptability to local conditions, and alignment with the needs of the communities involved. Pilot areas representing the ecosystems of floodplains, uplands, and mangroves will be established, selected based on the degree of degradation and different land uses. Depending on the conditions and the interests of the land users, some or all of the planned restoration strategies will be tested, such as total planting, thinning, enrichment, agroforestry, and natural regeneration. These areas will be monitored and evaluated based on criteria to be defined, allowing adjustments to maximize the success of the restoration.

Responsible Parties: Forest Ecology Research Group and stakeholders.
Partners: Dr. Angela Mendes (UFAM), Dr. Marlúcia Bonifácio Martins (MPEG).

Output 3.1.5 Seedling nurseries built and in operation, involving women networks in project target areas

86. This output aims to strengthen the link between seed and seedling production in the forest restoration chain in the Brazilian Amazon. The availability of seedlings and seeds has been identified as one of the main bottlenecks and weaknesses for forest restoration in the Amazon. There is insufficient local production to meet the demand for restoration with adequate seedlings, sourced locally, and within the required time frame. Therefore, the project aims to strengthen the production of locally sourced seedlings, taking into account the genetic variability necessary to create viable populations in the target restoration areas. The seedlings will originate from the same ecosystems or from ecosystems similar to those that will be restored by the project. The production of nurseries will partly supply the project's demand in field restoration activities.

87. The project will support the strengthening of five nurseries. Selection and implementation are expected to involve the Pará forestry development institute (IDEFLOR) and the Federal conservation units institute (ICMBIO). The five nurseries will be supported through the acquisition of equipment and materials and through technical advice on their economic viability and operability. These activities are implemented in partnership with local communities and public agencies to support restoration activities in the project sites. The activities of Output 2.1.3 are:

3.1.5.1. Identification of sites for the establishment of nurseries

88. Studies and field visits will be conducted to identify strategic locations for establishing nurseries. Selection criteria will include proximity to priority restoration areas, availability of water resources, accessibility, and support from local communities. Initially, five model nurseries will be implemented, serving not only as key facilities for seedling production but also as references for the establishment of additional nurseries both within and outside the project's scope. During the project development, opportunities and priority areas for nursery establishment were identified, including:

- **Mamirauá Sustainable Development Institute Nursery:** located in the city of Tefé, at the headquarters of the Mamirauá Sustainable Development Institute. The nursery structure is already available; however, revitalization and adaptation actions are needed for large-scale seedling production.
- **Tefé National Forest (FLONA Tefé):** FLONA Tefé is one of the Conservation Units with the highest deforestation rates, presenting a high demand for seedlings. This forest is home to key areas for restoration that will be prioritized by the project for active restoration using seedlings and through the implementation of Agroforestry Systems (AFSSs). Additionally, FLONA has accessibility and proximity to other seedling demand centers, making it suitable for establishing nurseries that can provide locally sourced seedlings for the Tefé region and its surroundings. The nursery will be implemented in partnership with ICMBio, the agency responsible for managing the unit, which will maintain the nursery after the project's conclusion. The priority community for the nursery establishment is the 'Deus é Pai' community.

Capacity building will be provided to the community members under component 2 for nursery management and seedling production. Seedling production and sales will be an opportunity for income generation and economic inclusion for communities within the forest restoration chain, strengthening the role of local communities in this crucial value chain for restoration in the Amazon, both as resource and input suppliers and with installed technical capacities.

- **Salgado Paraense:** Two nurseries will be implemented in the Salgado Paraense region, where the RESEX Mestre Lucindo and RESEX Mãe Grande Curuçá are located, which are priority areas for the project in the state of Pará. These nurseries will also be implemented in partnership with ICMBio, the government agency responsible for managing the units. One nursery will specialize in the production of seedlings for terra firme ecosystems, while the other will specialize in the production of mangrove species, to meet the two ecosystem targets for restoration in the region.
- **Manaus Region:** Another nursery will be implemented in the Manaus region, in an area or community yet to be defined. The project will also seek partnerships with the Amazonas State Government to ensure the sustainability and technical support for the nursery's maintenance. Priority institutions in the state government include the Secretariat of Rural Production, the Institute for Sustainable Agricultural and Forestry Development of the State of Amazonas, and the Secretariat of the Environment of the State of Amazonas.

3.1.5.2. Evaluation of the Economic Feasibility and Production Capacity of Existing and New Nurseries

89. The **evaluation of the economic feasibility and production capacity** of existing and new nurseries is a crucial step to ensure that nurseries can operate sustainably and efficiently within the forest restoration project. This evaluation includes analyzing various factors that impact the operation and sustainability of the nurseries in the long term. Here are the main points to be considered in the evaluation:

Economic Feasibility:

- **Implementation and Operational Costs:** Estimation of the initial implementation costs and annual operational costs, including infrastructure (such as irrigation systems, shading structures, etc.), equipment (germination tables, seedling containers, tools), and inputs (substrates, fertilizers, seeds).
- **Funding Sources:** Analysis of potential funding sources, such as project resources, partnerships with governments, NGOs, or other external sources, as well as revenue generation through seedling sales.
- **Expected Revenue:** Revenue projections from seedling sales for restoration, focusing on local and regional markets. Seedling sales may include direct sales for restoration initiatives or for other environmental recovery activities or marketing through partners or cooperatives.
- **Profitability and Financial Sustainability:** Evaluation of how nurseries can become financially self-sustaining, ensuring that after the project, they can generate enough revenue to cover operational costs, infrastructure maintenance, and other administrative costs.

Production Capacity:

- **Seedling Demand Analysis:** Assessment of the local demand for native seedlings suited to the restoration ecosystems, focusing on priority species for the region's ecosystems. This includes estimating the quantities needed for the restoration project and mapping the needs of involved partners.
- **Nursery Production Capacity:** Analysis of the annual production capacity of existing and new nurseries, considering the quantity of seedlings each nursery can produce with the available resources and infrastructure. This requires calculating daily or monthly production, considering seedling growth time and local climatic conditions.
- **Scalability Evaluation:** Consideration of the possibility to expand seedling production if there is an increase in demand or the need to address more restoration areas in the future.

- **Operational Efficiency:** Evaluation of nursery management processes, from seed collection to seedling delivery. The goal is to identify opportunities to improve efficiency, reduce costs, and increase production without compromising seedling quality.

Sustainable Production Capacity:

- **Environmental Impact:** Assessment of the environmental impacts associated with nursery operations, including the use of natural resources (water, soil) and waste management. This can involve adopting sustainable practices, such as using organic fertilizers or management techniques that minimize impacts on the local ecosystem.
- **Use of Native Species:** Ensuring that seedling production focuses on native species adapted to local conditions, which can be used for effective restoration of Amazonian ecosystems.
- **Local Capacity Building:** Evaluation of local communities' ability to manage and operate the nurseries, including the necessary training to ensure efficient and sustainable seedling production. This also includes technology and knowledge transfer, which can strengthen the network of local seedling producers.

Risk Analysis:

- **Economic Risks:** Identification of potential financial risks, such as fluctuations in seedling prices, changes in input costs, or shifts in financing policies.
- **Operational Risks:** Consideration of risks related to nursery operations, such as infrastructure failures, climate-related issues affecting seedling growth, or management difficulties.
- **Environmental Risks:** Risks related to natural disasters or environmental degradation that could affect seedling production or the nurseries' ability to operate effectively.
- Monitoring and Evaluation
- **Production Monitoring System:** Defining indicators to monitor nursery production, such as seed germination rates, seedling growth time, seedling quality, and resource (water and input) usage efficiency.
- **Impact Evaluation:** Assessing economic and operational results over time to adjust production strategies and ensure that the nurseries meet restoration demands effectively and sustainably. Carrying out this evaluation will ensure that the nurseries not only meet the immediate needs of the project but can also become self-sustaining and generate a positive impact in the long term. This will involve and empower local communities, strengthen the restoration value chain in the Amazon, and support the restoration of the region's ecosystems.

3.1.5.3. Implementation of the nurseries

90. Based on the site selection, nursery designs will be developed to adapt to the region's climatic and logistical conditions, ensuring adequate infrastructure for seedling production. This will include the construction of shading structures, irrigation systems, spaces for seed storage, and areas for substrate preparation. Essential equipment will be installed, such as irrigation systems, germination tables, seedling containers, handling tools, and environmental monitoring devices, including humidity and temperature sensors, in addition to the necessary inputs for seedling production, such as substrates, fertilizers, among others. Seedling production will focus on native species from floodplains, mangroves, and terra firme forests. Guidelines based on previous studies will be followed to ensure high-quality seedlings adapted to local conditions.

Output 3.1.6: Areas ecologically restored in three project target areas (Central amazon, Manaus Municipality and Pará State Coast)

91. Restoration practices will be implemented in three target Amazon ecosystems of the project (Floodplains, Upland Forests, and Mangroves) and in the three project target regions (Central Amazon Region, Greater Manaus Metropolitan Area, and the Salgado Paraense region, on the Pará Coast), adapted to the characteristics of each area. Different active and passive restoration techniques will be combined, according to the baseline environmental conditions and a technical analysis of the most suitable method for each of the selected areas. Active restoration is understood as a set of interventions that actively intervene in the

ecosystem for its restoration, including native species direct seeding and seedling transplanting, agroforestry systems that combine ecological restoration with sustainable food production, generating economic benefits for local communities and promoting the integration of conservation and sustainable development and the use of nucleation techniques, among others. On the other hand, passive restoration is characterized by favoring the natural regeneration of the forest, through the cessation of disturbances and degradation impacts in the ecosystem and techniques that allow for natural regeneration. Furthermore, within the same area, regeneration techniques can be combined.

92. The implementation of ecological restoration consists of the practical application of the knowledge acquired in the training stages, using specific techniques for recovering the previously identified priority areas. After mapping and environmental diagnosis, the most suitable technique for each area will be defined, considering factors such as soil type, water availability, degree of degradation, existing biodiversity, and the interests of local communities. These techniques will be chosen in dialogue with local communities, respecting their traditional knowledge, economic aspirations, and the environmental context of each area. Implementation will include land preparation, planting of selected species, and maintenance practices such as irrigation, pest control, and fire prevention. These actions aim to promote environmental recovery, restore essential ecosystem services such as carbon sequestration and spring protection, and generate socioeconomic benefits for the communities involved.

93. Active restoration will be employed in 400 hectares with the use of six different strategies: Complete planting in 10 hectares of more degraded areas with exposed soils; densification in 10 hectares in plots with low individual density; enrichment planting in 10 hectares; natural regeneration through seed dispersal (muvuca) in 150 ha; natural regeneration without seed dispersal on 150 ha; and agroforestry techniques on 70 ha. These techniques are highly expensive and labour intensive. In addition, trained farmers and community members are expected to apply restoration on at least 1 hectare of their degraded lands, totaling a minimum of 1,669 hectares. Women networks will be actively involved in these activities. The project will also restore 23,705 hectares through passive restoration by addressing the degradation drivers, avoiding fire use, enabling natural regeneration, and through the monitoring and replacement of land clearing practices.

94. Finally, this output trains communities in prevention and firefighting practices to implement adequate fire prevention and management activities and practices as a strategy to halt the degradation of forest ecosystems. This output also includes the implementation of environmental education programs for mangrove communities and the negotiation and establishment of agreements on the use of mangrove resources with main stakeholders. The activities of Output 3.1.6. are:

3.1.6.1. Definition of priority areas for restoration with strategic partners.

95. The process will include field data collection, alignment meetings with stakeholders, and the definition of goals and success indicators for future interventions. Several criteria will be analyzed to identify available areas with the greatest potential to restore their ecological functionality, while also promoting social and economic benefits. These criteria include: accessibility and logistics; restoration costs; community interest and involvement; current state of degradation; recovery capacity; species richness and diversity; ecological connectivity; capacity for environmental service provision; carbon storage; external pressures; resilience to climate change impacts; availability of scientific data and monitoring; and associated traditional knowledge. These criteria are typically analyzed in an integrated manner, with the participation of various stakeholders such as scientists, public managers, local organizations, and communities, to ensure that the selected restoration areas meet a combination of ecological, social, and economic needs. This activity will be a preparatory step, conducted in parallel with the development of restoration guidelines.

3.1.6.2. Definition and adaptation of restoration strategies in priority areas.

96. Specific ecological restoration guidelines for the context will be developed for Upland Forests, Floodplain Forests, and mangroves in the Amazon. After consultations with specialists and small-scale trials, customized action plans will be created for each area, including techniques for planting native species, controlling invasive species, and hydrological reconfiguration to restore natural water flow patterns in mangrove areas. Progress will be monitored, and strategies will be adjusted as needed to ensure that the restoration strategies are well adapted to the specific needs of each area, promoting efficient ecosystem recovery.

3.1.6.3. Restoration through Total Planting, Thinning, and Enrichment.

97. Total planting is an active restoration technique that involves planting seedlings across the entire area to be restored. It is generally applied in highly degraded areas with no significant vegetation, where soil is exposed, and it is necessary to completely restore the vegetation cover. For total planting, the appropriate methodology will be defined according to the prior restoration planning, which should consider priority species, seedling introduction sequence, planting season, spacing, inputs, and the necessary management and cultural practices for successful restoration. This technique will be used on 10 hectares. Thinning is used to increase the density of native species in areas with sparse vegetation, reinforcing natural regeneration. Enrichment is recommended

for areas with established vegetation but low diversity of ecologically or economically valuable species, aiming to restore ecological functionality. Thinning and enrichment techniques will be used on 10 hectares each.

3.1.6.4. Restoration through Agroforestry System Management

98. Agroforestry systems (AFS) will be implemented in areas with potential to integrate ecological restoration with sustainable production. These systems combine agricultural crops and native forest species, promoting environmental recovery while generating income and food for local communities. Agroforestry systems have the capacity to combine ecological restoration, biodiversity, and ecosystem services with increased production capabilities of local communities, contributing to enhanced resilience to climate change, economic inclusion, income generation, and food security for these communities. Thus, ecological restoration through AFS has the potential to maximize the benefits of ecosystem services, contributing to the enhancement of environmental, economic, and sociocultural services, as well as being an important joint strategy for climate change adaptation and mitigation.

99. In the project area, fire is one of the main drivers of forest degradation. Fire is commonly used to clear forest areas for new fields (in the case of small local communities) or to facilitate land-use change for more intensive productive activities, such as livestock farming or large-scale agriculture. In this context, AFS implementation will be aligned with fire-free management strategies, reducing the negative impacts of burning on the landscape, promoting soil conservation, and enabling area recovery. Considering issues related to fire use, the project will encourage the technical team and stakeholders, especially communities directly linked to forested areas, to undergo training and be equipped for fire control. ICMBio and the fire department can be strong partners in these matters. The formation of community fire brigades will be encouraged as an initial strategy for fire control in the project area.

100. AFS will be implemented in productive areas of the project beneficiary communities that are degraded or out of use. Beneficiary families will be involved in all stages of the process, from planning AFS implementation to actual implementation, management, and necessary cultural practices, among other relevant activities. The participating families will sign a Commitment Agreement with the project, indicating their interest, but also their responsibility to fulfill the objectives and actions established jointly within the project scope.

101. Communities will be trained on Implementation and management of crop fields and fallows without the use of fire, Agroforestry system (AFS) management combined with stingless beekeeping, Improved land management using agroecological practices, Agroecological soil management for restoration and productivity enhancement, Management and enrichment of fallows with fruit and tree species of interest for restoration, Training on the collection, agroecological treatment, and storage of native and other regionally significant seeds.

102. The agroecological management activities—including agroforestry system implementation, beekeeping, soil management, fallow management, site management, and non-burn cropping systems—will involve planning, system design, soil preparation, planting of selected species for both agriculture and restoration, ongoing technical support, and training for local communities and regional participants. The training and technical assistance activities related to seed collection, rescue, agroecological treatment, and storage aim to enhance local community access to seeds and promote productive diversification with species important for regional food security. These initiatives ensure 198. the effective and sustainable implementation of restoration practices, promoting biodiversity, agrobiodiversity, land enrichment, agricultural productivity, diversified production, and the sustainable integration of forests and agriculture, ultimately enhancing food security in the region.

Implementation Stages:

- I. Planning: AFS implementation planning will be carried out in collaboration with beneficiary communities, identifying areas, priority species, technical aspects, management, and necessary cultural practices.
- II. Implementation: Necessary actions for AFS implementation will be carried out, such as area preparation, soil preparation, pit opening, planting, fertilization, among others.
- III. Monitoring and technical assistance: Beneficiary communities will receive technical assistance for managing the implemented AFS.

103. The implementation of AFS will also relate to actions developed under Component 2, linked to training activities in value chains related to restoration, bioeconomy, business opportunities, etc. Agroforestry system implementation will occur on 70 hectares in the following target areas: (List of Protected Areas/communities where AFS will be implemented)

104. **Partners:** Federal Institute of Amazonas (IFAM); Maniva Agroecology Network; Association of Agroextractivist Producers of FLONA Tefé and Surrounding Areas (APAFE); Chico Mendes Institute for Biodiversity Conservation (ICMBio); Amazonas State Secretariat for the Environment (SEMA); Amazonas State Institute for Sustainable Agricultural and Forestry Development (IDAM); National Foundation for Indigenous Peoples (FUNAI).

3.1.6.5. Natural Regeneration with Nucleation Techniques, with or without Muvuca.

105. Natural regeneration leverages the existing natural regeneration potential in the area. Thus, through actions that stop the impacts leading to degradation combined with stimulation of its regenerative potential, ecosystems can naturally restore themselves from the energy and material flows characteristic of successional processes. Assisted natural regeneration can be accelerated using techniques such as nucleation (soil transposition, branch piles, perches, among others) or through the technique known as 'muvuca' (direct seeding of several species simultaneously). Natural regeneration with nucleation techniques will be applied on 300 hectares in the target areas of the project, with 150 hectares using muvuca and 150 hectares without muvuca.

3.1.6.6. Integrated Fire Management.

106. In the project area, fire is one of the main drivers of forest degradation. The use of fire is a technique commonly employed to clear forest areas for new fields (in the case of small local communities) or to facilitate land-use change for more intensive productive activities, such as livestock farming or large-scale agriculture. Therefore, reducing the impact caused by fire in the project area is a low-cost strategy with the potential for significant impact, preventing forest degradation and allowing areas already degraded by fire use to naturally regenerate (Some of these areas will be included in the previous activity '3.1.4.5. Natural Regeneration associated with nucleation techniques and direct seeding').

107. The project will support the Chico Mendes Institute for Biodiversity Conservation (ICMBio), organization linked to the Ministry of Environment and Climatic change of the Federal Government to implement public policies related to fire management in protected areas. The Tefé National Forest is one of the priority areas for the government to implement integrated fire management actions, due to the deforestation rates in this protected area related to fire mismanagement. The actions to be developed under this activity include:

- i. **Strengthening of governance system for planning, development of strategies, shared decision making and jointly efforts to manage and prevent forest fires:** The project will support the government in the establishment of governance forums, involving ICMBio, local communities and other relevant local stakeholders to discuss, plan and implement activities for fire management and prevention.
- ii. **Training communities for integrated fire management:** Communities involved in the project will be trained in controlled fire management and techniques for forest management without the use of fire, to reduce the impact caused by fire and its spread to forest areas.
- iii. **Implementation of fire management and prevention activities:** Under guidance of ICMBio, the communities and local stakeholders will implement activities for forest fire prevention and management.
- iv. **Monitoring and early warning systems:** This activity will be led and executed by ICMBIO. The Federal Government, through ICMBio will strengthen its monitoring and early warning systems to support fire prevention and firefighting activities.
- v. **Training and equipment for firefighting:** This activity will be led and executed By ICMBio. Communities and ICMBio teams located in the project's protected areas will be trained in forest fire combat. The formation and consolidation of community fire brigades will be supported as an initial strategy for fire control in the project area. The units of the established community brigades will be equipped with the necessary equipment.

108. Once this activity seeks to strengthen governmental policies and actions to prevent and manage forest fires in Brazilian Amazon, the activities implemented by this project have enormous potential for scaling-up and replicability in other protected areas and regions in amazon, led by ICMBio. In this sense, more than generating positive impacts for ecosystem restoration in project target areas through fire management activities, this activity will also strengthen Brazilian government strategies and policies to deal with forest fires in amazon.

3.1.6.7. Integrated Environmental Education Actions, Fencing, and Agreements on Mangrove Use

109. This action is specifically aimed at the Mestre Lucindo and Mãe Grande Curuçá Resex, where mangrove areas will be supported by the project. The main impacts leading to mangrove degradation in these regions are related to the improper use of mangroves by local populations and nearby actors. Notably, boat maneuvers in mangrove waters near the port contribute to degradation.

110. Therefore, environmental education actions will be conducted with local populations to promote proper mangrove use, in addition to fencing priority areas for restoration where impacts are more intense. The compliance with already established agreements for sustainable mangrove use, especially by companies linked to boat maneuvers, will also be encouraged.

111. Another critical point of mangrove degradation is the unsustainable use of fishing resources, leading to a reduction in local populations and threatening the integrity of mangroves. In this sense, the implementation of the project 'Strengthening Participatory Natural Resource Management Processes for Sustainable Economic Development, Conservation, and Maintenance of Carbon Stocks in Amazon Wetlands,' funded by GEF-7, will be highlighted. One of the project's objectives is the development and implementation of sustainable management protocols for key mangrove resources, community capacity building, and support for the development of new business opportunities for local income generation. Thus, the scope of the actions funded by GEF-7 closely complements the objectives of this project, as they will address one of the main drivers of mangrove degradation, significantly contributing to their restoration with a focus on economically important wildlife species. The GEF-7 Project and this project will implement actions jointly in the Mestre Lucindo and Mãe Grande Curuçá RESEX.

Responsible: Mamirauá Team. **Partners:** Local communities, NGOs, private sector, ICMBio.

3.1.6.8. Conservation and Restoration of headwaters and springs

112. In Brazil, spring areas are considered permanent preservation areas, requiring the maintenance of native vegetation within a 100-meter radius around the springs. Protecting these water sources is essential for providing important ecosystem services, especially ensuring an adequate quantity and quality of water.

113. In the project's target regions in the state of Amazonas, communities have experienced the negative impacts of deforestation around water sources, affecting both the quality and availability of water for human consumption and agricultural activities. Given this situation, communities in the project area have requested support in developing strategies to promote the conservation and restoration of springs. One of the main challenges is the improper use of these areas by local families, causing harm to the entire community.

114. In this context, the project will support actions for the conservation and restoration of water sources in collaboration with local communities. Initially, a mapping of the springs within the communities' usufruct territories will be conducted. Following this, the project will assist communities in developing community-based agreements for the use of spring areas within their territories. These agreements will include strategic plans and the definition of priority activities for the conservation and restoration of springs.

115. ICMBio and SEMA-AM, as public institutions responsible for managing these areas, will also participate in drafting these community agreements and their respective plans. These agreements will serve as a commitment between communities and public agencies for the sustainable management and use of spring areas.

116. Sustainable management of springs will facilitate the natural recovery of the forest. Within the scope of the strategic plans for spring conservation and restoration, actions will be included to enhance the natural recovery of the forest (passive restoration practices), which may be supported by the project, such as direct seeding ('muvuca'), fencing, among others.

117. This initiative has the potential to expand the project's impact on restoring degraded areas by supporting community-led conservation and restoration efforts for water sources.

COMPONENT 4: Awareness raising and knowledge management

118. The production, management, and exchange of knowledge are essential for the continuous improvement and strengthening of restoration in the Amazon, as well as for promoting greater participation from local communities. A balanced exchange between scientific knowledge and the traditional knowledge of local communities should serve as the foundation for the guidelines, methodologies, and restoration techniques to be implemented, in order to strengthen the roles of local communities and ensure the maximization of the benefits of restoration for these populations. Therefore, this component aims to establish a

communication strategy and a knowledge management strategy to guide key activities for internal and external communication, to promote the engagement and participation of all stakeholders, as well as to store, systematize, analyze, and disseminate information related to the project, activities carried out, and results achieved.

119. The project's communication strategy will be developed in the first semester of the implementation phase and will be executed thereafter. The communication strategy will have an internal component and an external component. The internal communication strategy refers to communication within the project teams, which should be aligned and present a unified vision regarding the project's objectives, vision, concepts, strategies, components, activities, and progress. The internal communication flow should contribute to the successful implementation of the project and also facilitate dialogue between the project team and key stakeholders, including the beneficiary local communities, federal, state, and municipal government bodies, the main project implementation partners, and other stakeholders and key actors. The project's external communication strategy refers to the dissemination and communication of the project to stakeholders, beneficiaries, partners, and the general public. The external communication strategy includes the diffusion of the project's objectives, the calendar of activities to be developed, opportunities for participation, activities already executed, as well as the project's key results and progress.

120. Like the communication plan, the knowledge management plan will have an internal approach and an external approach. The internal approach of the knowledge management plan should guide the planning and implementation of actions aimed at the storage, systematization, analysis, and dissemination of information, innovations, results, and project advancements. Additionally, the internal approach of knowledge management should guide how the results and information derived from the monitoring and evaluation of the project will be fed back into the project execution, allowing flexibility and adaptive capacity for project implementation based on evaluations and recommendations for improvements and course corrections. The project implementation team should be informed and kept up to date with the knowledge management processes, ensuring uniformity among the technical, management, and administrative teams.

121. The external approach to knowledge management should guide the dissemination and communication of the project's advancements, innovations, results, and impacts to stakeholders, aiming at technological and scientific development associated with ecological restoration in the Amazon through scientific publications, workshops, and thematic seminars, and the integration of innovations and knowledge into the practices and projects of key actors working in the Brazilian Amazon restoration chain. The external approach to knowledge management should also create spaces for the exchange and integration of traditional knowledge with scientific knowledge, developing methodological and practical approaches, new technologies adapted to the local socio-ecological contexts. Therefore, the external approach to knowledge management is crucial for effectively including and integrating traditional knowledge into the project's actions. Furthermore, this external approach should facilitate the creation of spaces for the exchange of scientific-technological knowledge among key actors, such as NGOs, universities, research institutes, and public agencies. The project's stakeholders and partners are essential for the development of the innovations the project intends to create. In this sense, promoting spaces for knowledge exchange is crucial to achieving the project's results.

122. Communications products and publications resulting from the communication plan and the knowledge management plan where relevant showcase gender-disaggregated data and results and include best practices in advancing gender equality among the project beneficiaries.

123. This component aims to address barrier 1 and 2, implementing and developing the project's communication and knowledge management plans, to guide key activities for the internal and external communication of the project, relationships with stakeholders, as well as the storage, systematization, analysis, and dissemination of information related to the project, its activities, progress, and results. To this end, the component is structured into two outcomes Knowledge and lessons about restoration of ecosystems in the Amazon shared and disseminated (Outcome 4.1) and Project implemented according to the results-based management principle (Outcome 4.2). The outputs covered in this item include, for Outcome 4.1: a participatory and inclusive communication strategy with a gender perspective developed and implemented (Output 4.1.1), and a Knowledge Management Plan developed and implemented with a gender-sensitive approach (Output 4.1.2).

124. These actions will result in the short term in an increase in awareness and engagement of stakeholders, as well as the creation of tools and platforms for knowledge management. In the medium term, the communication and knowledge management strategies will lead to greater participation of local communities, advancement in gender equality, the replication of best practices, and improvements in the implementation of restoration actions. In the long term, the component will contribute to the sustainability of initiatives, the amplification of the project's impact, and the consolidation of a culture of conservation and restoration in the region.

Outcome 4.1: Communication and knowledge management system about restoration of overlooked ecosystems in the Amazon in place

125. To achieve this outcome, two outputs were identified: (i) Participatory and gender inclusive communications strategy developed and under implementation; and (ii) Knowledge management plan developed and implemented, with a gender sensitive approach

Output 4.1.1: participatory and gender inclusive communication strategy developed and under implementation

126. The project's communication strategy will be developed during the first semester of the implementation phase and executed thereafter. The communication strategy will consist of both an internal and an external component.

127. The internal communication strategy concerns communication within the project teams, ensuring alignment and a unified vision regarding the project's objectives, vision, concepts, strategies, components, activities, and progress. The internal communication flow should contribute to the successful implementation of the project and facilitate dialogue between the project team and key stakeholders, including beneficiary local communities, federal, state, and municipal government agencies, key project implementation partners, and other relevant stakeholders.

128. The external communication strategy focuses on disseminating information about the project to stakeholders, beneficiaries, partners, and the public. This includes sharing the project's objectives, activity calendar, participation opportunities, completed activities, key results, and project progress.

129. To achieve output 4.1.1, the project will develop a communication plan for stakeholders and external audiences which considers the different gender roles in restoration and the use of NWFPs. As part of this communication plan, the project will develop, publish and disseminate communication material, social media videos and video documentaries on the activities undertaken, scientific lessons, best-practices and results. In addition, the project will organize events to discuss with key-stakeholders progress of the restoration initiatives and/or necessary adjustments in the implementation. Activities of Output 4.1.1 are:

4.1.1.1. Development of the project's internal and external communication plan

130. Specialists and/or communication agencies will be hired to develop the project's internal and external communication plan. This plan should establish the project's vision and key messages, communication and discourse strategies for different target audiences—including beneficiaries, partners, stakeholders, and the general public—as well as different sectors such as local communities, women, indigenous peoples, NGOs, government agencies, universities, and research institutes. It will also define the communication channels to be used, among other key aspects. The plans should be developed taking into consideration gender perspectives and considerations, ensuring that where relevant, communication products and publications showcase gender-results. The communication plan will be developed within the first six months of the project.

4.1.1.2. Development and publication of communication materials

131. This includes the creation of both printed and digital materials such as brochures, newsletters, guides, social media cards, books, and other relevant communication materials. These materials should address the following themes and objectives according to their purpose:

- **Dissemination of activities, progress, and project results at the local level:** Materials reporting key project advancements and results at the local level, including quantitative and qualitative indicators achieved.
- **Systematization, analysis, and dissemination of technical, scientific, and traditional knowledge, as well as advancing in gender quality and innovative technologies and methodologies related to ecological restoration in the Brazilian Amazon,** with a focus on the project's target ecosystems (floodplain forests, lowland forests, and mangroves).
- **Dissemination of the project's impacts and its contribution to national policies and Brazil's governmental commitments,** such as PLANAVEG, Nationally Determined Contributions (NDCs), and sectoral adaptation and climate change mitigation plans.

4.1.1.3. Development of short audiovisual clips

132. This involves the creation of short videos to be published on the project's social media platforms, featuring testimonials from beneficiaries and project partners, with a special focus on local communities. These videos may also include political and scientific authorities as well as implementing partners. The clips can be compiled into a longer video to showcase the project's results and its impact from the perspective of key stakeholders.

4.1.1.4. Development of a documentary video

133. A documentary video will be produced to document the project's implementation experience, results, and progress, with a focus on the benefits for the target beneficiaries, especially local communities. It will also highlight the project's impact on the development, implementation, and monitoring of public policies related to ecological restoration at federal, state, and municipal levels. The documentary should illustrate how the project and its outcomes—including scalability and replicability potential, planning tools, monitoring, knowledge development, and technology—support Brazil in achieving its objectives and targets within the scope of PLANAVEG, Nationally Determined Contributions (NDCs), sectoral adaptation and mitigation plans, and other relevant national and international commitments.

Output 4.1.2: Knowledge management plan developed and implemented with a gender sensitive approach

134. At the same time, the project will develop a knowledge management plan and collect, analyze and discuss, with stakeholders and beneficiaries, gender-specific data on the implementation of the restoration initiatives and extract lessons-learned, including advancement on gender equality in project locations and among project beneficiaries. In this context, the project will support the publication of scientific articles and technical information materials and the participation of project staff or key actors in national or international relevant events. The project will also organize its own events to discuss and disseminate project findings and will support the development and creation of an on-line platform on restoration projects in the Amazon. Activities of Output 4.1.2. are:

4.1.2.1. Support for Scientific Publications and Technical Materials

135. The project will support the development and publication of scientific articles in specialized journals, as well as the creation of technical materials to disseminate the knowledge and technologies developed by the project, such as guides and other training materials, where relevant showcasing gender-results and advancements made as a result of project activities.

4.1.2.2. Participation in National and International Scientific Dissemination Events

136. The project will support participation in one national and one international scientific dissemination event to share and discuss key results, methodologies, and technologies implemented by the project, as well as their impacts. This will contribute to scientific and academic development at both national and international levels. In doing so, the project aims to position itself as a leading initiative in the production and dissemination of knowledge on ecological restoration, with a particular focus on floodplain areas of the Brazilian Amazon.

4.1.2.3. Organization of Scientific-Technical Seminars and Workshops

137. Two seminars and/or workshops will be held throughout the project, involving key stakeholders, including the scientific community, local communities, women and Indigenous Peoples, NGOs, and public and private sector actors. The first workshop will take place midway through the project, and the second will be held in the final year of implementation. Both workshops will aim to present and discuss the project's results, including gender-results, as well as the scientific and technological foundations of the implemented methodologies and their impact on the targeted regions. This includes positive effects on the environment, biodiversity, and ecosystem services, as well as social, cultural, and economic impacts on communities. These events will serve as key spaces for contributing to the development and/or validation of restoration guidelines to be created within the scope of Component 1. Additionally, these workshops will provide spaces for local community participation, ensuring the dissemination of best practices and the inclusion of their knowledge and promoting a balanced exchange between traditional and scientific knowledge.

Here follows a detailed budget for this component:

Activities	Budget	Timeline
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4.1.1.1. Development of the internal and external communication plan for the project.	\$15,000	First Year of the project
4.1.1.2. Development and publication of communication materials (newsletters, brochures, booklets, etc.)	\$18,000	Throughout the five years of the Project
4.1.1.3. Development of audiovisual capsules	\$10,000	Throughout the five years of the Project
4.1.1.4. Development of video documentary	\$15,000	Projects Year 3 and 4
4.1.2.1. Support for scientific publications and technical materials.	\$ 1,000	Throughout the five years of the Project
4.1.2.2. Participation in National and International Scientific Dissemination Events	\$15,000	3 events throughout the project
4.1.2.3. Organization of Technical-Scientific Seminars and Workshops	\$ 14,000	2 seminars supported 1 at third year 1 at fifth year

MONITORING & EVALUATION

138. The project will be implemented according to the principles of results-based management (RBM), ensuring that all activities are planned, monitored, and evaluated based on clear and measurable indicators. This approach will allow for continuous adjustments to strategies, maximizing the project's efficiency and impact. The M&E strategy contributes to address barrier 2.

139. An M&E system will be designed and implemented to monitor the project activities and the achievement of project impacts and objectives, accordingly to indicators and targets defined in Project Results Framework. (M&E 1.1.1) Also, monitoring reports, mid-term reviews and the final evaluation will be elaborated and submitted on time (M&E 1.1.2).

140. Project management and monitoring will be gender-sensitive and responsive, including gender-disaggregated indicators showing who is involved and whose views are represented before and during implementation. The monitoring system should guarantee that gender considerations will be crosscutting in this project in terms of both its products and its processes. The project will contribute to women's equal engagement and equality by supporting women-driven capacity development efforts and focusing on transparency and shedding light on how women and men participate in forest management and climate change-related decision-making.

141. The M&E component has one Outcome M&E 1: a Project Monitoring and Evaluation System developed and operational, with a gender approach (M&E 1.1.1), and gender-responsive monitoring reports, mid-term reviews, and final evaluations contributing to the successful delivery of the project (M&E 1.1.2).

M&E 1: Project implemented according to results-based management (RBM) principles

142. The outcome is divided into two outputs: (i) Project M&E system designed and operational; and (ii) Gender-sensitive and responsive project monitoring reports, mid-term review and end-of-term-evaluation contribute to the successful delivery of the project.

143. This Component Aims to Support Project Implementation Based on Results-Based Management Principles. Project monitoring and evaluation (M&E) are essential for informing decision-making related to cyclical planning and implementation and must be carried out throughout the entire project lifecycle. The project's monitoring system consists of the project results matrix, which should include impact indicators (at the outcome and output levels) and process indicators (at the activity level), baseline data, mid-term and final targets, means of verification, and assigned responsibilities. The project's M&E system should also outline the day-to-day monitoring routine, defining the data to be collected, the collection methodology, storage, systematization, and analysis processes, as well as specifying the teams responsible for these activities. The project's M&E system is closely linked to the communication and knowledge management plans. Therefore, within the scope of these three plans (M&E, communication, and knowledge management), strategies must be designed to ensure coordination and alignment of actions relevant to each. It is crucial that the results from the M&E process inform the project's communication and knowledge management activities. Where relevant, the M&E system developed by the project includes gender-disaggregated results.

Output M&E 1.1.1: Project M&E system designed and operational

144. To achieve this output, the project will develop a gender-sensitive monitoring system for the project. To ensure adequate monitoring, project staff and implementation teams will be trained in monitoring and evaluation routines. Activities of Output M&E 1.1.1 are:

M&E 1.1.1.1. Development of the Project Monitoring System

145. The project's Monitoring and Evaluation (M&E) system will be developed within the first three months of project implementation, incorporating all the elements described above. A specialist will be hired to design the M&E system, which must be developed in collaboration with the teams from FAO, MSTI, and the project's operational partner (Instituto Mamirauá), as well as with key stakeholders, including local communities.

M&E 1.1.1.2 Training of Implementation Teams in M&E Routines

146. The same specialist consultant responsible for designing the project's M&E system will be responsible for developing and implementing a training program for the project team on daily monitoring and evaluation routines. This includes defining the data to be collected, the methodology for collection, storage, systematization, and analysis, as well as assigning responsibilities to specific teams. Additionally, the consultant will support the development of strategies to integrate the M&E system with the project's communication and knowledge management plans.

Output M&E 1.1.2: Gender- sensitive and responsive project monitoring reports, mid-term review and end-of-term-evaluation contribute to the successful delivery of the project.

147. To achieve this output, the project will implement the gender-sensitive monitoring system and prepare and publish progress reports, conduct mid-term and end-of-term evaluations and prepare a final report. Activities of Output M&E 1.1.2 are:

M&E 1.1.2.1. Implementation of the Project Monitoring System and Preparation of Progress Reports

148. This activity involves implementing the project's M&E system as defined in the previous activity, including all operational M&E routines. Quarterly, semi-annual, and annual reports on the project's progress must be produced. The operational partner of the project is responsible for the implementation of this activity. A specialist M&E consultant will be hired to support the implementation of the M&E system and the preparation of progress reports.

149. This activity includes the implementation and monitoring of the Gender Action Plan, the Environmental and Social Management Plan and the Indigenous Peoples Plan highlighting their success and challenges and lessons learned, contributing to the communication and knowledge management products and publications.

M&E 1.1.2.2. Mid-Term Review and Final Evaluation of the Project

150. At the project's mid-implementation stage, an external specialized audit will be contracted to assess the progress of project implementation in accordance with the M&E plan developed for the project. This evaluation will identify the project's progress toward the established goals, highlighting strengths and weaknesses and recommending actions to ensure successful implementation. In the final semester of project implementation, a specialized external audit firm will be contracted to evaluate the project's progress, impact achievement, successes, and shortcomings.

M&E 1.1.2.3. Preparation of the Final Project Report

151. The teams of the Operational Partner (Instituto Mamirauá), in partnership with FAO, will prepare the final project implementation report, documenting the results and impacts achieved, as well as the strengths and weaknesses encountered. The final project report will be submitted to the funding agency at the end of the implementation phase. To achieve this, the report must be developed throughout the final semester of the implementation phase, in conjunction with the project's final evaluation by the external audit.

Stakeholder engagement

152. Project preparation involved a wide range of stakeholders, initially building upon, and during preparation, broadening Mamirauá Institute network. It consists of Federal, state and municipal agencies and regulatory bodies; civil society organizations; community-based and indigenous peoples' associations, rural workers unions, and community leaders; social scientists, ecological restoration specialists and tropical forest ecologists; and private sector associations.

153. During preparation, contributions from these stakeholders included inputs about gaps and barriers of restoration chain, appropriate methodologies, the identification of priority areas and communications, the clarification of public policies and legal frameworks and insights about local needs and demands, livelihoods strategies and the use of natural resources and potential partnerships.

154. Implementation of activities will involve stakeholders from federal and state public agencies, academia, restoration networks, farmers associations and associations of traditional communities and indigenous peoples and commercial support organisations. Federal public agencies, such as the biodiversity conservation agency - Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio) will be involved as the agency responsible for the management of some of the conservation units included in the focal areas. As such, the agency will benefit from the restoration of degraded areas within the conservation units and the sustainable management by resident communities. Another important federal public agency involved is the national indigenous peoples' foundation - Fundação Nacional dos Povos Indígenas (FUNAI), responsible for the protection of indigenous lands. As such, the foundation will also benefit from restoration of degraded areas in the indigenous land in quest.

155. Involvement of state public agencies will involve the Amazon state environment agency, as the institute responsible for several of the conservation units included in the project and the Amazon and Pará state forestry agencies (IDAM and IDEFLOR), both of which promote restoration and the sustainable use of forest resources and the restoration of degraded areas. They will benefit from their involvement in the sense that the approaches and restoration models tested by the project are expected to have much wider applications in floodplains, lowland and mangroves. The project will also support restoration initiatives developed by IDAM and IDEFLOR, including implementation of Agroforestry system and strengthening seed collection networks.

156. Several Universities and research institutions will be involved in the implementation of activities, including social scientists, ecologists, restoration experts and foresters, from, among others, the federal institute of Amazonas (IFAM), the federal university of Amazonas (UFAM), the Federal Rural University of Amazonas (UFRA), and the Emilio Goeldi Museum. They will support the project's activities through advice with respect to restoration models and opportunities for the sustainable use of forest resources. UFAM and Emilio Goeldi will act as focal points for laboratory tests that will subsidize the elaboration of protocols for restoration in wetlands. They will also provide support in training activities, especially in the implementation of seed collection networks. The results of the implementation and testing of the restoration models under different conditions will, in turn, benefit on-going research and the development of technical and scientific knowledge. They will also provide advice and support for the trainings upheld under the component 2.

157. Civil society will participate in the implementation of project activities through community-based organizations, farmers' associations, rural workers unions, indigenous peoples' organizations, as well as local and national environment NGOs. The project will benefit from their expertise and field experience and engagement with local communities and authorities. Implementation will also involve two networks: the Amazon restoration alliance, a network to promote restoration in Brazilian Amazon, composed by members from the public sector, civil society, private sector and academia. These networks will be important in the dissemination of the results of the project and in linking project activities with existing, on-going restoration initiatives.

158. Finally, the project will involve commercial support organizations (SESC and SEBRAE) for advice on the commercialization of NWFPs and the strengthening of value chains for forest resources. They will be able to advise on first-stage processing of forest products, storage, transport and on value-chain networking. They, in turn, will benefit from the fieldwork of the project and the results of efforts to strengthen NWFP value chains in relatively isolated regions. They may also have an essential role in the strengthening of business models of nurseries and seed collector associations.

159. Involvement of the Amazon restoration network, but also that of the federal and state public agencies and universities and academia will ensure that the results of the project will be disseminated and form a useful base on which future restoration initiatives in the three areas may be built.

Private sector involvement

160. The private sector will be involved in two key areas of the project: the strengthening of the restoration chain and value chains for NWFPs.

161. The private sector will be engaged in activities of components 1 and 2. Many private companies are involved in the restoration chains in the Amazon, from seedling production to implementation of restoration in deforested or degraded sites in Amazon. Actually, many of these companies already are integrated in restoration Networks, such as the Alliance for Restoration in Amazon. Those companies will be integrated in the technical discussions held at the Scientific and Technical Advisory Panel, contributing for the development of the strategic plans for restoration in target ecosystems, the protocols and methodologies for restoration in floodplains and lowlands ecosystems and other strategic documents elaborated in the scope of the panel, such as policies recommendations, restoration chain mapping and analysis, recommendations for capacity building programs, among others. Those plans and documents will define roles and responsibilities, and opportunities for contributions of all involved stakeholders, including the private sector. The private sector will also contribute to the replicability and scalability of the project activities, by internalizing and implementing capacity building programs for restoration, and restoration activities on the field, based on the plans and protocols developed by the project. For this purpose, the engagement of the private sector in the discussions and decision-making processes is fundamental.

162. The restoration chain in the Central Amazon, floodplain and mangrove regions is underdeveloped, particularly if compared to the southern and eastern fringes of the Amazon along the agricultural frontier where several restoration initiatives are being implemented. While seed collection and the production of seedlings often start as voluntary activities or are supported by public funds as is often the case in municipal nurseries, lessons from other regions show that to ensure longer-term sustainability they need to be based on business models that generate additional income and profits for communities and farmers.

163. Involvement of the private sector will also be essential in the project's planned activities with respect to the strengthening of the capacity of communities to participate in NWFP value chains. Project support includes identification, in collaboration with communities and farmers, of opportunities to strengthen their participation on commercially viable NWFPs. This will include the involvement of private sector partners further up the chains to provide advice on market demands, but also of commercial support organizations (SESC and SEBRAE) to provide advice on adding value to harvested or produced NWFPs and on how best to engage with existing value chains. In addition, the project will support the strengthening of cooperatives and producers' organizations through training in business administration, commercialization and value chain networking.

164. The private sector and private sector related support organizations play, thus an essential role in creating economically viable restoration chains and NWFP value chains that will generate additional income for traditional communities and smallholders and form an important incentive for the conservation and sustainable management of forest resources. The local and even regional private sector also has an important stake in this support as it will broaden their supply of commercially interesting NWFPs.

165. The private sector will also benefit from the project activities. Firstly, the strengthening of the restoration chain in amazon will open new market opportunities to engage in this chain. The improvement of local and regional capacities will provide more qualified human, technical and technological context to engage in the restoration chain. Nurseries in the areas of focus of this project will benefit from capacity building activities for staff members and managers to improve business models and practices and ensure a better harmonization between supply and demand. Nurseries in the areas of focus of the project will be involved in the identification of main bottlenecks and the definition of their weaknesses and actions to overcome them. The strengthening of seed and seedling production will improve the seedlings availability for the many stakeholders to implement restoration projects and programs.

166. Companies involved in the processing, wholesale and retail NWFP value chains will also benefit and can contribute for the project objectives. As result of strengthened capacity of farmers' associations and cooperatives to process and commercialise NWFP products and of interactions between actors of different links, companies in the various value links will benefit are likely to benefit from better quality and guaranteed supply from agroforestry systems, crab collectors, essential oils, açaí and other possible forest products.

Innovation & Transformative Change, Knowledge management, Policy coherence and Capacity development

167. This project focuses on ecosystems which, despite their strategic role in the overall ecosystem functions of the forest, have, until now, mainly been overlooked by restoration efforts. In this sense, this project presents many strategies to promote innovation and transformative change in the restoration chain in Amazon. First, by strengthening networks composed by specialists from different sectors, the project will contribute to consolidate a common strategy to promote ecosystem restoration in amazon, including topics such as: Capacity building, support and integration with public policies, elaboration of methodologies/guidelines to promote ecosystem restoration in collaboration with local communities, strategies for income generation based on the bioeconomy

of restoration, among others. Those topics will integrate a strategic plan to restore the Brazilian Amazon with an integrated landscape approach which combines the ecological restoration of degraded areas, the demands and needs of local communities and promotion of active participation of farmers and local communities, strengthening their capacities with respect to seed collection, production of seedlings, restoration and the sustainable exploitation of forest resources. The elaboration of this strategic plan will include indigenous people and local communities in the decision-making process and the traditional knowledge and inputs from these IPLCs into the technical documents that will be developed.

168. Additionally, the project will work with the stakeholders from the restoration networks to develop guidelines and protocols for the restoration of the target ecosystems of this project. As stated in this document, there are no specific guidelines, protocols, methodologies for restoration in Amazon floodplain forests and in western lowland forests. As a result, these ecosystems have been overlooked in restoration efforts led by the multiple stakeholders in the Amazon restoration Chain. The development of these protocols is fundamental to encourage new initiatives for restoration in these ecosystems. The protocols will include strategies to include and empower IPLCs in restoration activities, and to promote social, economic and environmental benefits for those communities, including strategies to bind restoration process to bioeconomy value chains.

169. The project will also contribute to transform and implement innovation strategies for the sustainable management of forest resources and ecosystems, especially in implementing sustainable practices in agriculture, fire management and fire prevention practices, addressing one of the major drivers of environmental degradation and deforestation in project region, forest fires occurred by the misuse of fire as an ecosystem management technique and the increase in the intensity of drought events.

170. Finally, the project will support the creation of local spaces for learning and diffusion of lessons learned and best practices for socioecological restoration, through strengthening territorial networks for knowledge management. Component 4 will finance the development and the implementation of a participatory and gender inclusive communication strategy and of a knowledge management plan with a gender-sensitive approach. The project will follow a gender-sensitive communication for development approach and will target different audiences: (i) local stakeholders including farmers, communities, women, young people, local organizations, cooperatives, and local development agents; (ii) technicians with an integrated approach to landscape management; (iii) municipal, state, and federal government officials; (iv) private sector; (v) potential consumers of biodiversity value chains.

171. Key actions for local stakeholders will include learning communities, social networking and communication strategies managed by community young people, promotion of information capsules, producing culturally sensitive communication materials in local languages as part of a participatory approach, peer-to-peer experience sharing, national and international exchanges. Actions geared towards technicians will include blended learning, exchange forums, and use of the virtual knowledge management platform. Municipal, state, and federal government officials will be engaged through virtual and face-to-face forums with authorities, social media outreach, press releases and digital strategies.

172. If successful, those strategies will potentially have a much wider impact in the ecosystems this project is planning to work in and possibly beyond. It has relevance for a much larger restoration agenda, within the National Policy for the Recovery of Native Vegetation (PROVEG) and its recently updated Action Plan which seeks to promote the restoration of 12 million hectares. Reconcile restoration with additional income generation for farmers and communities through the implementation of agroforestry systems and the strengthening of their participation in NWFP value chains in the context of the sustainable management of conservation units have the potential to develop new strategies for the management of protected areas combined with the improvement of livelihoods of local communities. In this sense, there is huge potential for scaling up the approaches used and the results and lessons from the implementation of the current project.

Policy Coherence and Alignment with National Policies

173. The project will adopt a whole-of-government and whole-of-society approach, as it will synchronize efforts among key stakeholders and networks involved in restoration activities in the Amazon. This includes public sector entities across the three levels of Brazilian government (National, State, and Municipal), civil society groups, research institutions, community-based organizations, and the private sector.

174. The project aim is to formulate, strategize, and execute these plans throughout the duration of the project and beyond, and generate information, platforms, protocols and guidance to promote policy harmonization and avoid harm on the Amazon wetlands.

175. The **Amazon Restoration Network**, that will be supported and strengthened by the project, has an important role in policy coherence and political relevance in the states of Amazonas and Pará, as well as in the Brazilian Federal government. The Network brings together a wide spectrum of stakeholders, engaged on the environmental agenda, influencing the government agenda and jointly developing new policies that are aligned with this project objective. The Plan for Recovery of Native Vegetation for the State of Pará, for instance, was developed with the support of the Amazon Restoration Network.

176. Through the Network and with the support of the Brazilian Ministry of Science, Technology, and Innovation (MSTI) the project will improve the alignment and collaborative execution of the National Policy for the Recovery of Native Vegetation (PROVEG) alongside the state Plan for the Recovery of Native Vegetation (PRVN) in the state of Pará. Despite the strong environmental laws and commitments for restoration, sectoral policies in agriculture and infrastructure in the states of Pará and Amazonas can unintentionally undermine wetland restoration by promoting land conversion or altering hydrological regimes. In this regard, the project offers an opportunity to enhance policy coherence by generating technical information, fostering interinstitutional coordination platforms, and developing protocols and practical guidance to inform local and regional cross-sectorial planning.

177. The legal and institutional context includes several public policies and action plans to which the project is aligned. The native vegetation protection law (Brazilian New Forest Code)[1] is the primary legal instrument that regulates the protection and restoration of native vegetation on private rural lands. It established two categories of preservation areas: permanent preservation areas (APP) and legal forest reserves (RL). The deficit in APP and RL revolves around 21 million hectares that need to be restored or reforested.

178. The legal and institutional context includes several public policies and action plans. The native vegetation protection law (Brazilian New Forest Code)[1] is the primary legal instrument that regulates the protection and restoration of native vegetation on private rural lands. It established two categories of preservation areas: permanent preservation areas (APP) and legal forest reserves (RL). The deficit in APP and RL revolves around 21 million hectares that need to be restored or reforested.

179. The project is aligned with the National Policy for the Recovery of Native Vegetation (PROVEG), which recently gained an updated action plan for 2025 to 2028. The overall restoration goal for 2030 is to have 12 million hectares restored or under restoration. Implementation of the action plan depends, however, on external financial support and investments.

180. Furthermore, the project is aligned with the Strategy and National Action Plans for Biodiversity (NBSAP), which aims at the promotion of conservation of biodiversity, a sustainable utilization of its components, with fair and equitable partition of benefits derived from the utilization of genetic resources, of components of the genetic patrimony and of traditional knowledge associated with these resources'. The present project is aligned with four of the components of the NBSAP: Conservation of biodiversity; Sustainable utilization of biodiversity components; Access to genetic resources and associated traditional knowledge, and equitable partition of benefits; Education, public awareness, information and communication about biodiversity, Legal and institutional strengthening for management of biodiversity.

181. Under the REDD+ framework (Reducing Emissions from Deforestation and Forest Degradation, Plus Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks), Brazil announced in 2015, during COP21, the National Strategy for Reducing Emissions from Deforestation and Forest Degradation, Conservation of Forest Carbon Stocks, Sustainable Forest Management, and Enhancement of Forest Carbon Stocks (ENREDD+)[2]². This strategy aims to mitigate climate change through the prevention and control of deforestation and forest degradation and the promotion of forest recovery and conservation based on sustainable development. The Amazon Fund has been the largest REDD+ initiative (over US\$1 billion between 2008 and 2017, incentivizing projects aligned with the objectives of Action Plan for Prevention and Control of Deforestation in Legal Amazon (PPCDAm).

182. The Action Plan for Prevention and Control of Deforestation in Legal Amazon (PPCDAm) is in its fifth phase (2023-2027). The action plan focuses on four components: sustainable production; environmental monitoring and control; land use and territorial planning; and rules and economic instruments[3]³. Other relevant legislation includes the National Policy for Payment for Environmental Services (PNPSA)[4]⁴https://unfao-my.sharepoint.com/personal/anderson_bonilha_fao_org/Documents/Área_de_Trabalho/FAO-Projetos/Mamirauá_2/PRODOC_VERSÃO_1.docx; the National Registry for Payment for Environmental Services (CNPSA), and the Federal Program for Payment for Environmental Services (PFPSA) aim to financially reward individuals, communities, or organizations that provide environmental services, thereby encouraging the adoption of sustainable land use practices, conservation, and ecosystem restoration.

183. The project is also in line with the decree, launched on 05 June 2024 that establishes Brazil's national bioeconomy strategy with the objective to coordinate and implement public policies with respect to the development of bioeconomy. The decree defines bioeconomy as the productive and economic development model based on values of justice, ethics and inclusion, able to generate products, processes and services through the sustainable use, regeneration and conservation of biodiversity, guided by scientific and traditional knowledge and with a view to add value, the generation of jobs and income, sustainability and climate stability. Objectives of the strategy include the promotion of national and regional development based on biological resources; the promotion of forestry and socio-biodiversity; strengthening of competitiveness; and the development of ecosystems of innovation, among others[5]⁵.

184. With respect to relevant state legislation, Pará's state legislation on climate change (PEMC/PA)[6]⁶[7]⁷ needs to be mentioned as it has the objective to develop and implement actions for the protection, management, conservation, and restoration of ecosystems, as well as the state plan for native vegetation recovery (PRVN)[8]⁸ which aims to promote the restoration of native vegetation. Finally, the state plan Amazonia now (PEAA) aims to execute strategies for the recovery of degraded areas and the promotion of measures to reduce deforestation. It sets a target of regenerating 5,65 million hectares of vegetation by 2030.

Capacity development

185. The project will enhance human, institutional and technical capacities through a set of activities that include: strengthening of restoration networks and integration between main stakeholders in Amazon restoration chain; training of farmers and community members in restoration practices, of staff members of farmers' associations and cooperatives, in particular on issues pertaining to business administration, commercialization, adequate storage and first stage processing of NWFP, and value chain networking, strengthening of seed collection and seedling producing process, as a way to address a major gap in the restoration chain in Brazilian Amazon, the lack of sufficient seedlings with local origins. More information about capacity development and sustainability is displayed in Annex H: Sustainability and Capacity Development.

[1] [1] Law No. 12.651, May 25th, 2012

[2] <https://www.fundoamazonia.gov.br/pt/fundo-amazonia/politicas-publicas-orientadoras>

[3] MMA, (2023). Plano de Ação para a Prevenção e Controle do Desmatamento na Amazônia Legal (PPCDAM): 5ª fase (2023-2027). On [ppcdam_5_en.pdf](#)

[4] <https://www.semas.pa.gov.br/legislacao/files/pdf/4093.pdf>

[5] <https://www.climatepolicyinitiative.org/publication/the-bioeconomy-in-the-lula-administration-regulatory-and-institutional-advances/>

[6] Decree No. 2,750, November 10th, 2022

[7] <https://www.semas.pa.gov.br/legislacao/files/pdf/192136.pdf>

[8] Decree No. 941, August 3rd, 2020

Institutional Arrangement and Coordination with Ongoing Initiatives and Project.

Please describe the Institutional Arrangements for the execution of this project, including financial management and procurement. If possible, please summarize the flow of funds (diagram), accountabilities for project management and financial reporting (organogram), including audit, and staffing plans. (max. 500 words, approximately 1 page)

The **Ministry of Science, Technology, and Innovations (MSTI)** of the Brazilian government is the main government counterpart and will hold overall responsibility for the project's execution and will establish a Project Advisory Committee (PAC) which supports, supervises and provides technical guidance to the Operational Partner (OP) for project execution in the field. MSTI will review and clear all technical work undertaken by Operational Partner but will not perform administrative functions.

The Government, through the MSTI, designates a National Project Director (NPD). It will be responsible for ensuring and reporting project results to the government, partners, and the Implementing Agency, and will be ultimately responsible for ensuring the sustainability and institutional ownership of project results. The NPD will be responsible for coordinating the activities with all the national bodies related to the different project components, as well as with the project partners. He/she will also be responsible for supervising and guiding the Chief Technical Advisor (CTA) on Government policies and priorities.

The **Mamirauá Institute for Sustainable Development (IDSM)** has been selected as Executing Partner and will act as sub-executing agency and will be responsible for the day-to-day management of project results entrusted to it in full compliance with all terms and conditions of the Operational Partnership Agreement (OPA) signed with FAO. As OP of the project the IDSM is responsible and accountable to FAO for the timely implementation of the agreed project results, operational oversight of implementation activities, timely reporting, and for effective use of GEF resources for the intended purposes and in line with FAO and GEF policy requirements. IDSM, will be responsible for the execution of the project activities. Key functions will include:

Administration of project funds;

Hiring and supervision of Technical Specialists;

Direct execution of technical components;

Drafting and submitting biannual workplans and budgets to the Project Steering Committee.

Preparing project monitoring reports following FAO-GEF templates (including, but not limited to, the project implementation review (PIR), the half-yearly progress report (PPRs), quarterly expenditure reports, annual audit reports and annual inventories of equipment);

Reporting regularly on the progress of the project activities to FAO and to the MSTI Project Management Team.

The **Brazilian Cooperation Agency (ABC)** is responsible for monitoring the activities resulting from the 'Project Agreement' (document that will be signed by ABC, FAO and MSTI) at the federal government level.

Food and Agriculture Organization (FAO) will be the GEF Implementing Agency (IA) for the Project, providing project cycle management and support services as established in the GEF Policy, including coordinating and communicating with the Ministry of Science and Technology and Mamirauá Institute. As the GEF IA, FAO holds overall accountability and responsibility to the GEF for delivery of the results. In the IA role, FAO will utilize the GEF fees to deploy three different actors within the organization to support the project (see Annex M for details):

Budget Holder, which is usually the most decentralized FAO office, will provide oversight of day-to-day project execution;

The Lead Technical Officer(s), drawn from across FAO will provide oversight/support to the projects technical work in coordination with government representatives participating in the Project Steering Committee;

The Funding Liaison Officer(s) and the GEF Technical Officers (GTO) within FAO will monitor and support the project cycle to ensure that the project is being designed and carried out in accordance with FAO and GEF minimum fiduciary and technical standards.

FAO responsibilities, as GEF agency, will include:

Ensuring that funds are used in accordance with GEF and FAO rules and procedures.

Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers, Operational Partners Agreement(s) and other rules and procedures of FAO;

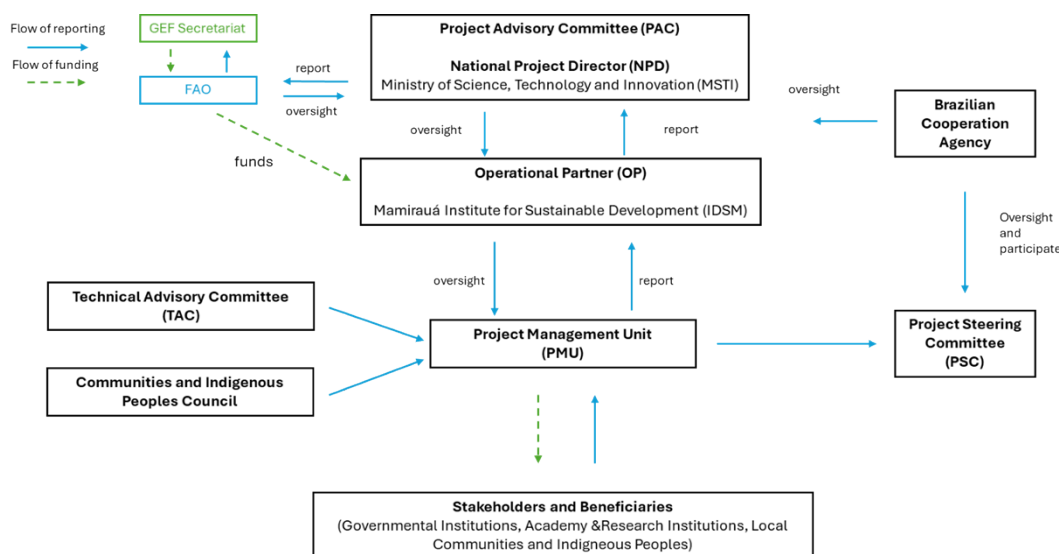
Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned;

Conduct at least one supervision mission per year; and

Reporting to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, the Mid Term Review, the Terminal Evaluation and the Project Closure Report on project progress;

Financial reporting to the GEF Trustee

The Project organization structure will be organized as follows:



The Project Governance structure will be organized as follows: a **Project Steering Committee (PSC)**, Technical Advisory Committee (Specialist Panel), Project Management Unit (PMU), Communities and Indigenous Peoples Council, and main stakeholders (government institutions, academic & research, institutions and communities and indigenous peoples), as described below:

The Project Steering Committee

The PSC will be comprised of representatives from Ministry of Science, Technology and Innovation (MSTI) and FAO. The ABC will be invited to participate in all meetings to monitor and oversee the implementation and execution of the project. The MSTI will chair the Project Steering Committee which will be the main governing body of the project.

The members of the PSC will each assume the role of a Focal Point for the project in their respective agencies. Hence, the project will have a Focal Point in each concerned institution. As Focal Points in their agency, the concerned PSC members will: (i) technically oversee activities in their sector; (ii) ensure a fluid two-way exchange of information and knowledge between their agency and the project; (iii) facilitate coordination and links between the project activities and the work plan of their agency; (iv) facilitate the provision of co-financing to the project: and (iv) provide strategic guidance to the Project Management Team and to all executing partners.

Project Management Unit

The Project Management Unit (PMU) will be composed of the Chief Technical Advisor, Administrative Assistant, Operations Specialist based at the Operational Partner's offices. The main functions of the PMU, following the guidance of the Project Steering Committee, are to ensure overall efficient day-to-day management, coordination, execution and monitoring of the project through the effective implementation of the annual work plans and budgets (AWP/Bs). This will include (1) coordinating, supporting, executing, and supervising the implementation of activities foreseen, (2) ensuring the PMU has adequate technical and administrative staff for the coordination of activities, (3) promoting the integration of partners into the Project and ensuring

effective communication among all stakeholders, (4) formulating and systematizing documents for analysis and approval by the PSC and FAO, (5) receiving Annual Operating Plans, (6) collating and consolidating the physical execution reports, (7) preparing biannual Project Progress Reports (PPRs) and annual Project Implementation Review (PIR) reports, (8) preparing the proposal of the Annual Work Plan and Budget (AWP/B) for the Project and the general progress report to be reviewed and approved by FAO's Lead Technical Officer (LTO) and Budget Holder (BH), and (9) ensuring compliance with the FAO's Environmental and Social Management (ESM) guidelines.

Within the PMU, the Operational Partner will have a financial management unit. This unit will ensure sound fiduciary management of project resources. Its responsibilities will include financial management, procurement, implementation, and M&E of the project, and preparation of quarterly financial execution reports as described in detail in the OPA. The OP will ensure that its unit has qualified staff in adequate numbers to secure sound fiduciary management of project resources until completion of the project in accordance with the terms set forth in the OPA. The financial management unit will work under the supervision of and in close collaboration with the National Project Coordinator to ensure smooth coordination on questions related to finances and procurement

The PMU will be supported by the OP, that will hire the **Chief Technical Advisor (CTA)**. The TORs of the CTA are described in Annex L.

A challenge of the project is to develop, simultaneously and with the same quality, the activities planned in 3 large, relatively distant areas: the Macro region of Salgado Paraense, the metropolitan region of Manaus, and the Macro region of Médio Solimões Tefé. The PMU will structure 3 hubs, one in each macro-region, for the execution of activities and will have a team of specialists and extension workers who will work with communities and execution partners (government institutions, academic & research institutions, communities and indigenous peoples). The three hubs' teams will be directly linked to the CTA and will work together to establish synergies, exchange experiences, and share lessons learned among the various communities of the project.

Technical Advisory Committee - TAC (Specialist Panel)

The Technical Advisory Committee is linked to the strategy of the Component 1 will serve to support the project on a request basis with regards to any technical questions that the project steering committee and/or the Project Management Unit. The TAC will be composed of the members of the technical and scientific advisory panel and other institutions that will be invited. As describe in the output 1.1.3. the technical and scientific advisory panel aims to strengthen integration and collaboration among key stakeholders, projects, and restoration initiatives in the region, addressing the lack of coordination that limits the expansion of positive impacts.

In this way, it will provide technical support to the PMU and PSC in order to advance methodological discussions, action effectiveness, and partnership development opportunities to increase the positive impact of the project. It will also support the search for solutions to any technical challenges that may arise. It is expected that at least one annual (virtual) meeting will be held, and when necessary, specific meetings will be requested by the PMU for improved advisory.

Will the GEF Agency play an execution role on this project?

If so, please describe that role here and the justification.

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 (max. 500 words, approximately 1 page)

GEF Funded projects

The project will coordinate with other GEF-financed projects with the objectives of identifying opportunities and facilitate mechanisms to achieve synergies. This collaboration will be undertaken through i) formal and informal communications between GEF Agencies and executing partners of other programs and projects; ii) annual coordination meetings; iii) specific meetings on technical matters; iv) meetings and activities to exchange experiences and lessons.

GEFID 10706 (with FAO as IA): Strengthening participatory natural resource management processes for sustainable economic development, conservation of biodiversity and maintenance of carbon stocks in Amazon Wetlands. This project will be executed by IDSMM and has the objective of strengthening participatory natural resource management processes for sustainable economic development, conservation of biodiversity and maintenance of carbon stocks in Amazon Wetlands. This project will also support restoration activities once it will develop protocols and implement best practices for the sustainable management of fisheries, agroforestry, timber and non-timber products. Those resources are being depleted due to unsustainable practices, leading to degradation of the ecosystems. The GEF 10706 Project will focus on these essential resources for ecosystem conservation and for local communities livelihoods on the same three ecosystems targeted by the project presented in this proposal: lowland forest and Amazon wetlands (floodplain forests and mangroves).

The complementary between project GEF ID 10706 (GEF-7) and this GEF-8 project is detailed in Table 2 below.

Table 2. Complementary between Mamiraua project GEF ID 10706 (GEF-7) and the current project proposal (GEF-8)

Focus	GEF-7 Project (GEFID 10706)	GEF-8 Project (proposed)
Technical focus	Forestry and agriculture: Agroforestry, timber, and non-timber forest products. Fisheries: Caiman, swamp ghost crab, pirarucu.	Biocultural restoration of Amazon wetlands and lowland forests. Forestry and agriculture: agroforestry system, productive backyards, non-timber products Restoration value chain identification and empowerment
Geographical scope	Central Amazon ecological corridor and Pará state inland and coastal areas. Ecosystems:	Central Amazon ecological corridor and Pará state inland and coastal areas. Ecosystems:

	Varzea floodplain forests Mangroves	Varzea floodplain forests Mangroves <i>Terra firme</i> lowland forests (non-flooded areas. High level of biodiversity)
Activities	Fair and gastronomic festivals for the crab and pirarucu production chain (in Belem, Manaus and Tefe) Crab market studies Visual identity and communication plan	Nature-based products: Seeds, seedling, agroforestry production, trade. Capacity development for 1) biocultural natural restoration methodologies; 2) entrepreneurship for restoration value chain; 3) Para taxonomy technician; 4) Identification of potential markets and for restoration products; 5) Agroforestry Systema implementation and maintenance; 6) Seed collection, handling, storage and commercialization; 7) Seedling production and commercialization.
Stakeholders	Association of Extractive Reserves in the Mangue do Para region. Associations of the Mamiraua & Manacapuru Sustainable Development Reserve Federation of pirarucu production in the Mamiraua Reserve Science Technology and Innovation Ministry (MSTI) Ministry of Agriculture and Livestock (MAPA) National Foundation of Indigenous People (FUNAI) Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA) Chico Mendes Institute for Biodiversity Conservation (ICMBIO)	Ministry of Environment Ministry of Agriculture and Livestock (MAPA) Associations of Tefe National Forest, Sustainable Development Reserve of Mamiraua, Sustainable Development Reserve of Amanã, <i>Terra Indigena</i> (TI) Miratu, Tefe municipality and Tefe Town hall Associations of Extractive Reserves in the Mangue do Para region. Federation of Indigenous Organizations of the Rio Negro (FOIRN); The Ministry of Science, Technology, and Innovation (MSTI), SEMPA, Institute of Agricultural and Forestry Development of State of Amazonas (IDAM), Beraca Institute, Brazilian Support Service for Micro and Small Businesses (SEBRAE),

	Amazonas Environmental Protection Institute (IPAAM) State Secretariat for Agricultural and Fisheries Development (SEDAP) Pará Federal University (UFPA) Institute of Extension, Assistance and Rural Development (RURAP)	Brazilian Agricultural Research Company (EMBRAPA), Chico Mendes Institute for Biodiversity Conservation (ICMBio), Federal Institute of Education, Science and Technology of Amazonas (IFAM), Secretariat for the Environment and Infrastructure (SEMA), State Secretariat for Environment and Sustainability (SEMAS), Maniva Agroecology Network (REMA) Ministry of Environment and Climate Change (MMA), International Fresh Produce Association (IFPA), Federal Public Ministry (MPF), Amazon Innovation and Entrepreneurship Network (RAMI), Amazonas State University (UEA), Paulist University (UNIP), Federal Government Integration and Regional Development Agency (MIDIR) Oswaldo Cruz Foundation (FIOCRUZ)
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GEFID 10198 (World Bank): Amazon Sustainable Landscapes Program - Phase II (ASL-II). The ASL IP seeks to improve integrated landscape management and conservation of ecosystems of targeted areas in the Amazon region. This GEF-8 project is aimed to improve the sustainable use of biodiversity and local livelihoods in coastal areas, outside protected areas, and in protected areas not covered by ASL-II. Potential coordination entry points with ASL II and III are detailed in Table 3.

Table 3: Cooperation points between ASL Integrated Programme (phases 2 and 3) and the GEF-8 Project

Focus	ASL Integrated Programme (phases 2 and 3) – Brazil child projects	GEF-8 Project (proposed)
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Technical focus	Improve integrated landscape management and conservation of ecosystems in targeted areas in the Amazon region.	Restoration of wetlands and lowland forests.
Geographical scope	Central Amazon ecological corridor and Pará state inland and coastal areas. Ecosystems: - Terra Firme - Varzeas - Mangroves	Ecosystems: 1. Terra firme lowland forests (non-flooded areas. High level of biodiversity) 2. Varzeas (seasonally flooded) 3. Mangroves: Central Amazon ecological corridor and Para state inland and coastal areas.
Activities	Capacity development for - Restoration practices - Entrepreneurship for value chain - Tools for sustainable land and water management Knowledge exchange platform on nature-based products through trainings (RedParques) Enhance already established participatory mechanisms and mobilization of local actors.	Nature-based products: Seeds, seedling, agroforestry production, trade. Capacity development for 1) restoration methodologies 2) entrepreneurship for restoration value chain 3) Para taxonomy technician Identification of potential markets and for restoration products
Stakeholders	Ministry of Environment: Ministry of Agriculture and Livestock (MAPA); Federation of Indigenous Organizations of the Rio Negro (FOIRN); Coordination of Indigenous Organizations of the Brazilian Amazon (COIAB); State Environmental Secretariats of the States of the Amazon,	Ministry of Environment Ministry of Agriculture and Livestock (MAPA) Associations of Tefé National Forest, Sustainable Development Reserve of Mamirauá, Sustainable Development Reserve of Amanã, Terra Indígena (TI) Miratu, Tefé municipality and Tefé Town hall

	Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio); Braslian Forest Service (SFB); The Brazilian Institute of Environment and Renewable Natural Resources (IBAMA); National Foundation of Indigenous People (FUNAI); Managers and Councils Managers of Conservation Units, RAMSAR Sites and Biosphere Reserves.	Associations of Extractive Reserves in the Mangue do Para region Federation of Indigenous Organizations of the Rio Negro (FOIRN); The Ministry of Science, Technology and Innovation (MSTI), Municipal Production Department (SEMPA) Institute for Sustainable Agricultural and Forestry Development of the State of Amazonas (IDAM), Rede RHISA, Inst. Beraca, Brazilian Support Service for Micro and Small Businesses (SEBRAE), Brazilian Enterprise of Agricultural Research (EMBRAPA), Instituto Chico Mendes of Biodiversity Conservation (ICMBio), Federal Institute of Education, Science and Technology of Amazonas (IFAM), Secretariat for the Environment and Infrastructure (SEMA), State Secretariat for Environment and Sustainability (SEMAS), Maniva Agroecology Network (REMA), Ministry of Environment and Climate Change (MMA), International Fresh Produce Association (IFPA), Federal Public Ministry (MPF), Amazon Innovation and Entrepreneurship Network (RAMI),
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		Amazonas State University (UEA), Paulist University (UNIP), Federal Government Integration and Regional Development Agency (MIDIR) Oswaldo Cruz Foundation (FIOCRUZ)
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GEFID 10660 (IADB): Unlocking Private Capital for Biodiversity through the Bioeconomy in Amazon Basin Countries. The project aims to de-risk and enable private investments in the bioeconomy in up to three Amazon's countries. The proposed GEF-8 project will coordinate actions with the Inter-American Development Bank (IADB) to promote private investment in IPLCs bioeconomy enterprises and gender sensitive restoration networks supported by this project, as well as to guarantee sustainability of capacity building in the region.

GEFID 10531 (World Bank): Integrated watershed management of the Putumayo-Iça River basin. The objective of the project is to improve the capacity of Brazil, Colombia, Ecuador and Peru to manage freshwater ecosystems and aquatic resources of the Putumayo-Iça watershed in the Amazon. IDSM has been invited and is already collaborating with the design and planning of this initiative, under the invitation of the Amazonas state government.

GEFID 5091 (UNDP) Mainstreaming Biodiversity Conservation and Sustainable Use into NTFP and AFS Production Practices in Multiple-Use Forest Landscapes of High Conservation Value. The objective of this project is to conserve the biodiversity of Brazilian multiple-use forest landscapes of high conservation value by strengthening the sustainable use management framework for non-timber forest products (NTFP) and -Agroforestry System products (AFS). The proposed GEF-8 will adopt lessons learned on NTFP and AFS.

Other projects and initiatives

In addition to GEF-funded projects, this project will seek to work together with several initiatives from different sectors to strengthen the restoration efforts in Brazilian Amazon. The governments of Pará and Amazonas states have been developing projects and programs to Restore degraded lands, and to strengthen capacities and the political environment for restoration. The private sector and NGOs are heavily involved in restoration in Amazon ecosystems related to implementing restoration initiatives, capacity building programs for restoration, improving the seed and seedlings production chains, and development of knowledge and innovative techniques and technologies for restoration in the different Amazon Socioecological contexts. As one of the Main challenges is to promote and articulation between the many initiatives, to integrate stakeholders in a common strategy and to promote synergies between projects and programs generating scalability of the positives impacts, this project will seek to support the better integration of the main stakeholders through the strengthening of restoration networks and the articulation with other initiatives, as described below.

Alliance for Amazon Restoration: Is a multi-institutional and multisectoral initiative, established in 2017, that seeks to promote, qualify and amplify the scale of landscape restoration in Brazilian amazon. The alliance have more than 100 associated members from Civil society organizations, Government institutions, Research institutions and universities, and from the private

sector. The Alliance works through 3 permanent work groups which the objectives are extremely related to the objectives of this project: Public policies - seek to strengthen the relationship with State and Local governments of the Amazon, and to promote support for the development of public policies for restoration); Bioeconomy of restoration – seeks to strengthen value chains of the bioeconomy related to ecosystem restoration; Research and extension – seeks to develop and transfer knowledge, techniques, technologies and good practices for restoration. The project will work with the Alliance for Amazon Restoration in all project components. In component 1 the project will directly work with the alliance in the constitution of the technical and scientific panel and for the elaboration of the strategic plan for restoration in Amazon. In component 2, the alliance will support the development of capacity building Programs, and for the internalization of this program in the main stakeholders and partners. The Alliance will soon start the implementation of a capacity building for restoration projects involving local communities. The present project will work in collaboration with alliance for the implementation of both projects. In component 3, the alliance will support the development of the specific protocols and guidelines for the projects target ecosystems.

Pará State Government/ Environment and sustainability Secretariat (SEMA): The Pará State government recently Launched the Native Vegetation Recovery Plan (PRVN-PA), related to the national strategy for recovery of Native Vegetation (Planaveg). The PRVN aims to recover 5,6 million hectares of degraded lands in the state until 2030. The plan has four main objectives, all related to this projects objectives: 1) Promote Recovery of native vegetation; 2) Stimulated the creation of green jobs; 3) Incentive research, Development and Innovation in Restoration; 4) Guarantee food security for local communities. The project will articulate with the Pará State Government, mainly with SEMA to implement the project activities aligned to the PRVN strategies and objectives.

Institute for Forestry Development and Biodiversity of the State of Pará (IDEFLOR-BIO): IDEFLOR-BIO is the government agency of the State of Pará responsible for actions related to the development of the forestry sector in the state, including the restoration chain and the implementation of related initiatives.

In the current scenario, IDEFLOR is implementing two projects in synergy with this initiative: “Prosaf” Project, which aims to recover degraded areas from family farming by strengthening seedling and seed production and implementing agroforestry systems; and the “Renascentes” Project, which seeks to restore legal reserve areas and permanent preservation areas in family farming through the implementation of agroforestry systems. This project will strengthen “Prosaf’s” strategy by reinforcing local seed collection networks and implementing forest nurseries, as well as promoting the restoration of degraded family farming areas through agroforestry systems. The mangrove areas targeted by this project are considered permanent preservation areas, aligning with the scope of the “Renascentes” Project. The project will maintain dialogue with IDEFLOR to ensure that the implementation of these initiatives is well-coordinated.

Institute for Sustainable Agricultural and Forestry Development of the State of Amazonas (IDAM): IDAM is the government agency of the State of Amazonas responsible for the development of the forestry sector. Linked to the State Secretariat for Rural Production of Amazonas (SERPROR), IDAM is responsible for implementing projects for the restoration of degraded areas through agroforestry systems, such as the PRORESAF Project. Currently, IDAM is negotiating with the State Environmental Fund to support the continuation of the project, which aims at restoration in settlements and for small farmers. IDAM provides technical assistance and monitoring for producers throughout the restoration process, making it a strategic partner for the project by offering support in the restored areas. In return, the project has the potential to supply the necessary inputs for restoration processes and provide training for IDAM’s team in implementing restoration projects using agroforestry systems. Additionally, IDAM, in collaboration with SERPROR, can help promote debates and contribute to the development of public policies for forest restoration in the state. This includes drafting strategic restoration plans, creating plans for the recovery of the state's native vegetation, and integrating into public institutions the recommendations for native forest recovery developed within the scope of this project.

Federal University of Amazonas (UFAM): The Native Seed Center of the Amazon is a research and technological development laboratory at the Federal University of Amazonas, with a strong focus on the forest restoration chain. It specializes in the production of locally sourced seeds with viability for the implementation of restoration projects. The laboratory also supports the implementation of restoration initiatives through agroforestry systems, through the 'Wepainung' project. The Native Seed Center of the Amazon will be a partner in the project for the implementation of seed collector networks, supporting the processes of training and structuring the networks, as well as in the laboratory analysis processes of seed viability and quality, also contributing to the development of restoration protocols within the scope of component 3.

Emílio Goeldi Museum: A research institute linked to the Ministry of Science, Technology, and Innovation (MSTI), with expertise in scientific development, professional training, and scientific dissemination. The museum has extensive experience in the forestry sector, with specialized laboratories for seed analysis and production. The **Emílio Goeldi Museum** will support the project in the **State of Pará**, assisting in structuring seed collectors' networks and conducting the necessary laboratory tests for the development of restoration protocols in the Amazon.

“Redário” (Network of Networks): The “Redário” is an initiative led by Socioenvironmental Institute (ISA). It is a network of seed collectors' networks. Currently, the “Redário” articulates 27 seed collection networks, mostly community-based networks, in five biomes and 13 states in Brazil. One of the initiatives of the “Redário” is the “Seed’s Paths” Project. This project supports the access to buyers and markets for the seeds collected by the associated networks. The 'Seed’s Paths' Project receives requests for seeds from restoration projects and coordinates with the associated networks to supply seeds in response to this demand. This project foresees exchanges with the networks associated with Redário, for the exchange of experiences and lessons learned. Furthermore, Redário will provide support for the training and development of the networks, as well as future assistance in accessing markets through the 'Caminhos das Sementes' project.

Olimpic Forest From Brazil: It is a project implemented by the Mamirauá Institute aimed at implementing agroforestry systems as a strategy for restoring degraded areas in the Amazon and strengthening the production of seedlings and seeds through the establishment of forest nurseries. It operates in some of the protected areas targeted by this GEF-8 project. Therefore, the two projects are implemented in a complementary manner, expanding the scale and impact of this GEF project.

Aim 4 forest: Led by FAO, Aim4Forests is a five-year program aimed at supporting forest monitoring through modern monitoring technologies and technical innovation, as well as the use of space data and remote sensing. The project seeks to: address the remaining technical and institutional gaps, as well as embed National Forest Monitoring systems (NFMS) that are fit for purpose into national institutions; to accelerate the alignment, innovation and deployment of high-integrity datasets to overcome measurement, reporting and verification (MRV) methodological challenges; and to enhance the participation of indigenous peoples and local communities in forest monitoring. As part of these efforts, FAO is working with the Brazilian Ministry of Environment to assist the development a national monitoring platform aimed at tracking progress on PLANAVEG—Brazil’s national strategy for native vegetation recovery—and national reporting under Target 2 of the Kunming-Montreal Global Biodiversity Framework (KM-GBF). This collaboration seeks to strengthen data collection, analysis, and visualization to enhance Brazil’s capacity to monitor ecosystem restoration initiatives and their impact, aligning national efforts with global restoration goals. Two initiatives must be highlighted under the scope of the Aim4forests initiative.

The **Framework on Ecosystem Restoration Monitoring (FERM)** is designed to track and report the progress of restoration efforts in a consistent and transparent. It is composed of a registry that compiles data from various restoration activities and initiatives, as well as a geospatial platform for visualizing these efforts. The FERM will play a key role in supporting global restoration monitoring and reporting, including progress under the UN Decade on Ecosystem Restoration and assisting countries in reporting progress for the Global Biodiversity Framework’s Target 2.

The **Indigenous Peoples’ Biocentric Restoration Initiative**, co-developed by FAO and Indigenous Peoples' organizations, is rooted in the principle of biocentrism, which recognizes that humans are just one component of the ecosystem, deserving respect alongside other living beings. Unlike conventional restoration efforts focused on productivity and resource use, this initiative prioritizes spirituality, ecosystem health, and interconnectedness, acknowledging the vital role of Indigenous cosmogony, food systems, knowledge, and spiritual practices in maintaining biodiversity. Biocentrism is deeply embedded in many Indigenous worldviews, shaping their food systems and natural resource management strategies, where restoration is seen not just as an environmental effort but as a way to restore balance between humans and nature.

Through this initiative, FAO and Indigenous organizations seek to restore degraded ecosystems while upholding Indigenous Peoples' knowledge, territorial management practices, and belief systems. The approach is inclusive and rights-based, ensuring that restoration efforts respect Indigenous Peoples' individual, collective, and customary rights. By placing Indigenous knowledge at the center, this initiative supports biodiversity conservation, food sovereignty, and climate resilience, reinforcing Indigenous communities' role as stewards of the land. As a key contribution to the United Nations Decade on Ecosystem Restoration (2021–2030), this initiative not only advances global restoration goals but also amplifies Indigenous leadership in shaping sustainable solutions for the planet.

The project will seek collaboration with the **Latin American Network for Technical Cooperation in National Parks, other Protected Areas, Wild Flora and Fauna (RedParques)**. RedParques is a technical mechanism made up of public and private institutions and specialists from the region's member countries that have been working on the issue of protected areas and wildlife since 1983. Its objective is to progressively increase technological and management capacity, based on the exchange of experiences and knowledge among members, using their own technical, human and financial resources. The project will seek collaboration in the knowledge and management area. Its secretariat is hosted by FAO.

In addition to the initiatives listed above, this project seeks to coordinate the implementation of its activities with other restoration projects being implemented by key partners and stakeholders in Brazilian amazon. Some of these projects also see a contribution from the GEF. The table below synthesizes those projects and the cooperation strategies.

Project/Program or Activity	Responsible Institution	Project Location	Collaboration Strategy
Productive Ecological Restoration: Promoting a Sustainable Landscape in the Amazon	Institute for Conservation and Sustainable Development of the Amazon (IDESAM), Biological Dynamics of Forest Fragments Project (PDBFF/INPA), and the Federal University of Amazonas (UFAM) - within the Living Forest Initiative (FUNBIO)	Manaus – AM Region	Both projects contribute to restoration through the implementation of agroforestry systems. The areas of operation are different, although they are in the same region (metropolitan Manaus), but the projects can exchange experiences and align activities.
Reflora – Ecological Restoration and Implementation of Multifunctional Agroforestry Systems	Instituto de Pesquisas Ecológicas - dentro da Iniciativa Floresta Viva (FUNBIO)	Manaus – AM Region	Both projects contribute to ecological restoration. The areas of operation are different, although they are in the same region (metropolitan Manaus), the projects can exchange experiences and align activities.
Forest for Well-Being	Conservation International (CI-Brazil)	Acre, Amazonas, Mato Grosso, and Pará (Degraded areas in Conservation Units, Indigenous Lands, Permanent Preservation Areas, and Legal Reserve of agrarian reform)	Both projects aim to restore areas and provide training for nurserymen, as well as support business plans. The projects will be in distinct areas, but they can exchange experiences and align activities.

		settlement areas and rural properties of up to four fiscal modules	
Restore the Amazon Initiative	National Bank for Economic and Social Development (BNDES)	Amazon states	The initiative funds restoration projects in different states of the Amazon, and these projects can have various synergistic actions with the present project. The projects can exchange experiences and align activities.
Restore Biomes in Brazil	Ministry of the Environment and Climate Change and Union for Restoration	All biomes of Brazil, including the Amazon	Both projects aim to restore areas, mitigate emissions, and benefit communities, in addition to strengthening the governance structure of the National Native Vegetation Plan (PLANAVEG).

Core Indicators

Indicate expected results in each relevant indicator using methodologies indicated in the GEF-8 Results Measurement Framework Guidelines. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

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)
25774	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)
Cropland	25,374.00			

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)
400.00			

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)
1869230	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)
12,230.00			

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)

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)
High Conservation Value Forest	1,857,000.00			

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 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	10128438	876416	0	0

Expected metric tons of CO ₂ e (indirect)	0	0	0	0
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Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	10,128,438	876,416		
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting	2025	2026		
Duration of accounting	20	20		

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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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	835	835		
Male	834	834		
Total	1669	1669	0	0

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

Core indicator 3 (Area of land and ecosystems under restoration (hectare)): the total area to be restored is 25,774 hectares:

- 400 ha of intensive restoration: 150 ha of natural regeneration through seed dispersal (muvuca); 150 ha of natural regeneration, 70 ha with the implementation of sustainable agroecological management practices, agroforestry systems with meliponiculture and improved management in areas of agricultural use); 10 ha planting; 10 ha enrichment; 10 ha densification.
- 25,374 ha of extensive restoration (1,669 ha - each trained individual will restore at least 1 hectare of his own land); and 23,705 ha of areas where fire practices will be monitored and replaced with non-fire land cleaning practices, allowing for the natural regeneration of the area.

Core indicator 4 (Area of landscapes under improved practices): this is considering the area connected to the ecologically restored areas that the project will impact. The project target is 1,869,230 hectares, consisting of 1,857,000 ha of “other forest loss” avoided (sub indicator 4.4) and 12,230 ha “area of landscapes under improved management” (sub-indicator 4.1) to benefit biodiversity. In the 12,230 ha, biodiversity will be enhanced through a change in land management and use in Central Amazon and Amazon Coast. While for 1,857,000 hectares, activities mainly include passive restoration strategies to be implemented by the project, such as:

- Integrated Fire Management: establishing governance systems, developing strategies, and facilitating shared decision-making to effectively manage and prevent forest fires. This initiative will also include training for communities, the execution of fire management and prevention activities, and the implementation of monitoring and early warning systems. These efforts will take place in the Tefé National Forest, covering an area of 865,000 hectares.
- Integrated Actions and Agreements for Mangrove Use and Conservation, that will implement environmental education activities and public use plans to improve mangrove conservation and reduce degradation in mangrove ecosystems. These activities will be implemented in Sustainable Development Reserves Mestre Lucindo and Mãe Grande Curuçá, reaching 60,000 hectares.
- Conservation and Restoration of Headwaters and Springs and Implementation and Management of Agroforestry Systems. These activities will be implemented in Sustainable Development Reserves Mamirauá and Amanã, and in the Miratu Indigenous Lands. Working together with communities to improve the management of their territories through agroforestry techniques and planning for headwaters and springs conservation, the project will contribute to conserve 932,000 hectares.

Core indicator 6 (Greenhouse Gas Emissions Mitigated, metric ton of CO₂e): the expected result over 20 years, considering 5 years of project implementation and 15 of capitalization, is 876,416 tCO₂-e mitigated in an area of 25,705 ha. The emissions mitigated were calculated using the FAO EX-Act tool.

Specifically, the analysis includes:

- Intensive restoration (active restoration type): Planting, densification, enrichment: Average carbon captured per hectare = 390.89 tCO₂e /ha. 1,999 ha x 390.89 = 781,398 tCO₂e
- Agroforestry: Average carbon captured per hectare: 241.77 tCO₂e/ha. 70 ha x 241.77 = 16,924 tCO₂e
- Passive restoration: rural communities in the project area use fire once a year to clear the land for agricultural practices, resulting in GHG emissions. Fire practices will be monitored and replaced, communities will be trained in sustainable land clearing and management practices, without the use of fire, to avoid future degradation and GHG emissions. Average carbon emissions avoided per hectare = 3,29 tCO₂e/ha. 23,705 ha x 3,29 = 78,094 tCO₂e

Core indicator 11 (People benefiting from GEF-financed investments disaggregated by sex): it is estimated a figure of 1,669 people participating in all proposed activities, including in the training programs, seed collection networks, implementation of Agroforestry systems and other restoration activities, with the participation of at least 50% of women in each.

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	High	Risks: At the country level, observed climate hazards in the present (droughts, floods, and hurricanes) are likely to intensify and gain in frequency into the future under a high-emission scenario. As a result, indigenous communities along the coast and in the central Amazonas are expected to be adversely exposed to increasing extreme weather events. Despite the previous, the proposed project activities need more action to integrate climate-related topics in training among the stakeholders, and to use climate data for climate impact assessment in the forestry sector to diminish the risk. The Amazon Region is also facing severe drought events every year. This scenario can difficult access to communities and delay project activities implementation. Mitigation measures: The project will Include in the project's annual plans, climate analysis that can support decision-making and the schedule for each region, as well as assist in defining logistics. The project activities will integrate climate-related topics in training among the stakeholders and use climate data for climate impact assessment. a) Include climate change topics in community training activities and develop local risk analyses related to this new reality, particularly droughts and floods, and their impacts on wetland ecosystems. b) Within the scope of Component 1, incorporate climate scenarios and adaptation strategies into strategic planning for restoration in the Amazon, ensuring that the plan contributes, on a broader scale, to climate change mitigation and adaptation efforts in the region. c) Within the scope of Component 3, integrate local climate scenarios and dynamics into the development of restoration protocols for the project's target ecosystems. These protocols should be adaptable and adjustable to changing local climatic conditions, developed collaboratively with communities, incorporating their knowledge and experience of the regional reality. d) Include climate impact analysis within the project's monitoring system (Component 3) to assess the effects of climate on the progress of restored areas. This will allow for adjustments in implementation strategies. The monitoring system should be linked to a feedback mechanism, ensuring that practical restoration outcomes from pilot

		sites are incorporated into plans and protocols. e) Develop annual work plans aligned with seasonal climate dynamics to ensure activities take place at the most suitable times, minimizing delays and inefficiencies in project implementation. f) Establish partnerships to raise community awareness of fire-free land management techniques and provide training on fire prevention and control under Components 2 and 3 of the project. g) In implementing restoration activities through agroforestry systems, include species with nutritional/food value and those with economic value. This will enhance communities' adaptive capacity and resilience to climate change, particularly prolonged droughts, while strengthening food security and providing income-generating alternatives. Finally, plan and implement an appropriate exit strategy with communities, ensuring that project beneficiaries have a structured plan to continue managing and maintaining recovering areas, along with their associated ecosystem services, beyond the project's conclusion.
Environmental and Social	Moderate	The FAO Environmental and Social Standards (ESS), retrieved from the Framework for Environmental and Social Management (FESM) triggered by the project (Annex F) are: ESS 1: Biodiversity conservation and sustainable management of natural resources (ESS 1.1, 1.2, 1.3, 1.5) Risk: the project aims to have only positive impacts, enhancing biodiversity conservation and food security by implementing agroforestry systems and restoring degraded areas, particularly within sustainable use conservation areas, to support ecosystem restoration and combat deforestation. The risk is considered to be low. Beyond the positive impacts, the project could also have minimum negative impacts over ecosystems and biodiversity conservation. The project will implement agroforestry activities and work with local communities to develop strategies to strengthen non wood forest products value chains, which includes the management of forest resources, harvesting, processing and commercialization of those products. The Management of those areas, despite the use of agroforestry techniques, can result in minor negative impacts over ecosystem, biodiversity, ecosystem services and land use changes. Furthermore, the project will be implemented in Protected areas. Therefore, those impacts, even if minimal, can lead to a reduction in quality and quantity of ecosystem services in a key area for biodiversity conservation. Finally, there is also the risk, however unlikely, to use exotic species in restoration activities, especially under the agroforestry systems to be implemented Mitigation measures: 1. Include in the lowlands, floodplains and mangrove forest restoration guidelines, the use of native seeds and seedlings of each region. 2. Monitoring of restoration areas, definition of baselines and the observation of progress and impacts on flora and fauna. 3. Engage with the federal or state institutes responsible for the management of the conservation units to ensure their involvement in the design, implementation and monitoring of the project and to avoid possible conflicts between the project, local communities and unit management. 4. The executive boards of the conservation units should be involved to strengthen social participation in the process. 5. To avoid land use change and degradation, the implementation will take into account the history of land use and trends of land use change, avoiding promoting changes that are

not compatible with the sustainable use and conservation of biodiversity and the restoration of ecosystem services. The implementation will take into account national, regional and local government plans and authorities to choose restoration sites that contribute to connectivity enhancement. 6. Small farmers will be trained in sustainable management practices to improve ecosystem services benefits and to conserve biodiversity. 7. The restoration activities implemented by the project will be carried out using locally sourced seeds, collected from mother trees identified in the ecosystems to be restored, ensuring genetic variability to promote both intraspecific and interspecific diversity in the restoration areas. Seed collection activities will follow protocols that ensure the sustainability of the process. To achieve this, project beneficiaries will be trained in proper techniques for seed collection, processing, and storage. Additionally, laboratory tests will be conducted to ensure the genetic diversity of the selected mother trees. Protocols for the sustainable collection of seeds will also be developed.

ESS 2: Resource efficiency and pollution prevention and management (ESS 2.1,2.5) Risk: The project has the potential to positively impact conservation and the integrated management of water resources, as it focuses on the restoration of wetlands, such as floodplain forests and mangroves. It is likely that the project will use fertilizers in restoration areas and agroforestry systems to support seedlings development. As a major risk in this ESS, the use of fertilizers and other inputs for restoration activities can lead to soil and water pollution. There could be the risk of consumption or extraction of water. Mitigation measures: 1. The project will avoid using chemical fertilizers/pesticides in its restoration activities. 2. If the use of fertilizers is necessary, the project will use natural/ organic fertilizers, based on agroecological management practices. 3. The project will Include in the restoration protocols to be developed by the project, agroecological management practices, to prevent the use of chemical fertilizers and encourages the use of natural/ organic fertilizers. 4. Regarding the use of water, the project will consider the rainfall regime and irrigation systems will be planned according to the availability of water.

ESS 3: Climate change and disaster risk reduction Risk: the project has the potential to bring positive impacts on climate change locally, as its objective is the restoration of degraded wetland areas and terra firme forests, as well as the implementation of agroforestry systems. The project's actions will contribute to climate change mitigation and adaptation in the Brazilian Amazon, supporting carbon sequestration and retention, and increasing the resilience and adaptive capacity of beneficiary communities and their agri-food systems. Mitigation measures: The project will integrate climate change considerations into community training, risk analyses, and restoration planning, incorporating climate scenarios and adaptation strategies across key components. It will develop flexible restoration protocols, include climate impact assessments in monitoring systems, align work plans with seasonal dynamics, and promote fire-free land management. Agroforestry systems will feature species that enhance food security and economic resilience. A structured exit strategy will ensure long-term sustainability of restored areas and ecosystem services.

ESS

4: Decent Work (ESS 4.1, 4.4) Risk: The project will improve working conditions, particularly for women and youth, by providing training, supporting NWFP value chains, and creating employment opportunities in restoration. However, on-the-ground activities in remote areas, including nursery construction, pose occupational safety risks, which will be mitigated through specific measures. While the project enhances food security, ensuring equitable community participation in activities remains a key challenge. Once the project will work with activities on the ground in remote places, and with the construction of seedling nurseries, these activities could lead to risks and threats to workers and communities involved. Also, there's the risk that some of the local stakeholders that provide essential services for the project do not comply with national legislation and international agreements regarding decent work and labor rights. Mitigation measures: The project will ensure compliance with labor laws and safety standards, develop safeguard protocols for remote work, and establish a safety framework for collective activities. A secure grievance mechanism will protect anonymity, while training sessions will emphasize food security and income generation. Protective equipment will be provided, and training on safe labor practices will be conducted. Additionally, a participant selection system will promote equitable community involvement, prioritizing gender and age inclusion. The project will comply with national legislation and international agreements regarding workers' rights to ensure and promote decent work and workplace safety for all involved. 2. Safeguard protocols and Measures will be developed and implemented to guarantee the security of project workers and beneficiaries, considering that activities will take place in remote areas, most of which lack worker protection systems. 3. A safety protocol will be established for collectively developed activities. 4. A secure channel will be implemented within the Complaints and Grievance Mechanism, allowing project workers to submit complaints while ensuring anonymity. Complaints will be processed and addressed following the procedures defined in the project's Complaints and Grievance Mechanism. 5. The project will provide Individual Protection Equipment for workers and beneficiaries to avoid and reduce the risks of accidents in rural areas. 6. The project will train staff and beneficiaries in good practices to promote safety in labor. ESS 5: Community health, safety and security (ESS5.3) Risk: The project will positively impact rural livelihoods by restoring degraded wetlands, improving ecosystem services, and reducing disease risks linked to environmental imbalances. While the establishment of seedling nurseries and use of small agricultural machinery poses low safety risks. Due to the local condition of project sites, that are in remote areas, with little infrastructure, and due to the activities to be developed by the project in forested areas, there are some minor risks to community safety and health. Considering that security risks in the project areas include gender-based violence, theft, and violence among community members, as well as conflicts with neighboring communities, it is necessary to take preventive measures. The Project will develop or change infrastructure by implementing seedling nurseries in selected areas. This activity presents low risks of major injuries for workers

during construction or operationalization. Agricultural machinery could also be provided for rural farmers, but it will mainly be small machinery that poses minor threats for the community and producers' safety. Mitigation measures: The project will collaborate with communities to develop restoration solutions that support livelihoods, enhance income through NWFP value chains, and improve food security via agroforestry systems with nutritious species. Safety measures will be ensured for field activities and nursery construction, including protective equipment, training, and the use of low-risk materials, ensuring workers and community safety during construction and operations. ESS 6: Gender equality and prevention of gender-based violence (GBV) (ESS 6.1, 6.3) Risk: There is a possibility of episodes of discrimination or exclusion based on gender, considering a greater availability for male participation in activities than for women. Machismo and alcohol consumption could lead to some form of violence or exposure of women, resulting from abusive behaviors by men, such as aggressiveness, jealousy, and abuse of authority. Additionally, income-generating activities may cause conflicts between men and women. Women may be involved in family activities or other commitments and may not effectively participate in certain spaces or simply may not express themselves due to insecurity or lack of autonomy. This could lead to Low engagement and participation of women in the activities and reduced representation in the project's actions, therefore compromising the diversity goals set. Mitigation measures: The project will seek to integrate women in all project activities, promoting safe spaces for women participation. The project will also promote activities focused on women, such as training sessions and discussions on gender inequalities, training sessions aimed at women for income generation. Whenever possible, the project will give preference to hiring women from local stakeholders, especially from local communities to implement project activities. Finally, the project will Strengthen women's collectives with meetings targeted at this audience to highlight and reinforce the importance of female participation. 1. Offer gender-awareness training for interested communities. 2. Develop community-specific strategies to ensure the inclusion of women in decision-making and project activities, respecting their interests and preferences. 3. The implementation will seek to offer equal participation opportunities for man and woman. Aware that woman empowerment might increase gender-based violence, the gender action plan includes sensibilization actions to prevent and combat it. 4. Establish gender-sensitive indicators to assess whether project interventions achieve the intended impacts and to monitor any unintended positive or negative effects on gender participation. 5. Implement actions described in the Gender Action Plan (Annex K of Project Document to address gender inequalities and positively affect women.) ESS 7: land tenure, displacement and resettlement (ESS 7.1, 7.3) Risk: The project will implement restoration activities in areas where local communities and indigenous peoples reside. The use of areas under restoration will be restricted to activities previously agreed with communities, potentially leading to losses in terms of access to natural resources. The project will build seedling nurseries and implement restoration activities in degraded areas. Nonetheless, neither of

these activities will displace the communities from their territory, temporarily or permanently. The project activities will neither reduce nor impede the access of the communities to natural resources or sites that are essential for their livelihoods. Mitigation measures: The project will engage at an early stage and collaboratively select restoration areas and agroforestry sites with local communities and indigenous peoples, focusing on degraded, low-productivity lands to enhance their benefits through ecological restoration. Seedling nursery locations will be chosen in agreement with communities and relevant authorities, ensuring they do not displace families or restrict access to natural resources. ESS 8: Indigenous Peoples (ESS 8.1, 8.2, 8.4) Risks: the project will implement activities in one indigenous peoples' territory and with local communities and indigenous peoples in general. Three risks may occur: 1. Low participation and lack of representation – Indigenous and traditional community representatives may be underrepresented in governance and decision-making spaces, both at a strategic level (such as in the development of plans and protocols) and in the daily implementation of project activities. 2. Exclusion or misuse of traditional knowledge – There is a risk that the communities' traditional knowledge related to ecosystems, biodiversity, and agro-extractive practices, techniques, and technologies may be disregarded, unrecognized, or improperly utilized. The project will implement restoration activities in areas occupied by communities. The use of areas under restoration will be restricted to activities previously agreed with communities, potentially leading to losses in terms of access to natural resources. Mitigation measures: the project adopt inclusive strategies that recognize and integrate Indigenous and traditional communities in governance structures, decision-making processes, and all stages of implementation while ensuring respect for their rights to land, territory, natural resources, and cultural heritage. To mitigate the identified risks, the project will implement the following measures: (a) Continuous FPIC Processes: Whenever necessary—such as in cases of activity scope changes, inclusion of new communities, or upon community request—the FPIC process will be conducted using the best available techniques and tools to ensure meaningful participation of both Indigenous men and women. (b) Participatory Planning: At the start of project implementation, new rounds of consultations will be conducted with Indigenous peoples and communities to collaboratively develop the project's work plan. (c) Community Representation in Decision-Making: Representatives from the communities will be included in key strategic planning and decision-making spaces established by the project, such as the scientific-technical panel, strategic planning development, and restoration protocols for key ecosystems. (d) Advisory Council for Community Engagement: The project will establish a consultative council with broad community representation to ensure that the project aligns with the aspirations and needs of these communities. This council will actively participate in decision-making processes regarding project implementation. (e) Integration of Traditional Knowledge: Traditional knowledge will be incorporated into strategic planning documents, including the Amazon restoration strategy and ecosystem restoration protocols.

		Appropriate consultation mechanisms will be used to ensure that traditional knowledge is properly included. The project will comply with international agreements and national legislation on traditional knowledge rights, including ensuring fair and equitable benefit-sharing from the use of such knowledge. Accessible Communication of Project Benefits: The project will promote broad and accessible communication about the benefits generated by interventions, ensuring that all involved communities can fully (g) Accessible Communication of Project Benefits: The project will promote broad and accessible communication about the benefits generated by interventions, ensuring that all involved communities can fully understand and engage with the outcomes.
Political and Governance	Low	Risks: During the government transition period, there may be some disruption in the partnerships established with public entities due to changes in administration and, in many cases, changes in the upper ranks of government, whether in State Secretariats or Ministries. Mitigation measures: The Project will Develop partnership agreements/technical cooperation agreements and ensure their signing by political representatives before the project implementation phase. This will serve as a tool to guarantee the continuity of agreements with the next administration, whether at the state or federal level. Additionally, establish a Project Committee agenda to monitor this situation, create the necessary dialogue channels with the new government administration, and identify key interlocutors within the new management.

INNOVATION

Institutional and Policy	Moderate	Risk: 1. The project aims at introducing innovative and sustainable land management plans. Resistance from stakeholders unfamiliar with these tools or delays in embedding project outputs into national and local policies could hinder adoption. 2. Insufficient interinstitutional coordination for restoration in Amazon can hinder the elaboration, implementation and adoption of strategic plans for restoration by major stakeholders and the implementation and functioning of the technical scientific panel, as well as the adoption and scalability of the strategies developed by the panel, under component 1. 3. Difficult market access and lack of knowledge can hinder the development and financial sustainability of the seed networks implemented by the project in partnerships with local communities and associations. Mitigation measures: 1. the project will engage all relevant stakeholders early, ensuring buy-in through participatory design processes. Pilot testing in select regions or institutions will help identify and address barriers before national rollout, supported by periodic policy reviews to adapt to institutional changes. The interdisciplinary panel addresses possible institutional and policies risks. 2. The project will take advantage of existing inter-institutional mechanisms and coordination, such as the Amazon Restoration Network, and support their expansion and improvement of functioning as a strategy to ensure effective inter-institutional coordination that can contribute to increasing the project's impact through articulations and synergies and to the project's future sustainability. Stakeholders from all sectors will be involved in these coordination panels,
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		including indigenous and local communities. 3. The project will seek to establish partnerships with “Redario” initiative, a network that supports the development of local seed networks and manage a platform that links seed suppliers with seed buyers to guarantee continuous financial flows for the associated networks. Two exchanges are planned in the project work plan with seed networks associated with “Redario”.
Technological	Moderate	Risk: the technical-scientific knowledge on ecosystem restoration for some ecosystems, such as floodplains, is still insufficient, which may lead to delays or inefficiencies in the implementation of specific actions and in project monitoring. Mitigation measures: the project will establish exchanges of experiences and strategic partnerships to support the technical foundation of the project, which is currently being organized, as well as the team's participation in training sessions. Additionally, specialists in specific areas should be hired through the project to provide the necessary technical support.
Financial and Business Model	High	Risks: The financial model developed may present some inconsistencies due to the lack of knowledge about logistics costs for new areas of operation. Additionally, the project budget may be affected by other risks, such as needs not yet identified by some partners, potential political instability (e.g., elections), or even adverse weather conditions. Unforeseen logistics costs may compromise the execution of some project activities or require adaptations throughout the project implementation. Possible exchange rate fluctuations, high inflation, and economic changes may cause instability and compromise the project's execution. The agreed-upon amount may be insufficient to carry out all activities and, consequently, to achieve the proposed goals. Mitigation measures: The project will monitor closely the financial operations, the costs of activities and the execution progress of the workplan. Every six months the project will assess the status of the activities execution and propose necessary adjustments to optimize the use of the resources for achieving project goals. These adjustments will be integrated in the next annual workplan to be approved by the PSC. The project will Closely monitor exchange rate fluctuations (USD) and news about market conditions in Brazil, adjusting the implementation and delivery of activities whenever possible, in agreement with FAO, to mitigate potential impacts on the agreed-upon goals.

EXECUTION

Capacity	Moderate	Risks: 1. Insufficient Infrastructure: Many project areas lack adequate infrastructure, making implementation challenging. New operational areas are still being assessed for logistical needs. 2. Logistical Challenges: Difficulties in purchasing supplies, hiring specialized services, and limited internet access may lead to delays in project activities. 3. Lack of a Monitoring System: The Mamirauá Institute does not have a proper system in place to track project progress and results. 4. Gaps in Project Management and Technical Expertise: The institute is still consolidating a project office and lacks all the necessary technical expertise to implement activities. Mitigation Measures: 1. Infrastructure Planning: Mapping logistical needs to adapt activities to the available conditions, including improving communication infrastructure. 2.
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		Supplier and Logistics Planning: Identifying suppliers and leveraging Mamirauá's field bases, which have communication tools and scientific labs, to support field activities. 3. Development of a Monitoring System: Establishing a methodology with indicators, data collection methods, and training processes before project implementation. 4. Strengthening Project Management and Expertise: Expanding the project management office, hiring qualified personnel, and forming partnerships with universities, NGOs, and other stakeholders to fill technical gaps.
Fiduciary	Low	Risks: The operational partner has some deficiencies related to instruments and processes for project management and implementation, such as, lack of adequate and monitoring system, inadequate policies, procedures, and tools to develop new programs and lack of cost allocation methodology can limit the impact of donor funds. Mitigation Measures: The OP is already implementing actions to mitigate those risks and will continuously develop those instruments and processes for project management and implementation with FAO support. The mitigation measures that are being implemented are: Development of a Monitoring and evaluation system to assess the overall impact of this project and other projects implemented by the OP that are synergistic and will cofinance this project; Development of a Project Management office in the OP structure planning, implementation, control, monitoring, recording processes, hiring qualified professionals to implement those processes and tasks.
Stakeholder	Moderate	Risks: Some partnerships established for the implementation of this project are recent, and agreements are still being formalized, with some partners not yet having a deep understanding of the Mamirauá Institute. This situation may lead to the dissemination of information that does not align with the project's framework, making communication with other partners more difficult. Another important point is that some partners still do not have complete information about the project and its management model, which, in the short term, may create doubts and weaken support for the project. Additionally, for some partners, there is a need to strengthen coordination. Low engagement from some partners and difficulty in accessing certain communities, which already have and trust their current partners. This may lead to delays in starting project activities in some areas. Furthermore, there is the risk of weak involvement and lack of commitment/participation of project beneficiaries and partners, including local communities. There could be resistance from some stakeholders to adapting to best practices and adopting sustainable practices; vulnerable groups could face disproportionate challenges in adapting to new practices; and the complexity of coordinating interventions across diverse stakeholders and ensuring compliance with sustainable practices can pose operational challenges. There could be conflicts between stakeholders on decision making about better strategies, practices and/or sites to implement restoration and natural resources management activities. Mitigation measures: The Mamirauá Institute already has long-established partnerships, which facilitates project support. Furthermore, several institutions and beneficiary communities have already been engaged during this project development

		phase. Additionally, the Mamirauá Institute has established procedures to maintain dialogue with partners, including an annual meeting to assess project implementation. Governance instruments and formalized procedures are also being developed. The project will Establish a systematic strategy for engagement and communication with strategic partners, aiming to build trust for the project's implementation by actively involving them. In the initial phase of the project, conduct a cycle of visits to interested communities to establish a work plan for the implementation of project activities. Develop governance instruments for the different project arrangements and formalized procedures to maintain interaction with partners. Additionally, for sustainable use conservation units, present the project to and secure the support of each unit's Deliberative Council, with the goal of facilitating the continuity of project actions during leadership transitions in each community. The project will develop a communication plan as a strategy to implement the stakeholder's engagement plan, to communicate and involve the project activities and objectives, maintaining the partners and beneficiaries continuously engaged in project activities. The project governance structure will also have forums for the participation of stakeholders and beneficiaries, to inform and engage partners in planning and decision-making. Finally, the project will develop workplans and agreements with each association/community involved, establishing commitments for project execution on the field. The project will offer technical assistance for producers and communities, as well as training sessions to foster the use of the best practices on restoration and management of natural resources. Involve relevant stakeholders, such as the executive boards of the conservation units and communities' representation, in the design, implementation and monitoring of the project to prevent conflict and strengthen social participation. The decision-making forums will develop strategies based on conflict management for better addressing different interests and needs.
Other	Low	Corruption and Fraud: Risk: There is a very low risk in the project that could lead to processes involving conflicts of interest or nepotism, through actions from the initiative with stakeholders who may have political or personal interests in benefiting from the project in ways other than expected. If such a situation occurs, it could harm or weaken the participation of individuals and groups who are truly committed to the project and dedicated to achieving the expected results. Mitigation measures: The Mamirauá Institute conducts an annual audit of all processes, in addition to internal regulations that guide institutional procedures, which are anti-corruption and do not allow processes that favor conflicts of interest or nepotism. The presentation of annual management reports ensures transparency when presenting information related to the execution of technical and financial activities. Besides that, FAO will also promote independent audits and evaluation on progress reports and spot checks to evaluate the OPA agreement progress.

Overall Risk Rating	Moderate	Overall risk rating is Moderate following the FAO Framework for Environmental and Social Management (FESM). Please refer to Annex F, the Environmental and Social Management Plan (ESMP) for complete analysis.
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C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Explain 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.

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.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this. (max. 500 words, approximately 1 page)

The project is aligned with the GEF-8 Biodiversity and Climate Change focal areas as follows:

Biodiversity Focal Area. The project is directly aligned with objective 1 of the Biodiversity Focal area which is “to improve conservation, sustainable use, and restoration of natural ecosystems”. Component 1, 2 and 3 will be implemented in highly-significant biodiversity areas (Amazon and coastal areas), aimed at promoting the three sub-objectives of BD FA (i.e. conservation of forests and wetlands; sustainable management of agricultural areas in or around degraded forests and wetlands, and restoration of varzeas, lowland forests and mangroves).

Climate Change Focal Area. The planned actions will contribute directly to objective 1.4. of Pillar I of the GEF-8 Climate Change focal area, which is to “Promote Nature-Based Solutions with high mitigation potential”. Components 1, 2 and 3 will contribute to the reduction of GHG emissions through both avoidance of further carbon emissions from degraded and lost forests, and carbon sequestration through enhancement of forest areas and soil organic carbon (i.e. restoration).

Alignment with national policies

The project is aligned with the National Policy for the Recovery of Native Vegetation (PROVEG), through Decree No. 8.972, of January 23rd, 2017. PROVEG aims to articulate, integrate and promote policies, programs and actions for the recovery of forests and other types of native vegetation. It also aims to boost the environmental regularization of rural properties in Brazil, pursuant to Law No. 12,651, of May 25th, 2012. PROVEG’s main implementation instrument is the National Plan for Native Vegetation Recovery (Planaveg), launched through Inter-ministerial Ordinance No. 230, of November 14th, 2017. PLANAVEG’s goal is to expand and strengthen public policies, financial incentives, markets, good agricultural practices and other 11/24/2023 Page 42 of 55 measures necessary for the recovery of native vegetation of at least 12 million hectares by 2030, especially in permanent preservation areas (APP) and Legal Reserve (RL), but also in areas degraded with low productivity.

The project is aligned with the Strategy and National Action Plans for Biodiversity (NBSAP), which has the objective of protecting biodiversity and natural ecosystems of Brazil. The main objective of NBSAP is “the promotion, in an integrated form, of conservation of biodiversity a sustainable utilization of its components, with fair and equitable partition of benefits derived from the utilization of genetic resources, of components of the genetic patrimony and of traditional knowledge associated with these resources”. For this purpose, the NBSAP is structured in components (thematic axes) that orient its implementation. This proposal is aligned with four thematic axes: Conservation of biodiversity; Sustainable utilization of biodiversity components; Access to genetic resources and associated traditional knowledge, and equitable partition of benefits; Education, public awareness, information and communication about biodiversity, Legal and institutional strengthening for management of biodiversity. Transversely it also touches on two other axes: Knowledge of biodiversity; and Monitoring, evaluation, prevention, and mitigation of impacts on biodiversity. The development of management protocols, foreseen in this project, meets the specific goals of NBSAP. The NBSAP Action Plan foresees that government collegiate bodies and organized civil society will be involved in the formulation and execution of training plans and Community Protocols and in the training of multipliers on the theme. Community Protocols are documents generated from participatory processes of discussion and deliberation, where a set of community rules regarding the use and management of territories, rules regarding the exploitation of their natural resources and safeguarding traditional knowledge are defined and agreed upon by the residents of the communities involved.

Executing agency: MSTI is a member of the International Union for Conservation of Nature (IUCN) and all actions taken are in line with the IUCN mission, seeking to influence, encourage and assist societies for nature conservation, and to ensure that all use of natural resources is equitable and ecologically sustainable.

The project is also aligned with the United Nations Sustainable Development Goals (SDGs) 2, 6, 13, 14, 15. This project is also aligned with the UN Decade on Ecosystem Restoration 2021-2030, the Ramsar Convention on Wetlands.

The project aligns with several Goals and Targets of the **Kunming-Montreal Global Biodiversity Framework (GBF)**: Goal A- Ecosystem Integrity and Connectivity, contributes to ensuring that ecosystems are restored, resilient, and effectively conserved, specifically the focus on wetlands, estuaries, riverine forests, and mangroves supports global ecosystem integrity; Goal B – Nature’s Contributions to People- The integration of restoration activities with value chains highlights how nature-based solutions (NbS) can generate multiple benefits, including livelihoods, climate resilience, and biodiversity conservation, and; Goal D – Resource Mobilization and Enabling Conditions- The project will support the establishment of an enabling environment for restoration activities, which aligns with the need for policy and financial mechanisms to facilitate ecosystem restoration. Specifically, the project is aligned with the GBF targets 1,2,3,10 and 22.

The project is also in line with the decree, launched on 05 June 2024 that establishes Brazil’s national bioeconomy strategy with the objective to coordinate and implement public policies with respect to the development of bioeconomy. The decree defines bioeconomy as the productive and economic development model based on values of justice, ethics and inclusion, able to generate products, processes and services through the sustainable use, regeneration and conservation of biodiversity, guided by scientific and traditional knowledge and with a view to add value, the generation of jobs and income, sustainability and climate stability. Objectives of the strategy include the promotion of national and regional development based on biological resources; the promotion of forestry. and socio-biodiversity; strengthening of competitiveness; and the development of ecosystems of innovation, among others^{73 74}

Alignment to FAO Strategic framework, SDGs and Country Programming Framework

The project is aligned with several Programme Priority Areas of FAO’s Strategic Framework 2022-31, in particular the Better Environment. The Better Environment objective 1 focus on Transformation and resilience of agri-food systems to achieve sustainability through the establishment and implementation of climate-smart agricultural practices, policies and programmes. All components of the project will adopt an approach that considers the transformation of productive systems (forestry or non-forestry) into climate-smart agricultural practices, following the best and most resilient agricultural techniques, with a particular focus on agroecological and agroforestry practices and nature bases solutions.

The Better Environment objective 2, in this context, aligned with SDGs 12.2 (achieve the sustainable management and efficient use of natural resources), while Better Environment objective 3 is aligned with SDG 2.5 (maintain the genetic diversity of seeds), 15.1 (ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems) and 15.6 (ensure fair and equitable sharing of benefits arising from the utilization of genetic resources. The project will work closely with communities in Components 2 and 3, aiming to co-develop and implement actions that best align with the needs, opportunities, and aspirations of local populations. This will be done from the perspective of promoting a bioeconomy based on social empowerment, innovation, and the strengthening of social organizations.

Better Production objective 1 – “Innovation for sustainable agriculture production” and 4 – “Small-scale producers’ equitable access to resources as the project supports business opportunities for small scale and vulnerable producers and as it seeks to increase access of farmers and communities to markets, services and value chain information. In addition, the project is also aligned with the Better Environment objectives 2 – “Bioeconomy for Sustainable Food and Agriculture” and 3 – “Biodiversity and Ecosystem Services for food and Agriculture”. The project will support local communities in adopting or strengthening their Agroforestry Systems and production systems linked to the ecological restoration approach. The strategy of developing or strengthening value chains

associated with non-wood products will be implemented through community training, evaluation, and support to facilitate their integration into new markets

In this context, the Better Production objective 1 is in turn aligned with SDGs 2.3 (Double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers), 2.4 (Ensure sustainable food production systems and implement resilient agricultural practices), and 15.2 (sustainable management of all types of forests, halt deforestation, restore degraded forests and increase afforestation and reforestation). The Better Production objective 4 is also aligned with SDGs 2.3 and 2.4, as well as to SDG 9.3 (increase the access of small-scale industrial and other enterprises to financial services and their integration into value chains and markets).

In the national context, the project is aligned with the FAO's Country Programming Framework for Brazil (period 2024 – 2027) mainly in the Axis 3 – Environment and Climate Change, that will directly contribute to environmental preservation, restoration, pollution reduction, and sustainable production. The project will contribute to achieving the targets of the Output 1.2.1 – Institutional Capacity for Socio-Biodiversity Products and Productive Inclusion. The project will contribute by ensuring that restored ecosystems provide sustainable economic benefits, such as community-based mangrove restoration with sustainable seafood harvesting or wetland restoration. The project also will support Output 3.2.1 – Strengthening Governance of Sustainable Value Chains in the actions foreseen in the project's component 2.

The project is also aligned with the Axis 1 (Social development and rights assurance) and Axis 2 (Economic development and socio-environmental and climate sustainability) mainly in the output 1.2.1. "Federal, municipal, and state governments, civil society, and other stakeholders have enhanced institutional and technical capacities for the shared management of natural resources, promotion of socio-biodiversity products, and productive inclusion, the promotion and access to agroecological products markets of rural, forest, and water populations, especially quilombola communities, indigenous peoples, traditional communities".

Lessons learned from past projects

Based on past experiences with GEF projects in Brazil, FAO has reflected on the lessons learned and its expertise in implementing and monitoring projects of this nature.

In ecological restoration projects, which always present significant challenges (technical, financial, political, social, and environmental), FAO has sought to establish a direct link with public policies and foster strategic partnerships.

In the case of other GEF-funded restoration and forest management projects in Brazil, we observed that the early involvement of communities—from the definition of methodologies, selection of areas, and choice of techniques and species used, to the monitoring of actions—made a crucial difference. This approach ensured post-project continuity, strengthened the role of traditional and local communities, and, most importantly, enabled the scaling up and continuation of restoration efforts even after GEF funding ended.

Another key aspect is the selection of the Operational Partner, which, in addition to requiring technical and operational knowledge, must be able to navigate the challenges of the territory and be recognized by local populations and strategic actors as a trusted entity that ensures the fulfillment of agreements.

The GEF-7 Project, developed in partnership with the Mamirauá Institute for Sustainable Development, is a strong example of how an institution with a long-standing presence in the territory, a solid reputation, strong mobilization capacity, and technical expertise can positively impact the execution of activities.

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment

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

Yes

1) Does the project expect to include any gender-responsive-measures to address gender gaps or promote gender equality and women's empowerment?

Yes

If the project expects to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment, please indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision-making; and/or

Yes

Generating socio-economic benefits or services for women.

Yes

2) Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

Stakeholder Engagement

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

Select what role civil society will play in the Project

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier; Yes

Member of project steering committee or equivalent decision-making body ;

Executor or co-executor; Yes

Other (Please explain)

Private Sector

Will there be private sector engagement in the project?

Yes

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

Yes

Environmental and Social Safeguards

We confirm that we have provided information regarding Environmental and Social risks associated with the proposed project or program, including risk screenings/ assessments and, if applicable, management plans or other measures to address identified risks and impacts (this information should be presented in Annex E).

Yes

Please provide overall Project/Program Risk Classification

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	Medium/Moderate		
	Medium/Moderate		

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described during Project Preparation in the Project Description and that these activities have been budgeted and an anticipated timeline for delivery of relevant outputs has been provided.

Yes

Socio-economic Benefits

We confirm that the project design has considered socio-economic benefits to be delivered by the project and these have been clearly described in the Project Description and will be monitored and reported on during project implementation (at MTR and TER).

The project seeks to integrate forest restoration with the livelihoods strategies of local communities and farmers and make the sustainable exploitation of forest resources economically viable through support for the strengthening of the restoration and of non-wood forest products value chains. The theory of change of this project but also of bioeconomy policy and models under development is that this creates significant incentives for the restoration of degraded lands, the implementation of agroforestry models and the sustainable use of natural resources provided by the standing forest and, hence, becomes an important ingredient

in strategies to combat the conversion of forests into arable land or pastures, often with much lower economic returns per hectare.

Although the project is expected to deliver these benefits at the local level in the conservation units included in its activities, the assumptions on which the project is based have application at the national level and certainly also at the level of the entire Amazon basin. Colombia, for example included bioeconomy, natural ecosystems, sustainable territory in its national development plan as one of five development strategies, with the objective “to promote sustainable territorial development through knowledge, conservation and use of biodiversity and its goods and ecosystem services, considering research and innovation ecosystems as instruments and as an institutional strategic program, innovation and transparency for institutional transformation focused on social and regional convergence”⁷⁷. Ecuador prepared a white book on bioeconomy⁷⁸ which defines bioeconomy as “the production of goods and services based on the sustainable use of biological resources and their derivatives, including ecosystem services”⁷⁹ while Brazil launched in 2024 its national bioeconomy strategy with the objective to coordinate and implement public policies with respect to the development of bioeconomy, defined as productive and economic development model based on values of justice, ethics and inclusion, able to generate products, processes and services through the sustainable use, regeneration and conservation of biodiversity, guided by scientific and traditional knowledge and with a view to add value, the generation of jobs and income, sustainability and climate stability^{80 81}.

Project activities are aligned with FAO policies on decent employment in forestry, in particular with the goals of “increasing opportunities for entrepreneurship and employment in forestry while avoiding deforestation and forest degradation” and “increasing social dialogue and representation through effective and strong cooperatives, producers’ organizations and forestry workers’ unions”⁸².

The strengthening of restoration value chain has the potential to promote employment and decent work for rural people, especially for young people and women. The project will work closely local communities and MSMEs to guarantee good work conditions in all activities related to the project. In this sense the project will contribute to Decent Rural Employment (DRE) as supported by FAO, as follows:

Employment creation and enterprise development Local communities trained in restoration value chain activities, such as seed and seedling production, biodiversity assessment and monitoring. The project will also support the development of seed collection networks and seedling nurseries, articulating with partners to support access to new market. The project will also support local MSMEs in accessing innovative markets in NWFP value chains, increasing income generation, and decent rural employment.

Social protection: occupational safety and health measures for the rural workforce adopted by promoting safer technology for restoration and NWFP production; working conditions improved in rural areas, including effective maternity protection and living wages in agriculture.

Standards and rights at work: Socially responsible value chains supported, specifically to reduce gender and age based discrimination; Child labor prevention and reduction in rural areas supported by tackling its root causes (poverty, lack of education) and providing livelihood alternatives to poor households; The project will guarantee compliance with national labor legislation promoted in rural areas.

Governance and Social Dialogue: Countries supported in strengthening democratic organizations and networks of producers and workers, particularly in the restoration and NWFP value chains; Representation of the rural poor in social dialogue and policy dialogue through their organizations supported; Participation of rural poor in local decision-making and governance mechanisms supported; Rural women and youth groups empowered to be involved in these process from the initial steps; Synergies built between organizations, projects, and producer-to-producer learning opportunities created.

ANNEX A: FINANCING TABLES

GEF Financing Table

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 (\$)
FAO	GET	Brazil	Climate Change	CC STAR Allocation: CCM- 1-4	Grant	1,500,000.00	142,500.00	1,642,500.00
FAO	GET	Brazil	Biodiversity	BD STAR Allocation: BD-1	Grant	3,500,000.00	332,500.00	3,832,500.00
Total GEF Resources (\$)						5,000,000.00	475,000.00	5,475,000.00

Project Preparation Grant (PPG)

Was a Project Preparation Grant requested?

true

PPG Amount (\$)

150000

PPG Agency Fee (\$)

14250

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
FAO	GET	Brazil	Biodiversity	BD STAR Allocation: BD-1	100,000.00	9,500.00	109,500.00
FAO	GET	Brazil	Climate Change	CC STAR Allocation: CCM-1-4	50,000.00	4,750.00	54,750.00
Total PPG Amount (\$)					150,000.00	14,250.00	164,250.00

Please provide Justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/	Focal Area	Sources of Funds	Total(\$)
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		Regional/ Global			
FAO	GET	Brazil	Biodiversity	BD STAR Allocation	3,942,000.00
FAO	GET	Brazil	Climate Change	CC STAR Allocation	1,697,250.00
Total GEF Resources					5,639,250.00

Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CCM-1-4	GET	1,500,000.00	14738196
BD-1-3	GET	3,500,000.00	34389124
Total Project Cost		5,000,000.00	49,127,320.00

Confirmed Co-financing for the project, by name and type

Please include evidence for each co-financing source for this project in the tab of the portal

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Instituto de Desenvolvimento Sustentável Mamirauá	In-kind	Recurrent expenditures	19365622
Recipient Country Government	Universidade Federal do Amazonas	In-kind	Recurrent expenditures	261698
GEF Agency	FAO	Grant	Investment mobilized	500000
Recipient Country Government	Ministry of Science, Technology and Innovation -MCTI	In-kind	Recurrent expenditures	29000000
Total Co-financing				49,127,320.00

Please describe the investment mobilized portion of the co-financing

The FAO co-financing of 500,000 USD in the form of grant will be through the following:

The AIM4Forests 2025 work plan for Brazil includes a wide range of activities that tackle key technical and institutional gaps in the national forest monitoring system while supporting innovative additional features. FAO's technical assistance is expected to contribute to the following main aspects:

Improvement of the national forest inventory, by supporting the update of NFI's methodology in a critical moment when Brazil is preparing to launch the second cycle of data collection;

Improvement of REDD+ MRV processes, by providing technical options for bottlenecks mostly related to forest degradation, uncertainties assessments and nesting;

Scaling up the implementation and monitoring of ecosystem restoration, by supporting the design of the monitoring methodologies and a national scale pilot initiative on indigenous land restoration.

The AIM4Forests Programme is all about leveraging technical innovation to create data and information to inform the right courses of action to reduce deforestation and restore forests. AIM4Forests will leverage everything that technology and innovation offers such as artificial intelligence (AI) and machine learning. In addition, it will also make sure that the capacity is transferred to countries, including IPs and local communities who manage the forests – only that way can we see real change

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Date	Project Contact Person	Phone	Email
Project Coordinator	3/18/2025	Valeria Gonzalez- Riggio		valeria.gonzalezriggio@fao.org

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

Please attach the Operational Focal Point endorsement letter(s) with this template.

Name of GEF OFP	Position	Ministry	Date (MM/DD/YYYY)
Livia Farias Ferreira de Oliveira	General Coordinator for Sustainable Finance	Minister of Finance	11/14/2023

ANNEX C: PROJECT RESULTS FRAMEWORK

Please indicate the page number in the Project Document where the project results and M&E frameworks can be found. Please also paste below the Project Results Framework from the Agency document.

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Project Objective and indicators targets:							
Component 1: Improving the enabling environment for ecosystem restoration							
<u>Outcome 1.1:</u> <i>Integrated landscape management approach agreed upon and adopted by main stakeholders</i>	Core indicator 4 <i>Areas of Landscapes under improved practices.</i> 1.8 million hectares	None	Plans/protocols drafted for restoration in target ecosystems, covering 900 thousand	Plans/protocol for restoration in target ecosystems validated by major stakeholders,	Project Monitoring reports Integrated Landscape management	All interested stakeholders are committed to pursuing common objectives to restore ecosystems	Project monitoring team

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
				lowland forest site			
<u>Output.1.1.1.</u> <i>A Strategic plan for the restoration of selected wetlands and lowland forest ecosystems in the Amazon</i>	Strategic Plan published and validated by Technical Scientific Panel, Pará and Amazonas state governments	0	Draft version of the plan elaborated, covering 1.8 million hectares in Amazonas and Pará States	Strategic Plan for Restoration of Amazon Wetlands and Lowlands developed and validated, covering 1.8 million hectares. ...	(i) Strategic Plan document validated by Technical Scientific Panel (ii) Minutes from Scientific Panel validating the Plan. (iii) Amazonas and Pará state letters validating the Plan	The recommendations and strategies defined in the strategic plan under the guidance of the restoration panel will be adopted by the main stakeholders.	Project executing agency, through the M&E plan (ii) Partner institutions that operate within the scope of component 1
<u>Output 1.1.2</u> <i>Report on the state of the art of wetlands/ lowland ecosystem restoration</i>		Lack of information on the state of the wetlands and lowland ecosystem restoration	1 report elaborated	1 report elaborated		The report is used by the Interdisciplinary panel to develop the strategic plan	Project executing agency, through the M&E plan (ii) Partner institutions that operate within the scope of

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
							component 1
<u>Output.1.1.3</u> <i>An interdisciplinary scientific and technical advisory panel established to provide advice and recommendations on best ecological and socioeconomic restoration practices</i>	Percent of target institutions actively participating in panel meetings: Disaggregated by gender, age and sectors (Public, private, community representatives, research institutes, NGOs)	Zero: the existent panel is not fully operational yet.	Stakeholders and partners identified, rules defined and panel operational	At least 80 percent of the target institutions participate in the forum meetings Ensure the participation of women in governance systems and strengthen the female role in decision-making processes	(i) Stakeholder – institution mapping (ii) Rules and panel operational plan proposal (iii) Panel meetings minutes and participants list	Stakeholders are aware of the importance to promote dialogue and integration between initiatives, projects and programs to strengthen the restoration chain in Brazilian Amazon. The need to expand and improve women's and IPLC participation in decision-making is accepted within the stakeholders participating in the Amazon Restoration Chain.	Project executing agency, through the M&E plan (ii) Partner institutions that operate within the scope of component 1 (i)
	Number of technical strategic documents, plans/protocols elaborated and validated by the panel	Zero	1 technical documents elaborated: State of art of restoration in Wetlands amazon ecosystem s,	3 technical documents elaborated: 2. Analysis of restoration chain in Amazon; 3. Protocols for restoration in wetlands and lowlands ecosystem targeted by the project;	Documents elaborated and validated by partners and stakeholders members of the panel.		Project executing agency, through the M&E plan
Component 2: Strengthening people, institutions and ecosystem restoration capacities in selected regions in the Central Amazon, lowlands, floodplains and mangrove regions							
<u>Outcome 2.1.</u> <i>Technical, institutional and organizational capacities for ecological</i>	Core indicator 11: People benefiting from GEF-	0	600 (50% woman)	1669 (50% woman)	Attendance sheets		Project executing agency, through the M&E plan

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<i>restoration in public, private and civil society organizations strengthened</i>	financed investments Disaggregated by sex and age						
<u>Output 2.1.1. Gender-sensitive capacity development program on restoration techniques and practices created and implemented</u>	Number of training sessions completed.	0	8	16	Attendance sheets	Indigenous people and local communities are interested in be involved and participate in restoration activities, including training and replication of the techniques and practices learned.	Project executing agency, through the M&E plan
	Number of indigenous peoples and local communities (IPLCs) and family farmers training participants. Disaggregated by sex	0	600 (50% woman)	1669 (50% woman)	Attendance sheets		Project executing agency, through the M&E plan
	Percentage rate of training program participants implementing restoration techniques	0	At least 30%	At least 60%	(i) Project progress reports (ii) Restoration sites monitoring Reports		Project executing agency, through the M&E plan
<u>Output 2.1.2. Restoration networks identified and strengthened with a gender-sensitive approach in Central and Amazon coasts to promote</u>	Number of seed houses created.	0	10	20	(i) Photographs of the process of seed houses building until its completion. (ii) Project progress reports	Indigenous people and local communities will engage in seed collection activities, and are interested in developing Networks to strengthen their role the	Project executing agency, through the M&E plan

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<i>ecological restoration</i>	Number of seed collector networks created	0	3 restoration networks mobilized and in process of implementation	3 restoration networks fully implemented and operational	(i) Project progress reports (ii) Minutes of meetings with communities and restoration networks	restoration chain	Project executing agency, through the M&E plan
	Tons of seeds collected to support restoration activities	0	1 tons	3 tons	(i) control sheets from the seed collection process (ii) photographs (iii) Project progress reports		Project executing agency, through the M&E plan Restoration networks implemented by the project.
	Number of species properly collected and stored by networks	0	5	20	(i) control sheets from the seed collection process (ii) Project progress reports	Knowledge about seed collection, transportation, storage and planting are available in the project target areas and ecosystems	Project executing agency, through the M&E plan Restoration networks implemented by the project.
<u>Outcome 2.2. Participation of communities and farmers in relevant NWFP value chains linked to restoration activities strengthened and opportunities</u>	Core indicator 11: People benefiting from GEF-financed investments Disaggregated by sex and age	0	600 (50% woman)	1669 (50% woman)	Attendance sheets		Project executing agency, through the M&E plan

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<i>for income generation widened</i>							
Output 2.2.1. <i>Gender-sensitive capacity development program to process and commercialize NWFP developed and implemented_</i> -	Number of Micro, Small and Medium Entrepreneurs (MSMEs) trained	0	2	6	Attendance sheets Minutes and reports from training sessions Project progress reports	Presence of MSMEs in project area interested to engage in NWFP value chains linked to restoration. Presence of NWFP products with high potential for value adding and access to markets, such as manioc flour, açai, cocoa, cupuaçu, honey, etc..	Project executing agency, through the M&E plan
-	Number of Micro, Small and Medium Entrepreneurs (MSMEs) actively participating in new markets of NWFP value chains	0	2	6	Project Progress reports		Project executing agency, through the M&E plan
-	Increase in income generation for MSMEs, small farmers and IPLC, from NWFP related to restoration activities	0	10%	30%	Project Progress Reports		Project executing agency, through the M&E plan
Component 3: Implementation of forest landscape restoration initiatives in selected areas in the Central Amazon lowlands, floodplains and mangrove ecosystems							
Outcome 3.1. <i>Restoration initiatives launched in overlooked lowland forest, wetlands and mangrove ecosystems (Varzea and</i>	Core indicator 3: area of land and ecosystem under restoration	0	5,100 hectares	25,774 hectares	(i) Project progress reports (ii) monitoring reports from sites under	Presence of degraded areas, under different levels of degradation in project target areas.	Project executing agency, through the M&E plan

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<i>mangroves wetlands, and Lowland Terra Firme Forests)</i>					restoration activities		
-	Area of degrades agricultural land under restoration	0	5,000 hectares	25,374	(i) Project progress reports (ii) monitoring reports from sites under restoration activities	IPLCs willing to engage in restoration chains and to implement sustainable practices in agriculture and management of forest resources.	Project executing agency, through the M&E plan
-	Areas of forest and forest land under restoration	0	100	400	(i) Project progress reports (ii) monitoring reports from sites under restoration activities	Scientific based knowledge and practices for ecological restoration of target ecosystems available be developed by the project.	Project executing agency, through the M&E plan
-	Number of hectares with Fire Integrated Management Practices implemented	0	5,100	25,774	(i) Project Progress Reports (ii) Monitoring reports from the Protected Areas		Project executing agency, through the M&E plan; ICMBio
-	Core indicator 6: Greenhouse gas Emissions Mitigated	0	438,208 tons of CO ₂ e	876,416 tons of CO ₂ e	(i) Project progress reports (ii) monitoring reports from sites under restoration activities	The Active and passive restoration techniques will contribute to both, sequestration and storage of greenhouse gasses and emissions	Project executing agency, through the M&E plan

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
						avoided through degradation and deforestation process.	
<u>Output 3.1.1.</u> <i>Botanical and fauna surveys conducted in the areas of ecological restoration targeted by the project</i>	Number of botanical and Fauna surveys completed Disaggregated by project area	0	6 (2 per project area)	6 (2 per project area)	(i) botanical and fauna surveys documents completed.	Knowledge and Human resources available at project area to support the elaboration of surveys.	Project executing agency, through the M&E plan
<u>Output 3.1.2.</u> <i>monitoring systems for the areas of ecological restoration targeted by the project developed and implemented</i>	Percentage of Native Vegetation cover in restored sites: Disaggregated by restoration practice (Active restoration and passive restoration)	0	Passive restoration: 20% Active restoration: 30%	Passive restoration: 50% Active Restoration : 70%	(i) Project Progress Reports; (ii) restoration sites monitoring reports	Programs, projects, initiatives led by partners under implementation for restoration and fire monitoring in the project area.	Project executing agency, through the M&E plan
<u>Output 3.1.3</u> <i>Laboratory tests to determine the optimal temperature and humidity conditions for seed germination, storage, and production of robust and resilient seedlings for planting</i>		0	3 tests: 1 to determine optimal temperature and humidity for seed germination 1 for production of robust and resilient seedlings for planting 1 for storage of seeds	3 tests: 1 to determine optimal temperature and humidity for seed germination 1 for production of robust and resilient seedlings for planting 1 for storage of seeds	Tests produced	Need to produce and store seeds in the project location area	Project executing agency, through the M&E plan

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<u>Output 3.1.4.</u> <i>Forest restoration protocols developed for varzeas and lowland terra firme forests, which incorporate gender-sensitive inputs from local communities to improve their access to natural resources and income-generating opportunities</i>	Number of protocols published and adopted Disaggregated by project target ecosystems	0	3 Preliminary protocols created (1 per project target ecosystem)	3 protocols published and under implementation (1 per project target ecosystem)	(i) protocols documents published.	Project Partners and IPLCs engage in the development of restoration protocols. Project partners and IPLC will adopt the protocols developed by the project in new restoration activities.	Project executing agency, through the M&E plan
<u>Output 3.1.5.</u> <i>seedling nurseries built and in operation, including women networks in project target areas</i>	Number of nurseries established and Operational	0	1	4	(i) Photographs of the process of seed houses building until its completion. (ii) Project progress reports	Local stakeholders, including public agencies and local communities willing to form partnerships to operationalize seedling nurseries. Location, infrastructure and logistical needs for seedling nurseries operation are available at project target areas.	
-	Number of seedlings produced to support restoration activities	0	15000	50000	(i) Control sheets from the seedlings production in nurseries.		

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<u>Output 3.1.6.</u> <i>Areas in the three project target regions (central Amazon, municipality of Manaus and Coastal area in the state of Pará) restored</i>	Number of hectares ecologically restored (Disaggregated by restoration practice: Active restoration and passive restoration:	0	5,100 hectares (Active restoration 100 ha) (passive restoration: 5,000 hectares)	25,774 hectares (Active restoration: 400 hectares) (Passive restoration: 25,374 hectares)	(i) Project progress reports (ii) monitoring reports from sites under restoration activities	Presence of degraded areas, under different levels of degradation in project target areas. IPLCs willing to engage in restoration chains and to implement sustainable practices in agriculture and management of forest resources. Scientific based knowledge and practices for ecological restoration of target ecosystems available be developed by the project.	Project executing agency, through the M&E plan
-	Number of Hectares with sustainable practices for natural resources management and agricultural practices implemented.	0	200 hectares	1600 hectares	(i) Project progress reports		Project executing agency, through the M&E plan
-	Number of agreements/ plans for improve mangrove conservation	0	0	1 Mangrove Public Use Plan elaborated	Agreements published and validated by stakeholders Project progress reports		Project executing agency, through the M&E plan
-	Number of Protected areas with Governance system implemented for Integrated fire Management established in target protected areas	0	1 protected area with governance system established	2 protected areas with governance system established	(i) Project Progress reports (ii) Minutes and reports from governance system	Relevant Stakeholders willing to dialogue for participative construction and adoption of strategic management plants (fire management , and public use plans)	Project executing agency, through the M&E plan Protected areas involved in the project
-	Number of Protected areas with qualified personnel for fire management		1 protected area with qualified staff	2 protected areas with trained staff	(i) Training reports (ii) Project Progress Reports		Project executing agency, through the M&E plan

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
	and firefighting				(iii) Firefighters brigades reports		Protected areas involved in the project
Componente 4: Monitoring and Evaluation, Awareness Raising and Knowledge Management							
Outcome 4.1. <i>Communication and knowledge management system about restoration of overlooked ecosystems in the Amazon in place</i>	Percent of communication and KM strategies implemented annually, that include gender disaggregated data and results	0	50%	90%		Communication and KM strategies Projects partners engaged in knowledge management and communication strategy	
Output 4.1.1. <i>Participatory and gender inclusive communication strategy developed and under implementation</i>	i) Number of communication pieces (quarterly newsletter, videos, brochures, publications, manuals, guides, among others) prepared and disseminated	Zero	i) 5 communication pieces publicized	1) 10 communication pieces publicized	(i) Availability of information from the project results monitoring system	Operational partner will systematize and publish results and lessons learned of project activities.	(i) Project executing agency, through the M&E plan (ii) Partner institutions that operate within the scope of component 4
Output 4.1.2. <i>Knowledge management plan developed and implemented with a gender sensitive approach</i>	Number of scientific papers prepared	zero	1	2	(i) Scientific papers documents (ii) Comprobatory documents from scientific journals		(i) Project executing agency, through the M&E plan

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
-	ii) Events and seminars accomplished, including tailored women leaders vent to advance gender equality	zero	1	2	(i) Reports from seminars (ii) Attendance sheets and photographs (iii) Project Progress reports		(i) Project executing agency, through the M&E plan
Monitoring and Evaluation (M&E)							
<u>M&E 1.1.</u> <i>Project implemented according to results-based management (RBM) principles</i>	Percentage of progress achieved in the implementation of the project.	0%	35%	100%	Quarterly progress reports. Operational plans, baseline and monitoring system PIRs PPRs Mid-term evaluation Final evaluation	Project M&E plan and related actions implemented Project implemented	(i) Project executing and implementation agencies, through the M&A plan
<u>M&E 1.1.1.</u> <i>Project M&E System designed and operational</i>	i) Project M&E system established and implemented making sure to include gender related results and to collect gender disaggregated data	Zero	1	1	Project progress reports	N.A.	(i) Project executing and implementation agencies, through the M&A plan
<u>M&E 1.1.2.</u> <i>Gender sensitive and responsive project monitoring reports, mid-term review</i>	i) Mid-Term Review and Terminal Evaluation carried out on time making sure	Zero	MTR in Year 2	TE last Year of the project	MTR and TE reports	N.A.	(i) Project executing and implementation agencies, through the M&A plan

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<i>and terminal evaluation contribute to the successful delivery of the project</i>	to include gender related results and to collect gender disaggregated data						
-	i) Percent PPRs and PIRs submitted on schedule making sure to include gender related results and to collect gender disaggregated data	Zero	100%	100%	PPRs and PIRs	N.A.	(i) Project executing and implementation agencies, through the M&A plan

ANNEX D: STATUS OF UTILIZATION OF PROJECT PREPARATION GRANT (PPG)

Provide detailed funding amount of the PPG activities financing status in the table below:

Project Preparation Activities Implemented	GETF/LDCF/SCCF Amount (\$)		
	Budgeted Amount	Amount Spent To date	Amount Committed
Consultancies to develop project proposal: Financial management and operations, Preparation and execution of PPG work plan and stakeholder consultations, drafting of project documents, baseline assessment, Risk analysis, safeguards assessment and indigenous people plan elaboration, project results Framework and monitoring system development	63,090.00	57,420.00	5,670.00
Local stake holder consultations, Inception and Validation workshops	80,000.00	61,672.00	18,328.00
National/Local travel	5,550.00	5,550.00	0.00
Translating costs	1,360.00	0.00	1,360.00
Total	150,000.00	124,642.00	25,358.00

ANNEX E: PROJECT MAP AND COORDINATES

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

Location Name	Latitude	Longitude	GeoName ID
Tefé National Forest	-4.05389	-65.53639	3,762,966

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Mamirauá Sustainable Development Reserve	-2.1921	-65.71379	9,179,589

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Amanã Sustainable Development Reserve	-2.6368	-64.6957	3,665,372

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Mãe Grande de Curuçá Extractive Reserve	-0.6474	-47.8369	3,411,742

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Mestre Lucindo Marine Extractive Reserve	-0.7222	-47.724	3,403,912

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
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Miratu Indigenous Land	-3.00930	-65.18789	
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Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Tefé Municipality	-4.52227	-65.60446	6,319,346

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Manacapuru Municipality	-3.29972	-60.62056	3,663,529

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Novo Airão Municipality	-1.98386	-61.78513	6,319,334

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Manaus Municipality	-3.101194	-60.025	3,663,517

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Careiro Municipality	-3.78706	-60.3479	6,319,310

Location Description:

Activity Description:

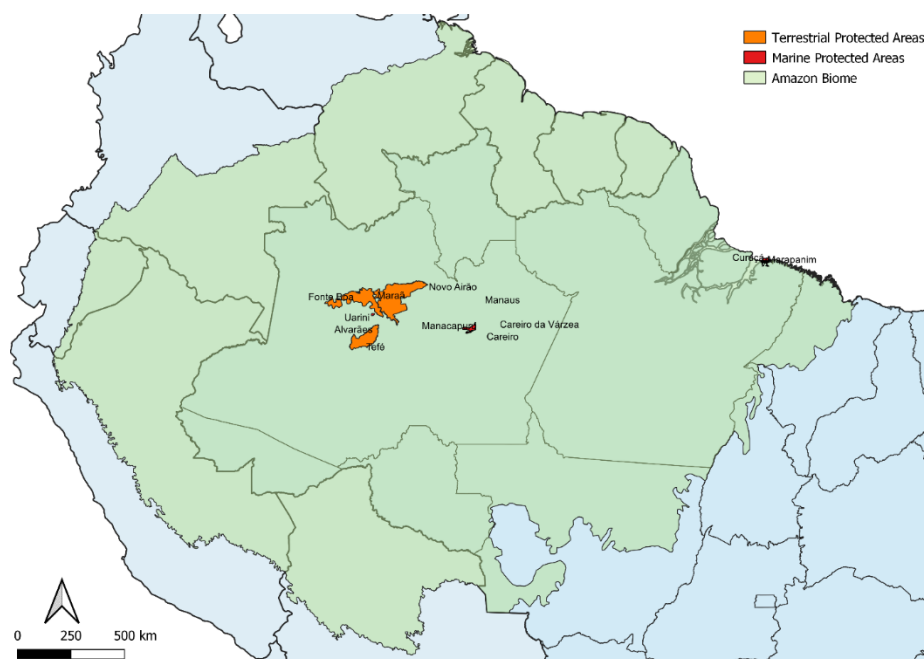
Location Name	Latitude	Longitude	GeoName ID
Careiro da Várzea Municipality	-3.78706	-60.3479	6,319,310

Location Description:

Activity Description:

Please provide any further geo-referenced information and map where project interventions are taking place as appropriate.

Project location area include a national forest, two sustainable development reserves, one indigenous reserves, an extractive reserve in the state of Amazonas and two marine extractive reserves in the state of Pará.



Salgado Paraense Region (Pará State): Mestre Lucindo and Mãe Grande de Curuçá Extractive Reserves

The Salgado Paraense region is known for having one of the largest continuous protected mangrove areas in the world, comprising 11 conservation units (UCs). Among these, two neighboring UCs were selected to be part of the project: the Mãe Grande de Curuçá Extractive Reserve and the Mestre Lucindo Marine Extractive Reserve, located in the municipalities of Curuçá and Marapanim, respectively. The region has an Am climate, classified as a tropical monsoon climate, characterized by an intense rainy season and a short dry season. The landscape of the western coastal zone of the Salgado Paraense region is characterized by a mix of Dense Alluvial Ombrophilous Forest and pioneer formations of native vegetation, with a particular emphasis on mangrove forests, which are essential coastal ecosystems. Both conservation units (UCs) are designated for sustainable use and are under federal management, overseen by the Chico Mendes Institute for Biodiversity Conservation (ICMBio).

The **Mãe Grande de Curuçá Extractive Reserve**, located in the municipality of Curuçá, was established in 2002 through Decree s/n of December 13, 2002. The mangrove forests cover 17,174 hectares, representing approximately 47% of the total area of the conservation unit (UC) and 3.5% of the total mangrove area in Brazil. The local population is primarily engaged in extractivism, with a focus on fishing, shrimp, and crab harvesting. The communities rely primarily on extractivism (fishing, crab, shrimp, and shellfish harvesting) and small-scale family farming (cassava, yuca, and fruits). Fishing and shellfish gathering are central activities, especially for women, who also engage in processing and selling these products. This conservation unit (UC) plays a crucial role in biodiversity conservation and in ensuring the sustainable use of natural resources by the local population.

The **Mestre Lucindo Marine Extractive Reserve**, located in the municipality of Marapanim, was established through Decree s/n on October 10, 2014. In this conservation unit (UC), mangroves cover 9,914 hectares, representing 37% of the UC's area and 2% of the total mangrove area in Brazil. It plays a fundamental role in the conservation of marine resources and in promoting the sustainable use of these resources by local extractivists. The communities of the Mestre Lucindo Extractive Reserve rely primarily on fishing, crab and shrimp harvesting, and small-scale family farming, cultivating crops such as cassava, fruits, and vegetables. Fishing and shellfish gathering are central activities, especially for men, while women actively participate in agriculture, product processing, and, in some cases, the collection of sururu and sarnambi shellfish.

Médio Solimões Region (Amazonas state)

Four protected areas will be targeted by the project in this region, including one indigenous land.

The **Tefé National Forest** is a conservation unit (UC), classified under sustainable use, managed federally by the Chico Mendes Institute for Biodiversity Conservation (ICMbio). It was created in 1989 through Decree No. 97629. Located in the Médio Solimões region of the Amazonas state, it is part of the Central Amazon Corridor and lies within the Juruá River watershed, encompassing whitewater rivers, blackwater rivers, and lakes within its boundaries. The predominant phytophysiology is Dense Ombrophilous Forest, with areas of floodplain, igapó (flooded forest), and upland forest. The communities of the Tefé National Forest (Flona de Tefé) have a diversified agricultural production, with crops such as cassava, banana, watermelon, açaí, corn, and vegetables, primarily for family consumption. The surplus is sold within the communities or at local markets. The cassava flour produced in the region is internationally recognized with the Geographical Indication (GI) label 'Flona de Tefé,' which ensures the quality and origin of the product. Project opportunities in these communities include strengthening markets for organic and agroecological products, which can contribute to the conservation of the Amazon biome and improve the quality of life for local populations.

The **Mamirauá Sustainable Development Reserve** is a protected area under state management, overseen by the Amazonas State Department of the Environment (SEMA-AM). Located in the Médio Solimões region of Amazonas state, it was created in 1990 by Decree No. 12836 as the Mamirauá Ecological Station, and later became the Mamirauá Sustainable Development Reserve by Decree No. 241614 on July 16, 1996. In addition to being part of the Central Amazon Corridor, it stands out as one of the Brazilian sites (Site 623) recognized by the Ramsar Convention due to the importance of its wetlands for biodiversity conservation. The area is also recognized as a World Natural Heritage site by UNESCO. The Mamirauá Reserve is located within the Japurá River watershed, with its boundaries marked by the Japurá, Solimões, and Auatí-Paraná rivers, a branch of the Solimões that flows into the Japurá. The population consists of riverine communities, small farmers, extractivists, fishermen, among others. The main economic activities include fishing, extractivism, and family farming. Additionally, these communities are involved in activities related to non-timber forest management (craftsmanship), timber management, and the management of pirarucu fish and caimans within the Mamirauá Reserve.

The **Amanã Sustainable Development Reserve** is also a conservation unit (UC) for sustainable use and state management, overseen by the Amazonas State Department of the Environment (SEMA-AM). Created in 1998 by Decree No. 1902120, the Amanã Reserve is part of the Lower Rio Negro Protected Areas Mosaic and is located within the watersheds of the Negro and Japurá rivers, forming part of the Central Amazon Corridor. Like the Mamirauá Reserve, it is situated in an area recognized as a World Natural Heritage site by UNESCO. In 2020, the population was 4,503 people, living in 858 families and 108 localities. The main economic activities include fishing, extractivism, handicrafts, and family farming, primarily focused on cassava flour production. Fruits such as cupuaçu, açaí, araçá, camu-camu, guava, and taperebá are processed and marketed, and there is potential for using the residues in the production of organic fertilizer and seedlings.

Manaus is the capital of the state of Amazonas, located on the banks of the Rio Negro. It covers an area of approximately 11,400 km² and has an estimated population of 2.3 million people, accounting for more than half of the state's population. Manaus is an important economic and cultural hub, known for being the headquarters of the Manaus Free Trade Zone. The climate in Manaus is of the Af type, with high average temperatures throughout the year and a heavy rainfall regime, especially from December to May. The predominant vegetation is composed of Dense Ombrophilous Forest, typical of the Amazon, with the occurrence of ecosystems such as floodplain (várzea), upland forest (terra firme), among others. In Manaus, **the Ramal do Buriti** will be involved in the project, specifically in the activities of training and implementing agroforests. The Tarumã-Mirim Settlement Project, located in the Ramal do Buriti, consists of family farmers who grow cassava, fruits such as pineapple, papaya, and passion fruit, as well as vegetables. These farmers are organized in the Cooperativa Mista dos Produtores Rurais do Projeto de Assentamento Tarumã-Mirim (Copasa) and are part of the Rede Maniva de Agroecologia (REMA), which facilitates access to public policies such as the National School Feeding Program (PNAE). The main source of income comes from the sale of agricultural products through Copasa and public policies like the Food Acquisition Program (PAA) and PNAE. There is interest in diversifying production with species such as coffee, açaí, and cacao, which have higher added value.

Novo Airão is located approximately 115 km from Manaus, covering an area of around 37,000 km², making it one of the largest municipalities in the state. Situated on the banks of the Rio Negro, it borders Barcelos, Presidente Figueiredo, Iranduba, Manaus, and Maués. The estimated population is around 16,000 inhabitants, distributed between the municipal seat and riverine communities. The economy of Novo Airão is based on tourism, handicrafts, plant extractivism, and fishing. The municipality is known

for housing the Jaú National Park, one of the largest tropical rainforest parks in the world and a UNESCO World Natural Heritage site. Additionally, it is famous for its wood handicrafts. Family farming is also significant, with an emphasis on cassava cultivation and regional fruits. The vegetation is composed of Dense Ombrophilous Forest, Campinarana, and floodplain areas along the Rio Negro. In the municipality of Novo Airão, **the Roçadão community** will play a central role in the project, with a focus on training and active restoration actions on upland areas. The community, consisting of 63 families, is in an upland area. They mainly rely on family farming, growing crops like cassava, yuca, banana, and fruit trees. They also have a seedling nursery, supported by IDAM, where they cultivate species such as black pepper, açaí, and oranges, which, along with the fruits, are sold at local markets.

Manacapuru is located about 68 km from Manaus and covers an area of just over 7,000 km². It borders Iranduba, Manaquiri, Beruri, Anamá, Anori, Caapiranga, and Coari, situated on the banks of the Rio Solimões. The estimated population is approximately 100,000 inhabitants, making it one of the most populous municipalities in the region. The economy of Manacapuru is diverse, with an emphasis on agriculture, livestock farming, fishing, extractivism, trade, and furniture production. Additionally, the production of cassava flour and cattle raising are important economic activities. In Manacapuru, the main focus of project activities will be the **São Francisco de Assis Community, located in the Agroextractivist Settlement Cabaliana II**, an area with both upland and floodplain ecosystems. This category of rural settlement, created by the National Institute for Colonization and Agrarian Reform (INCRA), is aimed at traditional communities that rely on the sustainable management of natural resources. The São Francisco de Assis community depends on family farming, artisanal fishing, cattle raising, and extractivism, mainly açaí and passion fruit. Other products include corn, cassava, banana, papaya, pumpkin, and watermelon, primarily for local consumption and sale. They cultivate in floodplain and upland areas, using traditional practices adapted to the seasonal conditions of the Amazon. Women play an active role in processing açaí and producing fruit pulp.

Careiro da Várzea is located approximately 25 km from Manaus. It covers an area of 2,627 km² and borders Manaus, Iranduba, Careiro Castanho, and Manaquiri, situated in a floodplain region on the banks of the Rio Solimões. The estimated population is around 19,000 inhabitants, distributed between the municipal seat and riverine communities. The economy of Careiro da Várzea is based on family farming, fishing, livestock farming, and extractivism. The municipality is known for its production of cassava flour, as well as cattle raising and artisanal fishing. Riverine communities play an important role in the local economy, maintaining traditions and sustainable practices for managing natural resources. In **Careiro da Várzea**, the Peniel do Areal community will be involved in the project, specifically in training and implementing agroforests. **The Peniel do Areal Community**, in the municipality of Careiro da Várzea, is composed of organic farmers certified by the Participatory Guarantee System (SPG) Maniva. They are associated with the Associação dos Produtores Orgânicos Renascer do Careiro da Várzea (ASPRORCAV) and the Rede Maniva de Agroecologia (REMA). The community stands out for producing pineapple, tucumã, and other fruits, with good productivity and access to differentiated markets. The main income comes from sales at organic fairs and public policies like the PAA and PNAE.

Protected Areas in the project are summarized in the below table:

Protected Area	Communities	Municipality	State	Ecosystems	Área (ha)
Tefé National Forest	Nova Esperança, Deus é Pai, Estirão do Curumitá, Jauarituba	Alvarães and Tefé	Amazonas	Floodplain forest and Lowland Forests	1,020,000 ha
Mamirauá Sustainable Development Reserve	São Raimundo do Juruá, Nova Colômbia,	Uarini, Alvarães and Fonte Boa	Amazonas	Floodplain Forests	1,124,000 ha
Amanã Sustainable Development Reserve	Nova Esperança, Bom Jesus do Baré	Maraã	Amazonas	Floodplain forest and Lowland Forests	2,350,000 ha
Miratu Indigenous Land	Caetana, Miratu de Baixo e Braga	Uarini	Amazonas	Floodplain forest and Lowland Forests	13,000 ha
Mãe Grande de Curuçá Marine Extractive Reserve	Mutucal, Caratateua.	Curuçá	Pará	Mangrove	37,062 ha
Mestre Lucindo Marine Extractive Reserve	Itauçu, remanso	Marapanim	Pará	Mangrove	26,465 ha

Area	Communities	Municipality	State	Main Ecosystems
Tefé rural area		Tefé	Amazonas	Floodplain forest and Lowland Forests
Cabalana II Agroextractive Settlement Project	São Francisco de Assis	Manacapuru	Amazonas	Floodplain forest and Lowland Forests
Novo Airão rural Area	Roçada	Novo Airão	Amazonas	Floodplain forest and Lowland Forests
Manaus Rural Area	Ramal do buriti	Manaus	Amazonas	Floodplain forest and Lowland Forests
Careiro Castanho Rural Area	Ramal do 14, São José, Mamori	Careiro	Amazonas	Floodplain forest and Lowland Forests
Careiro da Várzea Rural Area	Peniel do Areal	Careiro da Várzea	Amazonas	Floodplain forest and Lowland Forests

ANNEX F: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

Attach agency safeguard datasheet/assessment report(s), including ratings of risk types and overall project/program risk classification as well as any management plans or measures to address identified risks and impacts (as applicable).

Title

ESMP_Restoration of Wetlands_24-05-2025 Final (1)

Climate Risk Screening_Brazil Mamiraua 2

ANNEX G: BUDGET TABLE

Please upload the budget table here.

	Comp onent 1		Comp onent 2			Comp onent 3		Comp onent 4					
FAO Cost Categories	1,1	Total	2,1	2,2	Total	3,1	Total	4,1	Total	M&E	PM C	Responsible Entity (Executing Entity receiving funds from the GEF Agency)	Total GEF
5013 Consultants													
Chief Technical Advisor	44.000	44.000		44.000	44.000	44.000	44.000				88.000	Mamirauá Institute for Sustainable Development (IDSM)	220.000
Monitoring and Evaluation Specialist										165.000		IDSM	165.000
Administrative, Operations and Accounting Specialist											120.000	IDSM	120.000
Indigenous Peoples, Local Communities and Gender Specialist	41.250	41.250	20.625	20.625	41.250	41.250	41.250	41.250	41.250			IDSM	165.000
Technical Specialist - Interdisciplinary Scientific and Technical Advisory Panel (Lead Component 1)	165.000	165.000										IDSM	165.000
Bioeconomy and Sustainable Value Chain Specialist (Lead Component 2)				165.000	165.000							IDSM	165.000
Forest Landscape Restoration Specialist (3) (Lead Component 3) (Responsible for Environmental Safeguards -Risk mitigation plan)						165.000	165.000					IDSM	165.000
Communications and Knowledge Management Specialist (Lead Component 4)								150.000	150.000			IDSM	150.000

Biodiversity Monitoring Specialist			165.000		165.000							IDSM	165.000
Belém Territorial Manager						110.000	110.000					IDSM	110.000
Médio Solimões Territorial Manager						110.000	110.000					IDSM	110.000
Manaus Territorial Manager						110.000	110.000					IDSM	110.000
Technicians - Seedling nurseries and seed networks (2)			198.000		198.000							IDSM	198.000
Junior Specialist - Ecological Restoration						99.000	99.000					IDSM	99.000
Restoration Technician						99.000	99.000					IDSM	99.000
Field Assistants						82.500	82.500					IDSM	82.500
Sub-total national Consultants	250.250	250.250	383.625	229.625	613.250	860.750	860.750	191.250	191.250	165.000	208.000		2.288.500
5013 Sub-total consultants	250.250	250.250	383.625	229.625	613.250	860.750	860.750	191.250	191.250	165.000	208.000		2.288.500
5650 Contracts													
Translation services	9.583	9.583										IDSM	9.583
M&E Mid-Term Review										40.000		FAO	40.000
M&E. Terminal Evaluation										55.000		FAO	55.000
Audits											28.000	FAO	28.000
Spot checks										21.500	0	FAO	21.500
Terminal Report										6.650		FAO	6.650
Vessel rental & maintenance			36.358	9.090	45.448	136.343	136.343					IDSM	181.790
70HP boat rental (x2)			91.000	36.400	127.400	236.600	236.600					IDSM	364.000
<i>Including maintenance costs and fuel</i>													
Physical and chemical analysis of soil (6 sites)						24.000	24.000					IDSM	24.000
Market mapping (value assessments)				34.167	34.167							IDSM	34.167
Development and implementation of a training program in entrepreneurship, innovation and bioeconomy in all areas of the project.				23.000	23.000							IDSM	23.000
Development and delivery of training in native seed management (3) (Mangrove seed management, Médio Solimões, and Baixo Solimões)			45.000		45.000							IDSM	45.000

Contract for online training platforms				7.000	7.000							IDSM	7.000
Surveyor and trail opening services						5.000	5.000					IDSM	5.000
Contract for DNA Sequencing services						21.167	21.167					IDSM	21.167
Contract for audiovisual materials and publications, layout and printing								60.000	60.000			IDSM	60.000
Contract for Field Restoration Services (Ecosystem Restoration and Monitoring; Restoration through Management of Agroforestry Systems; Monitoring of tree phenology and definition of parent trees for seed collection; Application of the restoration protocol for mangroves, floodplain forests, igapó and terra firm; Botanical and fauna surveys in the ecological restoration areas targeted by the project).						304.583	304.583					IDSM	304.583
Elaboration of the Indigenous Peoples Plan, and the Environmental and Social Management Plan								20.000	20.000			IDSM	20.000
5650 Sub-total Contracts	9.583	9.583	172.358	109.656	282.014	727.693	727.693	80.000	80.000	123.150	28.000		1.250.440
5021 Travel													
Travel to participate in annual meetings in Tefé - Manaus			15.000		15.000							IDSM	15.000
Local Travel for project team	5.000	5.000	5.000	5.000	10.000	5.000	5.000	5.000	5.000			IDSM	25.000
Travel for Restoration activities						190.000	190.000					IDSM	190.000
Pilot areas for restoration: Local trips						26.400	26.400					IDSM	26.400
5021 Sub-total travel	5.000	5.000	20.000	5.000	25.000	221.400	221.400	5.000	5.000	0	0		256.400
5023 Training													
Inception Workshop										10.000		IDSM	10.000
Final Workshop										10.000		IDSM	10.000
Meetings and seminars for the preparation of the Strategic Plan.	12.000	12.000										IDSM	12.000
Report Dissemination Event during SIMCON	10.000	10.000										IDSM	10.000
Trainings on native seed management (2) (in 2 mangrove areas: Lower Amazon/Solimões, and Middle Solimões)			16.000		16.000							IDSM	16.000
Trainings on nursery and seedling production (2) (in 3 sites: Lower Amazon/Solimões, mangroves, and Middle Solimões)			18.000		18.000							IDSM	18.000
Training for parataxonomists.			24.000		24.000							IDSM	24.000

Professional training for floodplain management and restoration.			21.00 0		21.0 00							IDSM	21.0 00
Trainings for biodiversity survey and monitoring (3)- (in 3 sites: Manaus, Salgado Paraense, and Tefe).						63.00 0	63.0 00					IDSM	63.0 00
Workshops to strengthen the seed network and monitoring of collectors' activities (3) (in 4 sites: Mangue, Medio Solimaes, Baixo Amazonas, Baixo Solimaes).			36.00 0		36.0 00							IDSM	36.0 00
Market mapping and business plan trainings				20.0 00	20.0 00							IDSM	20.0 00
Trainings in entrepreneurship, innovation and bioeconomy in all areas of the project.				54.0 00	54.0 00							IDSM	54.0 00
Training in Agroforestry Systems Management						9.000	9.00 0					IDSM	9.00 0
Consultation with indigenous peoples and local communities, to complete the FPIC process and monitor the ESMP and the IPP								20.00 0	20.0 00			IDSM	20.0 00
Gender and GBV workshops			10.00 0		10.0 00							IDSM	10.0 00
5023 Sub-total training	22.00 0	22.0 00	125.0 00	74.0 00	199. 000	72.00 0	72.0 00	20.00 0	20.0 00	20.0 00	0		333. 000
5024 Expendable procurement													
Laboratory materials (glassware, alcohol, tubes, gloves).						68.00 0	68.0 00					IDSM	68.0 00
Consumable materials (yearly)			1.170	1.17 0	2.34 1	47.65 9	47.6 59					IDSM	50.0 00
Material for seedling production			30.00 0		30.0 00							IDSM	30.0 00
Field material Outcome 2.1 & Outcome 3.1, including: > For seedling nurseries (x6) trainings > For seedling nurseries (x6) maintenance			142.5 00		142. 500	7.500	7.50 0					IDSM	150. 000
Inputs for ecological restoration						220.0 00	220. 000					IDSM	220. 000
5024 Sub-total expendable procurement	0	0	173.6 70	1.17 0	174. 841	343.1 59	343. 159	0	0	0	0		518. 000
6100 Non-expendable procurement													
Computer equipment (Including portable devices, PC monitor, webcams, and headsets)	4.200	4.20 0	8.400	4.20 0	12.6 00	21.00 0	21.0 00	4.200	4.20 0			IDSM	42.0 00
License for Project Management Software								52.00 0	52.0 00			IDSM	52.0 00

BOD Germination Chamber						9.000	9.00 0					IDSM	9.00 0
Cold chamber, with humidity and temperature control (cold storage test)						3.400	3.40 0					IDSM	3.40 0
Small laboratory benchtop equipment						8.600	8.60 0					IDSM	8.60 0
Air conditioning (1x sample storage environment (60,000 BTUs); 1x laborotary)						2.560	2.56 0					IDSM	2.56 0
Photographic traps (Browning Patriot)						7.800	7.80 0					IDSM	7.80 0
Dehumidifiers for sample storage						2.080	2.08 0					IDSM	2.08 0
Drone						3.400	3.40 0					IDSM	3.40 0
Autonomous recorders (Audio Moth)						3.120	3.12 0					IDSM	3.12 0
Projector (+3400 lumens, XGA, HDMI, dual voltage)			800		800							IDSM	800
A3 laser jet color printer			600		600							IDSM	600
Photographic camera (Nikon Coolpix P1000, 125x)						4.200	4.20 0					IDSM	4.20 0
Providence modules						86.60 0	86.6 00					IDSM	86.6 00
Tree climbing equipment						13.00 0	13.0 00					IDSM	13.0 00
Photographic equipment for botanical samples						2.600	2.60 0					IDSM	2.60 0
Inventory equipment (Clinometer, ladder, diametrical tape, compasses, tape measure, pruning shears, criterium)						8.600	8.60 0					IDSM	8.60 0
Seed collection equipment						10.20 0	10.2 00					IDSM	10.2 00
Nursery and seedling material			7.200		7.20 0							IDSM	7.20 0
Binoculars						2.600	2.60 0					IDSM	2.60 0
Restoration Machinery Kit (Soil Drill, Hoe, Backpack Pump, Machete, etc.)						4.300	4.30 0					IDSM	4.30 0
6100 Sub-total non-expendable procurement	4.200	4.20 0	17.00 0	4.20 0	21.2 00	193.0 60	193. 060	56.20 0	56.2 00	0	0		274. 660
5028 GOE budget													

Office space rental for fire management team			25.90 0	7.40 0	33.3 00	40.70 0	40.7 00					IDSM	74.0 00
Office material, stationery and supplies	2.500	2.50 0						2.500	2.50 0			IDSM	5.00 0
5028 Sub-total GOE budget	2.500	2.50 0	25.90 0	7.40 0	33.3 00	40.70 0	40.7 00	2.500	2.50 0	0	0		79.0 00
TOTAL	293.5 33	293. 533	917.5 53	431. 052	1.34 8.60 5	2.458. 761	2.45 8.76 1	354.9 50	354. 950	308. 150	236. 000		5.00 0.00 0

Please explain any aspects of the budget as needed here

ANNEX I: RESPONSES TO PROJECT REVIEWS

From GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF.

Council Comment	Agency Response
United States Comments The United States recommends coordination with the Ministries of Environment, Finance, and Indigenous Rights, as they all have important equities in restoration projects.	Yes, coordination has been undertaken during full project preparation. During project implementation, the Ministries of Environment, Finance and Indigenous Rights will be members of the Project Advisory Committee.
STAP Comments	Agency Response
The socio-economic aspect of the analysis underpinning the project rationale should be expanded to provide additional details of how the existing environmental problems are affecting socio-economic conditions and vice-versa.	More details on the existing environmental problems and the socio-economic conditions interlinkage have been added in the project rationale section.
The description of the barriers should be revised to ensure that the description of human resources and economic barriers provides a sufficient amount of information that is also comparable to the level provided for the scientific and technological barriers. It should also focus specifically on issues arising from socioeconomic activities and factors that are prominent drivers of deforestation, biodiversity loss and ecosystem degradation in the Amazon region (e.g. Unchecked Agricultural Expansion, Illegal and informal gold mining, Illegal Logging, Poorly-Planned Infrastructure; Lack of appropriate natural resource management and governance, and Lack of Law Enforcement).	The description of the barriers has been expanded to include details on socio-economic activities effects.

The next iteration of this proposal should include an analysis of the key power dynamics and relationships between different categories of stakeholders. This should aim to focus particularly on interactions and power relationships/dynamics between Govt. Agencies and IPLCs, private land-owners and IPLCs, govt and civil society, and govt. vs private sector.	Point taken. This analysis will be conducted by the Social Safeguards and Indigenous Peoples Specialist to be hired by the project. Her/his TORs include this activity. Please refer to Annex L.
The description of baseline initiatives, interventions and investments should cover all relevant initiatives including from international agencies, private sector, civil society, and any other relevant actors, as well as an analysis of how these could be leveraged to enhance project outcomes and results, improve chances of success and deliver longer term durable impacts.	The baseline initiatives are detailed in the section on Coordination with related initiatives of the Project Document (Project Rationale and Section B1).
The assumptions should be revised to ensure they identify the assumptions that underpin the project logic and that could therefore affect the implementation and success of the project if they prove to be untrue.	Assumptions have been revised and expanded in the theory of change section.
During PPG phase, the risk section should be reviewed and the analysis of potential risks expanded with the aim of providing additional details on how these may take place and/or affect the implementation and success of project activities. The revised risk profile should also include proposed mitigation measures for all risk categories.	Risks and respective mitigation measures have been expanded and further detailed.