PENDING FINANCE

1. General Description:

ID:CN-25039
Project resulting from this CN: N/A
Note: CNs are developed into project proposals following consultation with donor(s).

1.1 Project Title:

Structural study and carbon sequestration for sustainable management and biodiversity conservation in sub-deciduous tropical forest ecosystems in the northern coastal region of Nayarit, Mexico

1.2 Submitting Country/ies:

Mexico

1.3 Specific Location & Country/ies/regions/areas benefitting from the project:

Nayarit, Mexico

1.4 Endorsement from ITTO Focal Point:

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1.5 Intended Project Duration (in months):

12

1.6 Indicative Budget (in US$):

ITTO	43,120
Counterpart	10,000
Total	53,120

1.7 Programme Line Focus

Conservation of Biodiversity and Ecosystem Services

1.8 Project Type

Capacity Building/Training, Analytical work/studies, Innovation

1.9 Proposal Summary:

Around 70% of Mexico's territory is suitable for forestry; however, extensive deforestation over the last 20 years has resulted in an annual rate of tree cover loss of 208,850 hectares (ha), accounting for 0.31% of the national forest area (66.6 million ha). Mexico has 31 million ha of tropical forests and, according to the World Bank, 12 million people live in forest regions where forest use contributes to a dynamic rural economy. At the regional level, Nayarit covers an area of 2.7 million ha spanning across six regions (north, highlands, center, south, north coast, and south coast), of which 785,024 ha are broadleaved and coniferous forests. Formations such as medium-sized sub-evergreen forests, medium-sized sub-deciduous forests, and medium-sized deciduous forests represent 24.3% of the forest area. The loss of forest biodiversity, accelerated climate change, and freshwater shortage reflect the poor response of sub-deciduous tropical forests in regulating the aforementioned events, thus making it essential to carry out an in-depth study of these ecosystems using innovative tools such as LiDAR and traditional sampling techniques for their comprehensive assessment from an ecological, structural, productive, and environmental point of view, including the soil component with sustainable and biodiversity conservation perspectives at a technical-scientific level.

2. Proponent Information:

2.1 Executing Agency Information:

Name of Agency/Organization/Institution:

Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias (INIFAP) (National Institute of Forestry, Agricultural and Livestock Research) - Santiago Ixcuintla Experimental Station, Nayarit

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2.2 Type of Organization:

Governmental Agency

2.3 Collaborating Agency/ies:

Name of Agency/Organization/Institution:

National Forestry Commission (CONAFOR)

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2.4 Relevant experience of EA:

INIFAP is a leader in scientific and technological research in Mexico with more than 40 years of experience in sustainable forest management. Members of its staff are recognized by the National System of Researchers, and have produced technical and scientific documents of national and international significance on the management and conservation of biodiversity in tropical forest ecosystems. Since its inception, the Institute has contributed to strengthening the sector.

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3. Relevance:

3.1 Conformity with ITTO objectives (ITTA, 2006) and priorities (current SAP):

This proposal will contribute to the objectives outlined in the International Tropical Timber Agreement (2006) under Article 1c: contributing to sustainable development and to poverty alleviation; SDGs 1 and 8, Article 1f: promoting and supporting research and development with a view to improving forest management as well as increasing the capacity to conserve and enhance other forest values; SDG 13 and 15, Article 1j: encouraging members to support and develop tropical forest reforestation, as well as rehabilitation and restoration of degraded forest land, with due regard for the interests of local communities; SDG 15, Article 1m: encouraging members to develop national policies aimed at sustainable utilization and conservation of forests while maintaining ecological balance; SDG 15 and 17, Article 1p: promoting access to and transfer of technologies; SDG 9, Article 1q: promoting better understanding of environmental services provided by tropical forests, with the aim of enhancing the capacity of members; SDGs 13 and 15, Article 1r: recognizing the role of forest-dependent indigenous and local communities ; SDGs 1, 2, 5, 8, 9, 13 and 17. According to the SAP (2022-2026), this initiative is in line with priority 2: increase the contribution of the tropical forest sector to national and local economies and resilient livelihoods, which also highlights the processing of other forest products and services provided by tropical forests, and priority 3: resilience, restoration and conservation; This involves reducing tropical deforestation and forest degradation, enhancing forest landscape restoration and resilience to climate change, and conserving biodiversity and ecosystem services. This project will also contribute to cross-cutting strategy 2: Enhance ITTO's operational effectiveness in the efficient and integrated management of financial resources.

3.2 Relevance to the ITTO Programme Lines:

This proposal is directly related to Programme Line #2: Conservation of biodiversity and ecosystem services, which seeks to maintain and/or enhance biodiversity and ecosystem services of tropical forests and forest landscapes, while maintaining the sustainable production of timber and other products and services. Its objectives include encouraging the full valuation of forest landscapes, including ecosystem services and biodiversity, as well as the collection and/or use of existing ecological data that will contribute to the sustainable management of tropical forests, and promoting innovative approaches, technologies and practices to strengthen technical skills aimed at maintaining and/or enhancing tropical biodiversity and ecosystem services in forests. It is also indirectly related to Programme Line #4: Emerging issues and innovation, whose goal is to address emerging/urgent issues and innovation focused on achieving ITTA objectives that are not covered under the other programme lines. This involves the cross-cutting and comprehensive study of tropical forests for conservation purposes, which is the primary objective of this project.

3.3 Relevance to the Sustainable Development Goals (SDGs) and the Global Forest Goals (GFGs) and other forest related global agenda:

This proposal will significantly contribute to the UN SDGs for 2030. SDG 1) No poverty, by strengthening rural economies located in tropical areas; SDG 4) Quality education, by providing useful technical and scientific information for the population at large; SDG 5) Gender equality, by encouraging the empowerment of women with productive capacity; SDG 8) Decent work and economic growth, by promoting sustained and sustainable economic growth and the generation of decent temporary jobs for all; SDG 9) Industry, innovation and infrastructure, by promoting sustainability and innovation in the forest sector; SDG10) Reduced inequalities, by offering skilled and unskilled jobs; SDG 13) Climate action, as forests contribute to slowing global warming; SDG 15) Life on land, as this proposal promotes the conservation and rational use of tropical forests; SDG 17) Partnerships for the goals, as it will engage the public sector, academia, local communities, and government agencies. In addition, the project is in line with the Global Forest Goals, as it will comprehensively assess sub-deciduous tropical forests in order to identify different goods and services that are useful to mankind for management and conservation purposes.

3.4 Relevance to submitting country’s policies:

The project is in line with the policies set out in Mexico's National Development Plan 2025-2030, which has the following objectives and strategies: Objective 4.3: Reduce pollutant emissions and strengthen climate resilience through the prevention, control, and mitigation of environmental impacts on health and ecosystems; and Strategy 4.3.1: Reduce greenhouse gas emissions to mitigate climate change and its impacts on society, the economy, and the environment. Strategy 4.3.2: Implement climate change mitigation and adaptation policies with a focus on human rights, equality, and environmental justice to strengthen society and ecosystem resilience. Objective 4.5: Protect and restore natural ecosystems, promoting their sustainable use through a humane, inclusive, and participatory ecological policy, and Strategy 4.5.3 Promote sustainable production activities in natural ecosystems to increase forest productivity, protect biodiversity, and improve community livelihoods. In addition, in 2025, the Ministry of Environment and Natural Resources (SEMARNAT) outlined the following principles for Mexico's environmental policy, focused on prevention, progressiveness, accountability, and participation. These principles apply to all national environmental institutions and seek to strike a balance between economic development, environmental protection, and social justice. This institution has also promoted a public policy focused on ecosystem restoration, prioritizing the rehabilitation of degraded areas and the conservation of biodiversity. Finally, this initiative is consistent with the General Law on Climate Change, which aims to propose mitigation and adaptation actions in rural and urban communities.

3.5 Linkages to previous/ongoing ITTO and other projects/activities (if any):

Bayron Alexander Ruiz Blandon received an ITTO fellowship under the Freezailah Fellowship Programme in the second cycle of 2018. The financial resources requested were to carry out activities for his PhD thesis entitled “Carbon dynamics and technological characterization of Melina (Gmelina arborea) established in two forest production models”, supervised by Dr. Eduardo Salcedo Pérez of the University Center for Biological and Agricultural Sciences (CUCBA), University of Guadalajara (UoG). Based on the results obtained, he received a special mention in a 2021 edition of ITTO’s Tropical Forest Update (TFU), and was awarded an honourable mention by the UoG in the thesis competition for the dissemination of postgraduate research results on environmental pollution effects on health in 2023. This project integrates knowledge developed in the above-mentioned activities within the framework of ITTO guidelines promoting the sustainable management of tropical forest ecosystems.

4. Project synopsis:

4.1 Objectives (reflecting reference to elements within all ITTO Guidelines as applicable):

The objective of the project is to study the ecological structure, biomass production, carbon sequestration, and entomofauna associated with sub-deciduous tropical forests in the northern coastal region of the state of Nayarit, as well as to apply innovative methodologies such as LiDAR in conjunction with traditional sampling techniques involving both plant and soil components, with the aim of generating knowledge for the integrated management of forest biomes towards sustainability and conservation. This project is in line with the ITTO Environmental and Social Management Guidelines, particularly with Principle 1. Environmental sustainability: the project will benefit rural communities in the Nayarita tropics that depend directly and indirectly on the ecosystem services provided by tropical forests, as it is expected to identify their floristic composition, productivity, carbon sequestration, and entomofauna for management and conservation purposes. Principle 2. Social sustainability: this proposal will contribute to the generation of direct and indirect jobs for both key stakeholders and ejido members and surrounding communities, meaning that the socioeconomic benefits will be linked to the sustainable management and conservation of forest ecosystems as part of mankind's heritage. This would reduce intensive human intervention in sub-deciduous forests. Principle 3. Gender equality and empowering women: the project is committed to involving women in field and office activities, based on the principle of gender equality opportunities promoted by ITTO. Principle 4. Good governance: Resources will be managed efficiently and transparently among those involved in the initiative. Principle 5. Security of tenure to forest land and access to forest resources: The proposal is in line with the requirements of forest landholders with the aim of ensuring sustainable management.

4.2 Key problem(s) to be addressed:

The application of LiDAR technology and direct measurements as innovative tools for measuring forest biomass will enable more efficient recognition of elements interacting in these ecosystems, both in environmental and conservation terms, which would imply a drastic reduction in exploitation in the country. A comprehensive study of tropical forests would lead to their protection and would strengthen public and environmental policies on management. In addition, the development of cutting-edge techniques would reduce the operational costs of conducting technical and scientific studies on forest ecosystems. In Mexico, there is still a wide lack of knowledge about the socio-environmental functions of sub-deciduous tropical forests. In fact, land use change is the main contributor to the severe loss of thousands of hectares of forest resources each year. Current forestry regulations call for integrated forest management, but a lack of knowledge about forest composition and ecosystem services significantly hinders the adoption of innovative tools for their full valuation.

4.3 Main stakeholders and beneficiaries:

National Institute for Forestry, Agricultural and Livestock Research (INIFAP), Ejidos, communities owning forest areas adjacent to the project area, National Forestry Commission (CONAFOR), Directorate of Forest, Soil, and Ecological Management (DGGFSOE) of the Ministry of the Environment and Natural Resources (SEMARNAT), Nayarit Forestry Commission (COFONAY), National Commission for the Knowledge and Use of Biodiversity (CONABIO), State Council for Science and Technology (COCYTEN), Ministry of Science, Humanities, Technology and Innovation (SECIHTI), Federal Attorney General's Office for Environmental Protection (PROFEPA), Research centers related to the forest sector, public and private universities related to forestry, and the International Tropical Timber Organization (ITTO).

4.4 Key activities:

Primary output (1): Structural study, carbon sequestration, and entomofauna associated with sub-deciduous tropical forests in the northern coastal region of the state of Nayarit. 1a) Implementation of LiDAR technology and direct measurement for forest inventory; 1b) Knowledge of the structure and major forest species of sub-deciduous tropical forests; 1c) Tropical forest timber production in m3 ha-1; 1d) Preparation of a document establishing the conservation status of major forest species; 1e) Quantification of carbon sequestered in plant biomass and litter; 1f) Assessment of carbon stored in the soil at different depths; and 1g) Identification of entomofauna associated with sub-deciduous tropical forests. Secondary output (2): website and dissemination. 2a) Preparation of leaflets and infographics with project findings; 2b) Participation in dissemination and outreach events; and 3c) Training events.

4.5 Expected outcomes and impacts, including innovation/transformation:

Outcomes (1): 1a) Knowledge of the socio-environmental potential of sub-deciduous tropical forests in sub-humid environments for management and conservation purposes; 1b) Identification of the conservation status of forest species of greatest significance; 1c) Identification of insects linked to sub-deciduous forest ecosystems. Impacts (2): 2a) Scientific - Scientific evidence will be available on the composition, richness, and potential forest productivity of sub-deciduous tropical forests, in order to lay the foundations for developing sustainable management plans adapted to agroecological conditions in sub-humid tropical areas; 2b) Technological - The project will lay the foundations for measuring forest biomass through the use of innovative techniques, which will make it possible to identify tree species of forestry significance in sub-deciduous tropical forests in sub-humid environments. 2c) Social: Sustainable tropical forest management and harvesting require the inclusion of human capital, which would generate direct and indirect jobs in forestry regions; 2e) Environmental - Sustainable use, in addition to the conservation of sub-deciduous tropical forests, would contribute to the preservation of water resources, biodiversity, and climate change mitigation, since these types of ecosystems have the capacity to regulate water, sequester carbon, and harbour the greatest biodiversity of species throughout their structure.

4.6 Existing funding for (related) initiative(s)/established contacts to potential donors:

No existing funding.

4.7 Any other information deemed necessary/important:

The project aims to engage members of the Ejido Sauta, Ejido El Verdineño, Ejido Santa Cruz, and Ejido San Francisco Zapotán (State of Nayarit) for the purpose of maintaining social ownership of knowledge among the true owners of the land through training and workshops. There will be flexibility in the incorporation of skilled and unskilled labour in both field and office work.

4.8 Risk mitigation measures:

The proposal will include precautionary measures to counteract unforeseen events outside the scope of the activities initially described in the project framework.

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5. Indicative Budget (in US$):

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Description	ITTO	Counterpart	Total
Personnel	2,500	2,500	5,000
Sub-contracts	4,000	0	4,000
Travel and DSA	7,000	0	7,000
Capital Items	4,000	4,000	8,000
Consumables	3,500	3,500	7,000
Publication / Dissemination	3,500	0	3,500
Miscellaneous	2,500	0	2,500
Total	27,000	10,000	37,000

ITTO Project Monitoring & Review	8,000	-	8,000
Annual/Final Audit	3,500	-	3,500
ITTO Programme Support	4,620	-	4,620
ITTO Ex-post Evaluation	0	-	0
GRAND TOTAL	43,120	10,000	53,120