INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT DOCUMENT

TITLE:	PILOT SUSTAINABLE MANAGEMENT SYSTEMS FOR SECONDARY NATURAL FORESTS IN THE COLLECTIVE AFRO-DESCENDANT COMMUNITY TERRITORY OF THE BAJO CALIMA COMMUNITY COUNCIL, MUNICIPALITY OF BUENAVENTURA, COLOMBIA
SERIAL NUMBER:	PD 916/21 Rev.2 (F)
COMMITTEE:	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY:	GOVERNMENT OF COLOMBIA
ORIGINAL LANGUAGE:	SPANISH

SUMMARY

This proposal stems from a recommendation of Project PD 415/06 Rev. 2 (M) "Systematization and Modelling of Economic and Technical Information to Train Professionals Related to the Production, Processing and Marketing of Timber Products", implemented by the University of Tolima under an Agreement with ITTO and the Ministry for the Environment and Sustainable Development (MADS) of the Republic of Colombia. The management of secondary natural forests in the collective territory of Bajo Calima, located in the Colombian Pacific plateau bio-geographic region, has been allocated to Afro-descendant communities through their Community Councils, but due to the lack of sustainable management, the natural environment in the area has been degraded. To address this problem, this project has the development objective of contributing to the implementation of management, conservation and restoration programs for the strategic ecosystems of the Colombian Pacific region based on enrichment planting and agroforestry systems established under a sustainable management approach.

The project seeks to help raise the living standards of the communities with a focus on gender equality and the empowerment of women in the collective territory of Bajo Calima. The actions considered in this project are aimed at promoting sustainable production alternatives that will contribute to the reduction of deforestation and strengthen institutional and local community capacities, as established in the recent policy for deforestation control and sustainable forest management issued by the national government in December 2020 (CONPES 4021 documents). This process will be accompanied by an action-research program with the participation of undergraduate and graduate students of the University, with particular emphasis on ecosystem services related to climate change.

EXECUTING AGENCY	UNIVERSITY OF TOLIMA - COMMUNITY COUNCIL OF THE BAJO CALIMA BLACK ETHNIC GROUP	
COLLABORATING AGENCY	MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT	
DURATION	24 MONTHS (STAGE 1: 12 MONTHS, STAGE 2: 12 MONTHS)	
APPROXIMATE STARTING DATE	UPON APPROVAL	
PROPOSED BUDGET AND OTHER FUNDING SOURCES:	Source	Contribution (in US$)
STAGE 1:	**ITTO**	**200,000**
	Government of Colombia – University of Tolima	47,851
	Community Council of the Bajo Calima Black Ethnic Group	19,530
	Total	267,381
STAGE 2:	**ITTO**	**250,000**
	Government of Colombia – University of Tolima	54,301
	Community Council of the Bajo Calima Black Ethnic Group	27,900
	Total	332,201
	GRAND TOTAL	**599,582**

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LIST OF ABBREVIATIONS AND ACRONYMS

ART	Agencia de Renovación del Territorio *(Territory Renewal Agency)*
CCBC	Consejo Comunitario de la etnia negra de la cuenca baja del Bajo Calima (*Community Council of the Bajo Calima Black Ethnic Group*)
CFT:	Centro Forestal Tropical Bajo Calima (*Bajo Calima Tropical Forestry Center*), of the University of Tolima
CONPES:	Consejo Nacional de Política Económica y Social (*National Economic and Social Policy Council*)
CONIF:	Corporación Nacional de Investigación y Fomento Forestal (*National Forest Research and Development Corporation*)
CVC:	Corporación Autónoma Regional del Valle del Cauca (*Regional Autonomous Corporation of Valle del Cauca*)
DNP:	National Planning Department
EA:	Executing agency
EICDGB:	Estrategia Integral de Control a la Deforestación y Gestión de los Bosques (*Integrated Strategy for Deforestation Control and Forest Management)*
FAO:	United Nations Food and Agriculture Organisation
FEDECAUCHO	Federación de Caucheros de Colombia (*Colombian Rubber Producers Federation*)
IRSG:	International Rubber Study Group
ITTO:	International Tropical Timber Organization
MADS:	Ministry for the Environment and Sustainable Development
MADR:	Ministry of Agriculture and Rural Development
MCIT:	Ministry of Trade, Industry and Tourism
PNDF:	National Forest Development Plan
UNFF:	United Nations Forum on Forests
UT:	University of Tolima

PROJECT BRIEF

Inappropriate, repeated and intensive logging in the secondary natural forests of the Bajo Calima Region, in Buenaventura, Colombia, has led to the severe degradation of the forest cover. This has been aggravated by unmanaged settlement processes causing land-use changes in a region where lands have a low agricultural production capacity. These lands are characterized by a very superficial topsoil layer that is leached by continuous precipitations. As a result, the natural environment has been degraded due to a reduction in the provision of goods, while at the same time, the population has been impoverished due to the low yield levels of their productive systems and poor production and processing of forest products, leading to low purchase prices paid by intermediaries.

The key problem is the lack of sustainable management of secondary natural forests in the lands of the Bajo Calima Region, which are identified as the "collective territory of the Bajo Calima Community Council" in accordance with Law No. 70 of 1993. Identified causes of this problem include the lack of silvicultural management methods and poor training and organization of the local communities in the administration and management of their natural resources.

The University of Tolima (UT) has been active in the area since 1972, carrying out missionary actions through the Tropical Forestry Center, which has been involved in academic, research and sustainable forest management activities, among others, with the participation of the local communities. The University is hereby submitting this project proposal with a view to contributing to the implementation of management, conservation and restoration programs for strategic ecosystems in the Bajo Calima Region, based on the establishment of enrichment planting and agroforestry systems under a sustainable management approach. This will be achieved through the development of technological packages suitable to the environmental conditions of the area, using a gender-focused approach so as to help build a peace process in the territory by promoting social dialogue, self-management and other relevant actions; strengthen peaceful coexistence; and build a peace culture in these areas that have historically been affected by conflict.

Upon project completion, the achievement of the proposed objective will be measured as follows:

- Awareness-raising and training for a total of 200 people, including teachers, leaders and farmers, 50% of whom will be women, as well as 30 representatives of public and private institutions operating in the region.
- Establishment of 100 hectares: 70 hectares of rubberwood (*Hevea brasilienses* Mull. Arg.) plantations in association with agricultural crops and 30 hectares of Aceite María (*Calophyllum mariae* Planch.& Triana) have been established in line enrichment planting in secondary natural forests.
- By the end of the second year, the executing agency will have adopted a management plan for 16 research network plots.
- Information available on variables related to women's activities (cultural context, leadership and participation)

The primary stakeholders of the project will be local farmers in the four clusters identified in the project, who derive their income from timber logging in primary and secondary natural forests, subsistence crops and mining; the Community Council and parish committees that are responsible for the development and execution of community life plans and development; and primary and secondary education teachers in the region, who are in charge of educating the school population in the area. Actions will be taken to contribute to gender equity and improve women's access to resources and production activities by redressing any gender imbalances identified in the process.

The main secondary stakeholders are the organizations that work to preserve and protect natural resources through the CVC (Regional Autonomous Corporation of Valle del Cauca) – the environmental authority – and regional NGOs with a link to the land and dedicated to executing rural development activities. In addition, forest product processing and marketing companies will contribute to ensuring project continuity.

A Steering Committee will be established for the implementation of the project. This Committee will be made up of the Ministry for the Environment and Sustainable Development, ITTO, the University of Tolima - Faculty of Forest Engineering, and the Community Council of Bajo Calima. The project will be implemented by a team made up of a Technical Director and an Academic Co-director. Experts, consultants and services will be hired during the two-year implementation period to carry out project activities. Similarly, a Consultative Committee will be set up with the participation of key stakeholders to discuss and contribute to the improvement of project actions on an ongoing basis.

To ensure project sustainability, strategic partnerships established by the University of Tolima, through the Tropical Forestry Center (CFT) of Bajo Calima, with both the CVC and the Bajo Calima Community Council, will be strengthened; with the latter, the University has signed an agreement to maintain presence in the study

area, which covers 66,000 hectares of secondary natural forests, including the area of the Center facilities. Similarly, new partnerships will be established and extended with institutions and organization of the sector, such as the Municipal Council of Buenaventura, the Education Secretariat of the Municipality and timber and latex marketing companies. The implementation process will include dissemination and demonstration of project activities and outcomes to other regional bodies.

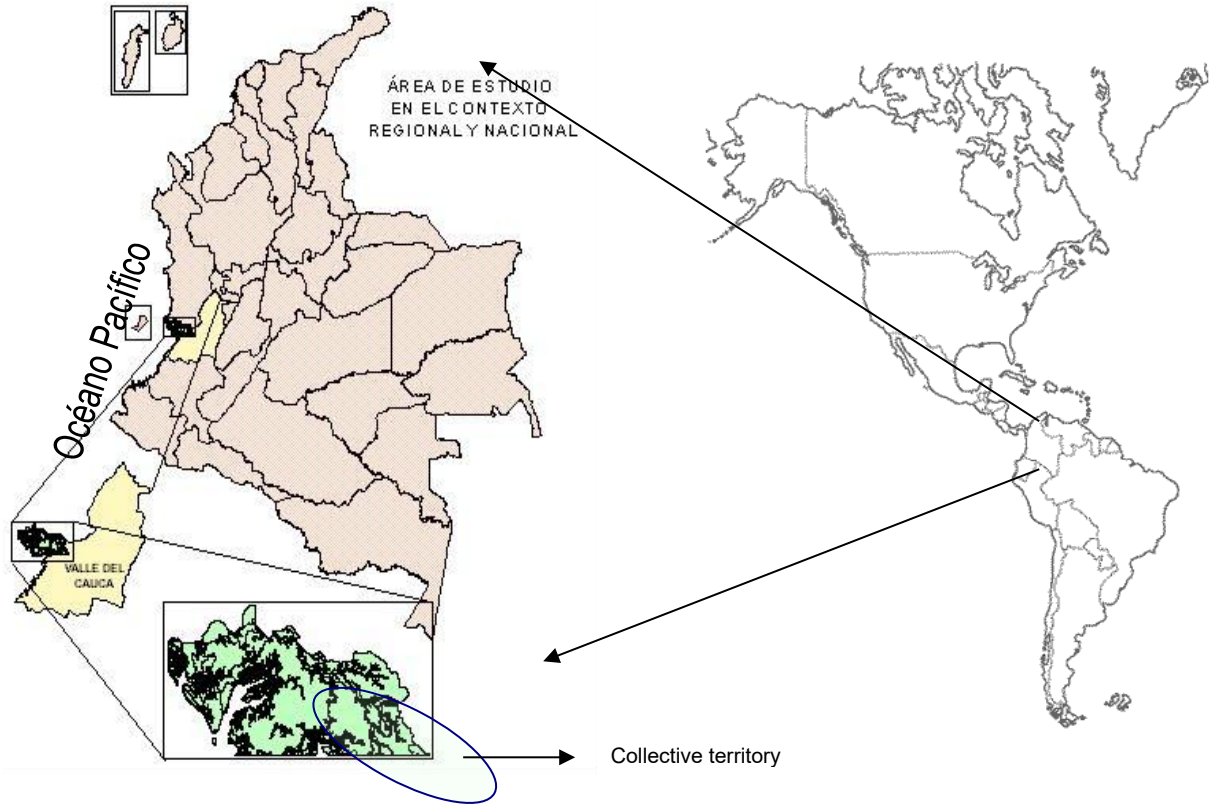
The fact that the University of Tolima has had a regional presence for the past 50 years, will ensure the development of the project activities, the training of local communities, and the continuity and extension of the project. Based on these premises, the University of Tolima, through the Tropical Forestry Center of Bajo Calima and the Community Council of the Bajo Calima Black Ethnic Group, as co-executors of the project, will be able to continue implementing the system and extend it to other communities, currently left out of the project, through courses and training workshops, to consolidate and widen the network after this project is completed.

The assumptions and risks for the project include:

- ✓ changes in government; there is a low risk or probability that this factor may endanger the success of the project because this kind of project is based on an agreement with international organizations such as ITTO and through the Ministry for the Environment and Sustainable Development – MADS, and are therefore not affected by such changes.
- ✓ acceptance of the project by the various stakeholders in the Bajo Calima region; there is a low risk or probability that this factor may endanger the success of the project since there is already among stakeholders a favorable opinion of and willingness to be involved in project activities.
- ✓ the socio-economic situation of the region; there is a low risk or probability that this factor may endanger the success of the project because the project actually seeks to help find a solution to the socio-economic circumstances of the region, mainly by producing food and items such as rubber that will help generate supplementary income in the medium term, and products such as timber, that will contribute to supplementary income in the medium and long terms. Good growth rates have been recorded for the Aceite María (*Calophyllum mariae* Planch. & Triana) species in these ecosystems.

In order to implement all project activities, adequate resources must be secured. The project is divided into two stages. For Stage 1 (12 months), the project will be financed with an ITTO budget of US$200,000 from the supplementary budget of Japan, US$47,851 from the Government of Colombia-University of Tolima, and US$19,530 from the Community Council of the Bajo Calima Black Ethnic Group, amounting to a total project budget of US$267,381 for Stage 1. For Stage 2 (12 months), the project will be financed with an ITTO budget of US$ 250,000 from a contribution provided by the US through the regular project cycle, US$ 54,301 from the Government of Colombia-University of Tolima, and US$ 27,900 from the Community Council of the Bajo Calima Black Ethnic Group, amounting to a total project budget for Stage 2 of US$332,201. ITTO's budget comprises approximately 31% in personnel costs and 8% in capital items.

MAP OF PROJECT AREA



PART 1. PROJECT CONTEXT

1.1 Origin

This proposal stems from a recommendation of a project implemented by the University of Tolima through an agreement with ITTO and the Ministry for the Environment and Sustainable Development – MADS [Project PD 415/06 Rev. 2 (M) "Systematization and Modelling of Economic and Technical Information to Train Professionals Related to the Production, Processing and Marketing of Timber Products"]. The technical outcome of the project may be summarized as follows: availability of the basic elements of technological packages for the 20 selected species, with appropriate levels of implementation, integration and distribution, that may be applied in the 29 competitive forest clusters and 65 sites that were duly identified and described in the 16 Departments; spatial information was incorporated into digital databases and a group of professionals were duly trained and organized in a network to implement these developments.

The main outcomes related to this proposal include:

- Development of dynamic simulation models (DSM) with the implementation of a system containing economic and technical information based on the production chain process for 20 potential forest species, including Aceite María (*Calophyllum mariae* Planch. & Triana) and rubberwood (*Hevea brasiliensis* Mull.Arg.).
- A total of 29 competitive forest clusters and 65 sites were identified and described in the 16 Departments, where species with the highest potential were identified so as to ensure appropriate competitiveness conditions. The current proposal will be working in one of those forest clusters located in the Bajo Calima region of the Department of Valle del Cauca.
- Four multimedia presentations and a web page (http://maderas.ut.edu.co/) will be used to present the results of the information system, the basics of the simulation models and their applications.

The main conclusions related to this proposal include the following:

- The increase in the number of alternatives for forest production chains, both at the regional and national levels, through technological packages for new species, offers investment and development potential not only for large rural landowners and businesses, but also for small and medium-size ones, and helps identify local, regional, national and international markets, which will be implemented in the Bajo Calima with local communities.
- The models implemented in the project helped incorporate information on the processes of the links in the production chain, and also helped understand and explain more clearly their various interactions.
- The inclusion of simulation mechanisms and tools, and information in multimedia presentations and the web page, make them readily available to users and beneficiaries. The system is located at the following address: http://maderas.ut.edu.co. These mechanisms and tools will be used in the implementation of the current proposal.
- The professionals who developed the course and are related to the various regions had a defining and strategic role in collecting and analyzing the information on the species and regional specific characteristics.
- Inter-institutional agreement development and formalization are fundamental for the collection and input of technical and scientific information - in this case for new species and extensive regions - particularly because of the high costs involved in collecting primary data. These agreements will be extended to include this project.

The main recommendations related to the current proposal include:

1. Develop a pilot project proposal to establish and manage commercial forest plantations through the University's School of Forestry, in collaboration with its various postgraduate and undergraduate programs that involve the implementation of the outcomes and outputs of the two (2) phases of the project, and help continue the line of research and technological development of forest production chains in Colombia.

2. Design and implement an experimental network for field work, to identify and describe various scenarios, to collect primary information to overcome the gaps detected in the development of technological packages for the various species, and to corroborate and/or adjust the "estimates" or assumptions made by using the models. This will be particularly implemented in this project.

3. Strengthen agreements and extend their scope to other regional institutions and corporations in the rest of the country, so that they may be involved in a cooperative process for the further development of the outcomes of the project and to ensure its sustainability.

1.2 Relevance

Biodiverse tropical moist forests are highly significant for climate change mitigation and adaptation in Colombia. In addition, this ecosystem is home to almost the entire indigenous and Afro-descendant population of the country. These communities use these forests for their livelihoods, and their tenure rights have been recognized through Act No. 21 of 1990 and Act No. 70 of 1993. Against this background, there is a need to establish a sustainable forest management regime that will contribute to the production of goods and services, on the basis of gender equity and equal opportunity criteria, good governance practices, and conformity to the country's provisions and certified international market standards, as well as scientific knowledge criteria, as established by the ITTO guidelines.

1.2.1 Conformity with ITTO's objectives and priorities ITTO

The expected outcomes of the project are consistent with the following ITTO objectives provided in Article 1 of the ITTA 2006:

- Item (c): **Contributing to sustainable development and poverty alleviation.** The project seeks to achieve sustainable management of secondary natural forests on collective lands under Law 70 of 1993, or Black Population Law of the Republic of Colombia, **which establishes the organization of "human groups" under "Community Councils". The human group of Bajo Calima was established as the "Community Council of the Lower Basin of the Calima River". The population of this collective territory of the Bajo Calima Community Council, located in the heart of the tropical rainforest region, Municipality of Buenaventura, Colombia, is one of the most affected by underdevelopment, lacking public services, industries and marketing of their food products, being one of the poorest communities in the Pacific area of Colombia.** The primary natural forest of these lands was intensively logged and there is now secondary regeneration that requires a sustainable management system that will help fulfil the local community's basic needs, particularly nutritional needs.
- Item (f): **Promoting and supporting research and development with a view to improving forest management and efficiency of wood utilization and the competitiveness of wood products relative to other materials, as well as increasing the capacity to conserve and enhance other forest values in timber producing tropical forests.** The project seeks to help structure and implement technological **developments** for promising forest species, which is consistent with this objective.
- Item (g): **Developing and contributing towards mechanisms for the provision of new and additional financial resources with a view to promoting the adequacy and predictability of funding and expertise needed to enhance the capacity of producer members to attain the objectives of this Agreement.** The project also seeks to develop some mechanisms such as pilot tests for sustainable management of these forests, to collect economic, technical, and scientific information, and integrating models to consolidate specialized technical knowledge.
- Item (j): **Encouraging members to support and develop tropical timber reforestation, as well as rehabilitation and restoration and rehabilitation of degraded forest land, with due regard for the interests of local communities dependent on forest resources.** Under (c) above the contribution that the project is expected to make to this objective has already been described.
- Item (l): **Strengthening the capacity of members for te collection, processing and dissemination of statistics on their trade in timber and information on the sustainable management of their tropical forests.** Output 3 of the project establishes short-, medium- and long-term programs to collect sustainable forest management information for the lands where it will be implemented.
- Item (n): **Strengthening the capacity of members to improve forest law enforcement and governance, and address illegal logging and related trade in tropical timber.** The area where the project will be implemented is affected by illegal logging, and there is a need to strengthen enforcement of forest legislation and governance among organized local communities.
- Item (q): **Promoting better understanding of the contribution of non-timber forest products and environmental services to the sustainable management of tropical forests with the aim of enhancing the capacity of members to develop strategies to strengthen such contributions in the context of sustainable forest management, and cooperating with relevant institutions and processes to this end.** As the proposal clearly states, a major aspect of the pilot systems of sustainable management is based on non-timber forest products (**staple food products and** rubber for latex production) and the project seeks to cooperate with the Community Council in these collective lands to improve their forest resource administration and management skills. An essential service to be studied in detail will be the impact on improved environmental conditions in the region.
- Item (r): **Encouraging members to recognize the role of forest-dependent indigenous and local communities in achieving sustainable forest management and develop strategies to enhance the capacity of these communities to sustainably manage tropical timber producing forests.** The consistency of this project with this specific objective **is supported by** the explanation of compliance with objectives detailed in the above items.

Compatibility with operational activities in the ITTO Action Plan 2013-2018

The project is consistent with the following actions in accordance with the strategic priorities set out in the ITTO Action Plan:

It is related to **Strategic Priority 1**, particularly with respect to the development and implementation of enrichment planting and agroforestry systems in secondary natural forests to increase financing for SFM.

It is related to **Strategic Priority 2**, particularly with respect to the provision of support to the Community Council´s member black communities so as to develop their business and commercial capacities to enable them to market the products derived from the enrichment and agroforestry systems established in secondary natural forests and the promotion of knowledge on new initiatives related to trade in legal and sustainable timber. Similarly, with respect to the development and demonstration of financial instruments related to these systems and the dissemination of generated information.

It is related to **Strategic Priority 4**, particularly with regard to the improvement of data and knowledge on forest ecosystem services and ways to strengthen them based on a research-action programme to be developed and implemented through demonstration activities on enrichment and agroforestry systems established and managed as pilot areas in secondary forests.

It is related to **Strategic Priority 5**, particularly regarding the implementation of pilot enrichment and agroforestry systems in secondary natural forests and the dissemination of information on forest conditions and markets for products derived from these ecosystems. Similarly, with respect to the establishment of a partnership between the (public) university and the Community Council so as to collect data on the pilot systems established as well as on forests and the marketing of forest products with a view to the harmonization of data. This will include the strengthening of the information systems developed by Project PD 415/06 Rev.2 (M).

It is related to **Strategic Priority 6**, in particular, to the implementation of activities at the experimental and actual scales to test actions related to carbon sinks and carbon sequestration, and obtain new and additional financial resources to support such activities, identifying existing opportunities and implementing activities to use non-timber forest products and ecosystem services with due regard for the needs of local and indigenous forest-dependent communities in the community territory. Similarly, the project will implement analytical and pilot activities to develop deforestation and forest degradation related capacities. With regard to the application of ITTO's C&I and their adaptation; the project will implement research activities on secondary natural tropical forest management, restoration of degraded tropical forests and rehabilitation of degraded tropical forest lands, in accordance with ITTO guidelines; it will implement treatments including natural assisted regeneration and enrichment plantations, with field research on the growth and yield dynamics in treated forests. Finally, the project will strengthen the University in its capacity as training institution by enhancing the training of forest personnel and local communities in ecosystem behaviour, silvicultural treatments, RIL and resource evaluation, as well as secondary natural forest management. All of this will contribute to the expansion of ITTO’s communication and outreach activities.

In brief, the project will address SFM in an integrated manner, considering both non-timber forest products and forest ecosystem services, as well as engaging the public and private sectors and forest-dependent communities as key stakeholders. Furthermore, the project will work with a wide range of stakeholders in the area of restored and rehabilitated forests, taking into account climate change impacts and opportunities.

Compliance with the 2015 ITTO Voluntary Guidelines for the Sustainable Management of Natural Tropical Forests

ITTO Voluntary Guidelines for the Sustainable Management of Natural Tropical Forests	Project response
Identify the framework conditions for the application of forest management guidelines in natural tropical forests for the sustainable provision of forest goods and environmental services.	To contribute to the implementation of management, conservation and restoration programs for strategic ecosystems in the Pacific region of Colombia, based on enrichment and agroforestry systems established and managed under a sustainable approach.
Provide guidance for addressing the policy, legal, institutional, ecological, social and economic issues that need to be taken into account in the planning, implementation and evaluation of SFM.	To launch a participatory process with a gender focus to achieve the sustainable management of secondary natural forests and collective lands in Bajo Calima, Republic of Colombia. By the end of the second year, 200 individuals (15 teachers, 30 leaders and 155 farmers) will have been trained. At least 50% of the trainees will be women.
Help forest owners and managers to implement SFM at the macro and micro scales.	Implementation of pilot areas with line enrichment planting and agroforestry systems as production systems in secondary natural forests with the participation of local stakeholders.
Stimulate the adoption of appropriate and adaptive management practices to maintain the capacity of natural tropical forests to sustainably provide multiple goods and environmental services.	Trained teachers, community leaders, and farmers apply their knowledge in community organization, administrative tasks, use, management and conservation of natural resources.
Inform international processes that deal with globally relevant issues on the role that the sustainable multiple-use management of natural tropical forests can play in addressing issues such as climate change, water supply, biodiversity, food security, agriculture and desertification.	The project will develop and implement a research action program. By the end of the first year, 16 research plots will have been established and duly monitored.

Compliance with the 2017 ITTO Guidelines on Gender Equality and Empowering Women (GEEW)

ITTO Guidelines on Gender Equality and Empowering Women (GEEW) - Element 2 – ITTO Project Cycle	Project response
The ITTO project cycle will integrate and mainstream gender issues. Gender equality will be addressed in all phases of the project cycle, including project formulation, implementation, monitoring, review and evaluation.	The formulation of the project has been carried out with the participation of the Community Council of Bajo Calima, which is made up of both men and women representing 100 project beneficiary families. The participation of male and female members of the Community Council of Bajo Calima will be ensured as key stakeholders in the project implementation, monitoring, review and evaluation phases.
The needs and interests of women and men, including their effective participation and outcome benefits, will be equally taken into account and promoted within ITTO-funded projects.	By the end of the project, the Community Council of Bajo Calima will have strengthened its governance capacity to address the administration and organization of the use, sustainable management and conservation of their natural resources so as to improve their living standards with the participation of all family members.
All ITTO projects will be “gender-sensitive” and will examine gender roles, norms, relations and potential project impacts through a gender analysis and seek to generate gender co-benefits in project design.	The project has a gender-sensitive specific objective involving the launch of a participatory process with a gender focus to achieve the sustainable management of secondary natural forests and collective lands in Bajo Calima, Republic of Colombia.
Wherever possible, ITTO projects will be “gender transformative” by including one or more objectives focused on raising awareness of gender roles, norms and relations and positively changing (transforming) those roles, norms or relations to improve gender equality and empower women. Such projects will include women’s organizations and/or networks as project partners and, where appropriate, as Executing Agencies.	The Community Council, integrated by both men and women, will be involved in the implementation of the project as a primary stakeholder in land-use planning.

1.2.2 Relevance to the submitting country's policies (Colombia)

Colombia has a suitable reference framework for its forest development, resulting from a discussion process including the public, private, academic and civil society sectors. This framework is mainly contained in the following official documents:

1. Law 70 of 1993 or "Ley de las negritudes" (Black communities law). Republic of Colombia and corresponding regulations. It recognizes black communities which have been living on waste lands in riverbank rural areas along the rivers of the Pacific Basin, according to their traditional production practices and the right to collective property.
2. "National Forest Policy". CONPES Document 2834 of 1996; adopted by the National Economic and Social Policy Council.
3. "National Forest Development Plan – (*Plan Nacional de Desarrollo Forestal* - PNDF)", adopted by the National Environmental Council on 5 December 2000.
4. National Restoration Plan
5. Policy guidelines on commercial forest plantations for timber logging and production chains 2016-2038, and corresponding Action Plan.
6. Integrated Strategy for Deforestation Control and Forest Management in Colombia.
7. Land-based Development Plans of the Land Renovation Agency.
8. National Policy on Climate Change.
9. Policy for the Integrated Management of Biodiversity and Ecosystem Services.
10. National Development Plan 2018-2022, covering Community Forest Management (Community Forestry) in Colombia.
11. Policy for deforestation control and sustainable forest management (CONPES 4021, issued in 2020).

Colombian regulations are part of the State policy aimed at encouraging investment and production in suitable lands. To this end, the government provides economic incentives to rural entrepreneurs and indigenous and black communities to encourage the planting of native forest species on their lands. This is basically done through Forest Incentive Certificates (*Certificados de Incentivo Forestal* - CIF). Thus, planted forests become valuable capital assets, opening the door for Colombia to embark on sustainable harvesting and export of high-value timber under sustainable management principles.

1.3 Target area

The project target area includes the secondary natural forests of the Bajo Calima region.

1.3.1 Geographic location

The Bajo Calima area is situated in the so-called central sub-region of the Pacific platform, at approximately 3° 55´N and 77° 07´W, in the Municipality of Buenaventura, in Valle del Cauca. The map appears **below**. The Colombian Pacific coast is part of the Chocó bio-geographical region, considered to be one of the most biologically diverse in the world, and with one of the highest levels of endemic species. For example, palm trees are most abundant in Colombia; furthermore, the region is home to close to 79% of the timber used in the country. The degradation and destruction of specific habitats results in the disappearance of animal and plant species that could be the solution to the problems of regional communities.

LOCATION OF PROJECT AREA

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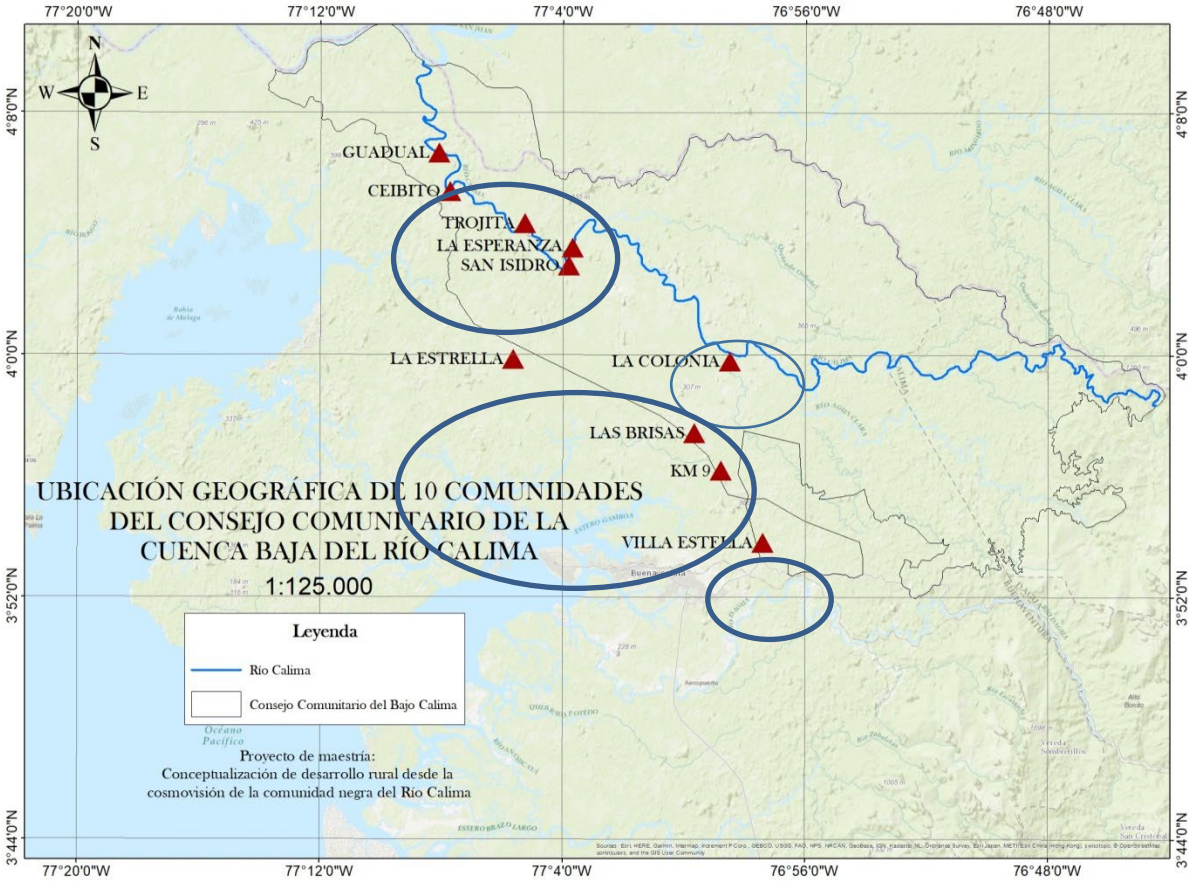


Four production clusters are proposed, as follows:

Cluster 1: **Riparian communities of San Isidro, Ceibito and La Trojita, where the two forest species will be established in association with agricultural crops; in this region there are already rubberwood plantations that were established in the mid-fifties, but have yet to be evaluated.**

***Cluster 2*: situated in La Colonia or Bajo Calima, in the areas known as La Mojarra, San Luis and Cahuiza, where there used to be palm oil and chontaduro (palm fruit) plantations, which were eventually abandoned.**

Cluster 3: Community of Villa Estela, on the road. The community of Villa Estela has a long history of forest use, although it has leaders with a strong sense of ownership, conservation and agricultural tradition that will be of crucial importance for the success of this proposal.

***Cluster 4*: This includes the communities of La Estrella, Las Brisas and El Crucero, with plantations of 15 and 5 hectares of rubberwood and aceite maría respectively; close to the community of La Estrella, in the site known as El Dindo, there is a trial run by the National Corporation for Forest Research (*Corporación Nacional de Investigación Forestal* - CONIF), with aceite maría (3 hectares of plantation).**

1.3.2 Social, cultural, economic and environmental aspects

Following ITTO's ESM (Environmental and Social Management) guidelines (PS23), this project will take into account the closely interrelated principles that are key to achieving ITTO's core objectives.

Compliance with principle 1: Environmental sustainability. Different diagnostic assessments have shown that the main activity of the Bajo Calima population is marketing timber from the forest. The strategies to decrease pressure on forests include implementing systems that enable the regional population to produce food and, at the same time, provide timber by using agricultural crops such as rubberwood (*Hevea brasiliensis* Mull. Arg.) and Aceite María (*Calophyllum mariae* Planch. & Triana), **thus achieving** the reduction of intermediaries through the establishment of producer associations, and enhancing the value added to products and, where possible, helping implement so-called clean technologies. Similarly, agroforestry systems become an important and interesting economic option to other land uses, **and thus ensure the conservation and use of biodiversity in an environmentally and economically sustainable manner, maintaining and improving the health and vitality of forests.**

Compliance with principle 2: Social sustainability. Problems and critical issues were identified in social mapping prepared with the Community Council as a part of the Data Bank and Project Management agreement for displaced persons implemented by the Office of Peace Management, the IMO and the national forum for Colombia. The living conditions that the community is currently going through have been identified as **involving** the articulation of several problems that determine its fragility and instability, including the following:

- The social and cultural web is weak (both at family and community levels), there are co-existence and gender equity problems, and there is a loss of traditional values linked to ethnic identity, which limits the community's ability to be involved in, manage and control their territory, thus affecting governance and security in the area.
- Poverty is reflected in their uncertain economic situation, mainly characterized by the lack of production processes that ensure food supply and minimum income to provide the community with acceptable living standards. Traditionally the economy of these communities was based on self-sufficiency by using natural resources found on their lands.
- Strong environmental degradation caused by the manner in which the land has been used on a large scale, and for certain inappropriate uses and practices that have weakened the natural resource base on which their survival depends, thus generating a vicious cycle of environmental degradation and poverty.
- Insufficient and inefficient social facilities (access to essential social services such as health care, education or recreation) and precarious habitat (housing, basic sanitation, drinking water, lighting, transport and communications).

The implementation of this project is aimed at maintaining and improving forest-based socioeconomic opportunities and benefits, promoting job creation and safe and healthy working conditions, and preserving cultural heritage.

Annex 4 describes the production systems used in this area. Similarly, Annex 6 describes production clusters as well as line enrichment planting and agroforestry systems to be implemented in this project

Compliance with Principle 3: Gender equality and empowering women. The Bajo Calima Community Council area is currently home to 3,325 individuals in 917 families, 51% of whom are women while 49% are men. Families are usually large; housing often accommodates grandparents, children, uncles and aunts, brothers and sisters, nephews and nieces and other relatives, who establish a web of power relationships that influence the different degrees of access that each of the family members can have to resources and opportunities. It is for this reason that it is impossible to state that there is an equitable and homogeneous distribution of resources, nor is it possible to assume that the situation of one of the family members is indicative of the situation of all the others. The concept of head of household is based on the subjective criteria of who is perceived to be the “chief” by the family group, independently of the responsibilities or functions that the person in question may have. When there is a man in the house (the companion of the woman) it is he who is the head of the household. A woman can be recognized as the head of the family when there are no adult men living in that household. In this context, the mother and grandmother play a decisive role.

Women's involvement is essential in each and every one of the activities, which were previously the exclusive domain of men, since in addition to participating in planting, harvesting and maintaining crops, raising and maintaining poultry, making and cooking food, making handicrafts, marketing food products, cutting wood and mining, their involvement in the community councils was previously minimal but today their participation is approximately 23%. One of the project's specific objectives and outcome indicators is that by the end of the second year of the project, 40% of the members of the community council's board of directors will be women, in order to close the gender gap and to empower women at all levels.

Compliance with Principle 4: Good governance. The project consolidates a culture of joint responsibility for the care and harvesting of forests, promotes a forest economy based on goods and services, and thus consolidates territorial governance by strengthening community awareness through the management of information and knowledge. This commitment to promote good governance is a fundamental aspect in achieving project objectives.

Compliance with Principle 5: Security of tenure to forest land and access to forest resources. The area where the project will be implemented is located within the collective territory of the Community Council of the Lower Basin of the Calima River, whose forest land use and tenure are recognized under Law 21 of 1991 and Law 70 of 1993. This has allowed the community to have absolute security of land tenure and access to forest resources, goods and services. However, the lack of sustainable management of secondary natural forests has resulted in inadequate and recurrent intensive harvesting, causing the degradation of the forest cover. This project seeks to train and raise awareness in the community, among teachers, leaders and farmers, and facilitate increased participation of women. The establishment of natural forest enrichment lines over 100 hectares and the adoption of a management plan for 16 plots in the research network will be basic tools to consolidate land tenure and access to forest resources, thus becoming an important aspect of governance, where the ownership, control and customary rights of communities over local land and forest resources are recognized and supported.

Population

Living conditions for the population are affected by poverty, mainly because of low income levels, high unemployment levels in the formal market and unmet basic needs. Most housing is built with a roof made of straw, zinc, tiles, and almost all has earth flooring; in general the houses are in very bad condition; most lack waste water treatment systems and liquid waste is thrown into water sources. The population does not have access to drinking water; each household collects rain water and stores it in tanks. There are no solid waste (rubber, metal and glass) management systems; this is thrown away and contaminates bodies of water and soil around the house.

Regarding education, there are few schools; the physical infrastructure is in average condition and is mostly too small causing overcrowding and, in general, several grades share the same classroom. Often the long trip the students need to make by canoe or on foot causes attendance problems; it is believed that low income levels also result in low attendance and high drop-out rates. Access to education is currently improving. Drop-our rates for boys – men is greater than that for girls, due to the fact that the former group (boys-men) need to help their fathers in farming activities. The rate of participation for girls in secondary and primary schools ranges from 55% to 60% with a lesser participation rate of 40% - 50% for boys.

There are not enough health care centers and they usually lack the necessary resources, personnel, and medicines; furthermore, the personnel are not sufficiently trained to provide first aid care.

Annex 2 shows the organization of the Community Council and the population distribution among the 10 communities in the Community Council.

1.4 Expected outcomes at project completion

In the second year, upon project completion, it is expected that 100 hectares of production will be established in line enrichment and agroforestry systems for secondary forests in four clusters identified in the Bajo Calima region, of which 70 and 30 hectares will be rubberwood and Aceite María plantations respectively, which will help decrease the pressure on (primary or secondary) natural forests and/or recover degraded ecosystems, facilitating economic and production processes in the region, generating direct and indirect sources of employment, contributing to the regional food chain (associated models and farms will be in full production) and, especially, will provide new opportunities to the population of the Bajo Calima Community Council.

It is also expected that at least 230 people, including teachers, community members, representatives of public and private institutions, leaders and multipliers of the 10 communities in the project region, half of whom will be women, will have been trained in planting and nursery management techniques for the selected forest and agricultural species, in conceptual and technical matters relating to agroforestry systems, subsistence or family farms, management and maintenance of (forest and agricultural) crops and in community organization.

Furthermore, together with the local education authorities, it will be discussed with municipal authorities the possibility of including in the formal primary education curriculum a subject on environmental education and good natural resource management.

Finally, it is expected that there will be a management model available for secondary natural forest enrichment management systems and appropriate agroforestry systems for the various forest and agricultural species used in the project, which will help energize communities where no plantations were established. These management models will be based on the research-action programme to be established on the basis of the experimental network of permanent plots under the responsibility of the Tropical Forestry Center of the University of Tolima.

PART 2. PROJECT RATIONALE AND OBJECTIVES

2.1 Rationale

2.1.1 Institutional set-up and organizational issues

The University of Tolima, through the Tropical Forestry Center of Bajo Calima, established as a research center in 1972, has operated on the basis of three essential pillars: teaching, research and local community engagement and management. Forestry students in their last academic level from the central headquarters of the University in Ibagué come to this center for six months for their practicum; it is also visited by different academic and research groups working on other subjects such as forest inventory, ecology, dendrology, etc. and also from other universities such as the National University of Colombia, the University of Pacífico, the District University and Sena.

Over time, a very significant relationship has been cemented with the Community Council, with which a cooperation agreement has been signed to work jointly in the development of proposals and projects with a view to enhancing the welfare of the Bajo Calima population and in the development of projects for the sustainable management of forests in the region. This work focuses on research with community involvement, and on training community members in forest resource management. The project hereby proposed to ITTO is consistent with the objectives of the agreement signed in 2007 and renewed for another six years in 2013.

The facilities of the Tropical Forestry Center of Bajo Calima are situated on approximately 10 hectares (100,000 m^2); of these 584 m^2 are in buildings including four offices, bedrooms, meeting hall, auxiliary rooms and 11 full bathrooms. Similarly, there is a library, computer room, gymnasium, sports field and Internet service, in addition to a rainwater tank for domestic consumption and electricity from the public electricity network of the Municipality of Buenaventura.

There is also a timber production and processing area, as well as nurseries for the production of plant material. The rest of the 10-ha area is a forest reserve area for natural forest study purposes, which is protected by the University of Tolima through the Tropical Forestry Center of Bajo Calima.

Bajo Calima Community Council
The Bajo Calima Community Council is organized as follows:

General Assembly: this is the maximum authority of the Community Council and it includes all the people who live within the territory and fully recognized by the Council under their governing system, and recorded through an internal census process; one of its roles is to elect the Members of the Board of the Community Council.

Community Council Board: this is the authority in charge of leadership, coordination, implementation and internal administration of the community that established a Community Council to perform the duties assigned to it by Law 70 of 1993, and its regulatory decrees, and other roles that the community may assign to it. The Board of Directors includes the legal representative, treasurer, secretary and general coordinators for health, education, sports, recreation and culture, community groups, infrastructure, environment and communications.

The Community Council works on the basis of projects. The Council organizes calls to meetings, workshops, training, and distribution of academic and other material. See Annex 2 on the organizational structure of the Community Council.

The main institutions involved in forest management in the project area in Bajo Calima are:

Institution	Tasks and responsibilities	Communication and coordination
Ministry of Environment and Sustainable Development	Establish the national forest and environmental policy in Colombia. Promote the implementation of international treaties and conventions related to forests. Support the active participation of local communities in SFM.	Decrees, resolutions and licenses as determined by the President of the Republic and the relevant Ministry. Dialogue and participation platforms for forest management (forest roundtables).
Regional Autonomous Corporation of Valle del Cauca. C.V.C.	Implement the national and regional policies and standards in the environmental field. Environmental, Monitoring and Control Authority. Administrator of natural resources in its area of jurisdiction. Develop forest projects with the participation of local communities.	Agreements, resolutions, technical concept notes, licenses, permits, area offices, user service, processing of harvesting permit applications, issuing of transport permits. Enforcement of environmental sanctions regime. Forest Roundtable of Valle del Cauca.
Municipal Council of the Special Industrial, Port, Biodiverse and Ecotourism District of Buenaventura.	Formulation of Land-Use Management Plan. Approval of budget for the development of infrastructure and public policies.	Agreements and regulations to be implemented at the local municipal level.
Municipal Town Hall of Special Industrial, Port, Biodiverse and Ecotourism District of Buenaventura.	Civil Municipal Authority in charge of the management and administration of public order at the local level. Formulation of municipal development plan and execution of budget for infrastructure and public policy development.	Resolutions and coordination of work with police inspectors in specific localities such as Bajo Calima.
Bajo Calima Community Council and Parish Committees	Owners of natural forests, which are used for household and commercial purposes. Owners of the collective territory according to Act No. 70 of 1993. Formulation of their ethnic development plan.	Agreement on the use and management of natural resources according to Community Council's guidelines.
University of Tolima	Official higher education institution with capacity to implement high-impact scientific research and provide community forestry advisory services. It became operational in Bajo Calima in 1972 through the Forest Research Center, providing teaching, research and social projection services.	Institutional cooperation agreement with the Bajo Calima Community Council.
SINERGIA Foundation, Las Brisas Community NGO, Bajo Calima Community Council	Forest consultancies. Environmental education. Forest production.	Coordination with local communities to implement environmental licensing compensation projects.
Pacific Environmental Research Institute	Generate participatory processes for the development, use, transfer and dissemination of knowledge on the conservation and strengthening of natural and cultural systems in the Colombian Pacific Region.	Knowledge outreach through research, dissemination, communication, systematization and information activities. Development of Land-Use Plan in the Calima River Watershed.
Fresh Water Seaport	Compensation for affecting natural resources through the construction of sea terminal and waterway.	Coordination with the Bajo Calima Community Council to identify areas and engage manpower in compensation work.
National Navy	National security and control authority in the transport of biodiversity products.	Coordination at the inter-institutional level and with the Bajo Calima Community Council for monitoring and control.

2.1.2 Stakeholder analysis

Stakeholder group beneficiaries	Characteristics	Problems, needs, interests	Potential	Involvement in the project
Primary stakeholders				
Local farmers (in the 4 clusters identified by the project)	Derive their income from timber production in natural forests and partially from food crops and small-scale mining. The participation of women is emphasized.	Threat to their basic resources Unmet basic needs	Acknowledgement of the impact they are causing to forests. Interest in learning about and developing other production alternatives. Empirical knowledge of forest management. Deep roots in the collective territory	Primary project beneficiaries
Community Council and parish committees	Prepare and execute life plan and community development plan Community Council is the highest environmental authority on this land	Poor organization because recently created Mostly interested in developing and implementing management plan for natural resources in their lands	Interest in training senior leaders in natural resource use and management Community Council with authority, influence and decision-making powers in its 10 communities	Primary stakeholders in land planning
Primary and secondary teachers in the region	In charge of teaching local community students	Poor training in appropriate management of natural resources	Once trained, they will train leaders in management of agroforestry systems and general natural resources management	Will be trained to improve the use and management of natural resources
Secondary stakeholders				
CVC –Regional Autonomous Corporation of Valle del Cauca	As the highest environmental authority in the region, it is in charge of ensuring appropriate use of natural resources in its area	Insufficient financial resources to execute work plans with communities	Trained technical personnel to provide support to production projects in its jurisdiction	Direct involvement in its capacity as environmental authority
NGOs, private consultants	There are some linked to the land, providing support to rural development activities	Respond to their own mission and vision Contract activities with other institutions	Valuable experience in working with communities and credibility among communities	Sub-contract for implementation of some activities

Stakeholders accept and commit themselves to the project in Bajo Calima.

There is a low risk or probability that this factor will endanger the success of the project because even before the implementation of the project, the stakeholders already have a favorable opinion and show willingness to be involved. Actions will be taken to maintain community engagement.

Feedback is expected to be received from direct and indirect project stakeholders in discussion spaces to be facilitated during the implementation of the project, thus contributing to the resolution of environmental management problems in the natural forests of Bajo Calima, in accordance with ITTO criteria for sustainable forest management and national policies of the Ministry of Environment and Sustainable Development.

Use areas (which are described above under section 1.3.2) are managed by both men and women, with equal participation of all members of the family (father, mother and children) in production activities, although for some specific activities the division of work is gender-based. The whole family is involved in the establishment of the farm (or plot) where food crops are grown, including corn, taro and cane. Men are mainly in charge of corn sowing and harvesting activities but receive the help of women for 20%-30% of the tasks.

In general, land preparation work is carried out by men, while the planting, maintenance and harvesting of crops and any type of product processing is a task largely carried out by women and children.

Women are in charge of raising and keeping chickens and ducks, which produce eggs and meat for household consumption. They are responsible for preparing and cooking their food, as well as their distribution and use. In addition, they are responsible for making crafts and preparing food products to be marketed.

Another activity where women are actively involved is timber harvesting; they tend to focus on timber that is at a closer distance than that logged by men, and their tasks also include skidding and carrying. Mining is carried out on a small artisanal scale, panning along creeks and rivers. Women involvement in this type of activities is approximately 50%-60%. On the other hand, mining is fully delegated to men if the activities are carried out using more sophisticated tools such as pumps or dredges. Those activities that demand greater physical effort, such as house building or roofing, are carried out by men. Hunting and fishing are also carried out entirely by men.

Women are gradually gaining ground in all of the activities that in the past used to be carried out exclusively by men.

A significant case in point is the involvement of women in Community Councils since 1995, when these councils were created. At the beginning, the participation of women was minimal, but now, 23 years later, their involvement is increasing, and out of the 13 members that make up the Bajo Calima Community Council, 4 are women (30% of membership).

Even though there is yet to be a woman elected as legal representative or chair of the Community Council, current members are convinced that women will soon be occupying those leadership positions.

Indeed, women have been acquiring increasing leadership in the development of community meetings, not only through their attendance but also through their voice and involvement in decision making. Sixteen years ago women involvement in these matters was insignificant, as they did not attend any meetings or gatherings; at present, the participation ratio in organizational processes is 60% men and 40% women.

2.1.3 Problem Analysis

Preliminary considerations

The forest development policies for the region establish that forest activity is one of the sectors with most potential for economic, social and environmental growth because of the advantages the country has with its lands that are suitable for commercial forest species, agroforestry systems and other production systems, such as the enrichment of secondary natural forests that produce good yields in timber and non-timber products, and contribute to food security; however, these advantages have not been appropriately utilized.

Furthermore, the establishment of these systems is also a major strategy for conservation and restoration of degraded ecosystems, as it presents production alternatives for communities that have been using these ecosystems with activities that degrade the environment.

This is the situation in the Bajo Calima region, with increased demand for forest goods and services, and with production activities that have caused progressive alterations to the natural environment such as:

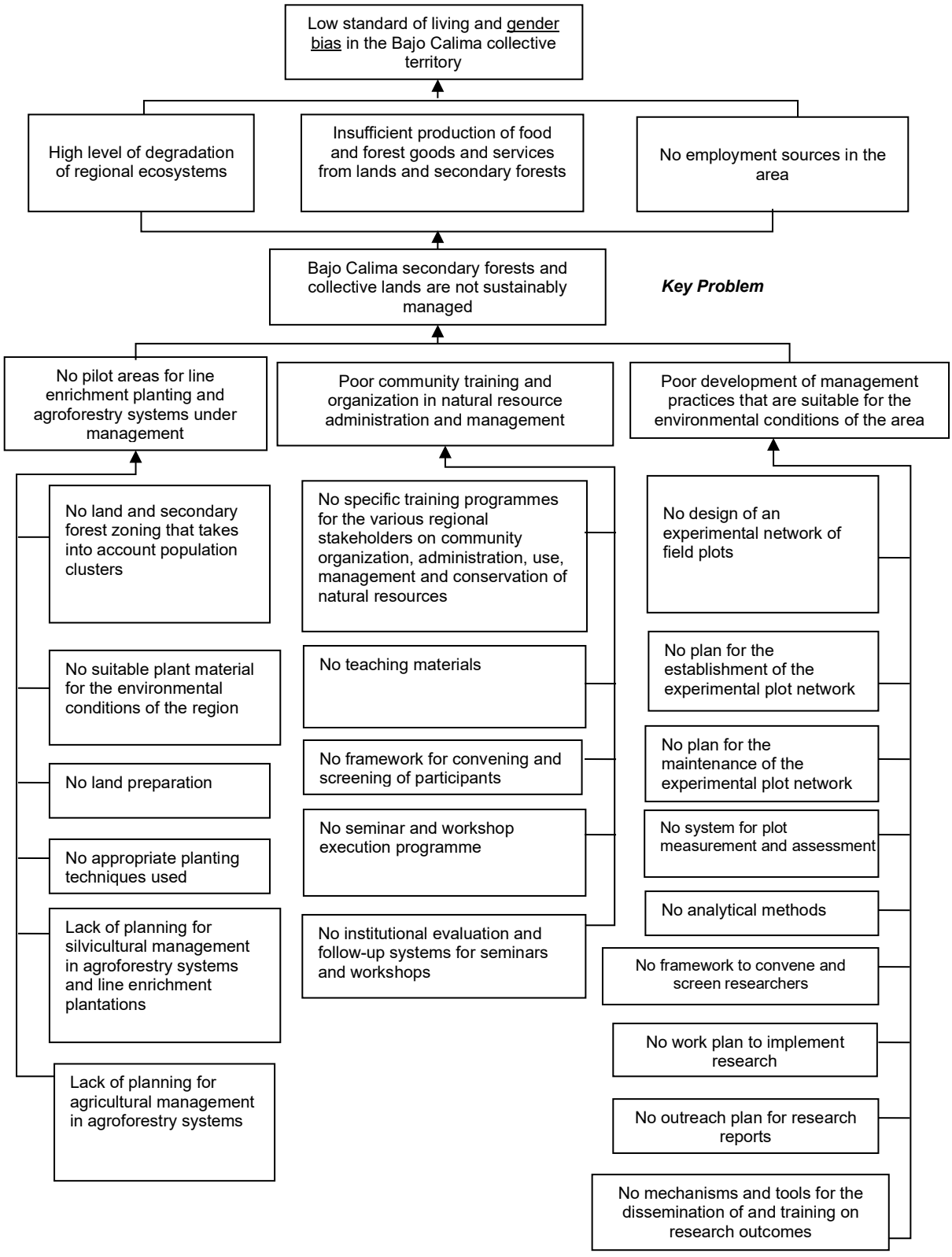
- destruction of primary natural forests and changes in land use, resulting from inappropriate logging and non-managed settlement processes;
- inappropriate, repeated and intensive secondary natural forest logging has prevented their restoration, thus resulting in their degradation;
- limited availability of lands suitable for agriculture, with a very superficial top soil layer which is inexistent in most cases;
- limited forest product processing, resulting in low sale prices to intermediaries and forcing higher numbers of trees to be logged to increase farmer income. The only processing of timber is done by chainsaw, for trees normally over 18 inches in diameter;
- modification of landscape and vegetation and decreased biodiversity.

Situations like this require encouragement and support for the implementation of policies, programs and strategies formulated by the national government with direct engagement of communities involved, in particular the development of forest production chains, to ensure conditions conducive to systematic and permanent development, adopting an integrated approach that includes both reflection and action with an understanding of the fact that the links in the product supply chain, from establishment and management of production systems to the consumer, create interdependencies on the basis of which it is viable and necessary to integrate the progress achieved with one link in the chain, in the other links.

Furthermore, it is necessary to strengthen land governance among ethnic groups and rural communities and reinforce community awareness through the management of information and knowledge to consolidate a joint-responsibility approach for the care and sustainable harvesting of forests, as well as promoting a forest economy based on forest goods and services to contribute to the implementation of the EICDGB (*Integrated Strategy for Deforestation Control and Forest Management).*

The following problem tree shows the causes and sub-causes of the key problem and relevant effects.

Problem Tree



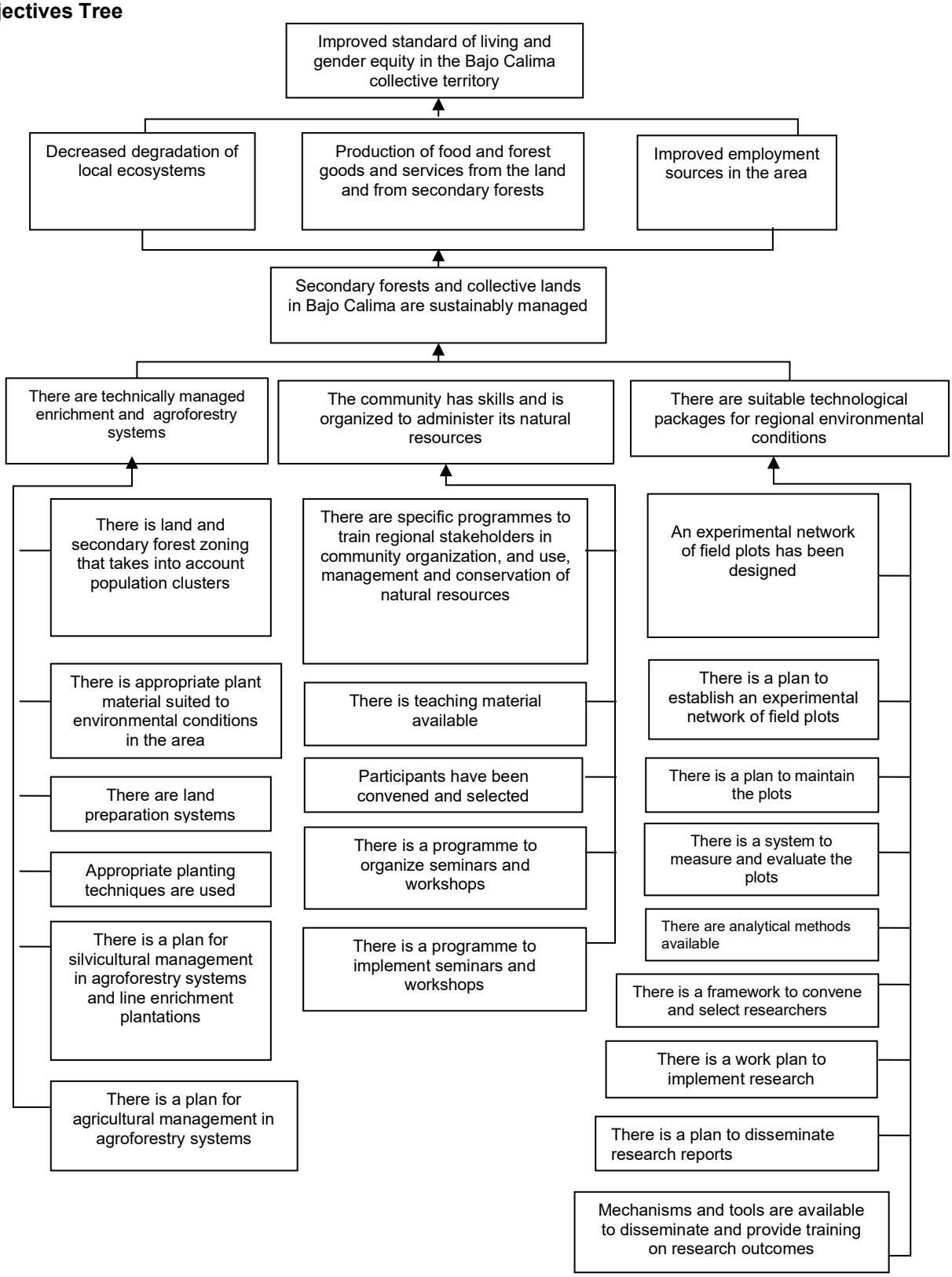
2.1.4 Logical framework matrix

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Development objective: To contribute to the implementation of management, conservation and restoration programs for strategic ecosystems in the Pacific region of Colombia, based on enrichment and agroforestry systems established and managed under a sustainable approach.	1) By the end of the project, 100 hectares of secondary natural forests in the collective territory of the Bajo Calima Community Council will be under a SFM plan that meets the requirements for legality verification. 2) By 2024, pilot sustainable secondary natural forest management systems in the collective territory of the Bajo Calima Community Council will have been extended to 1000 hectares. . 3) By 2023, at least 100 families under the Bajo Calima Community Council will have consolidated the production of food for self-consumption.	1) Institutional progress reports on programs and projects. 2) Number of hectares under pilot sustainable management systems 3) Volume of agricultural products by farm and cluster 4) Number of community members trained and participating in the project 5) Minutes of meetings, seminars, etc. 6) Audiovisual recordings	Government changes do not affect the project.
Specific Objective: To launch a participatory process with a gender focus to achieve the sustainable management of secondary natural forests and collective lands in Bajo Calima, Republic of Colombia.	1) By the end of the project, the Bajo Calima Community Council will have achieved management capacity and organization of the use, management and conservation of its natural resources. 2) By the end of the second year of the project the basic outline of a secondary natural forest management plan will be available. 3) By the end of the second year of the project, it is expected that 40% of members in the Community Council Board will be women	1) Progress reports 2) Total stakeholders involved in the project 3) Number of hectares established and managed by cluster and total 4) Document containing the guidelines proposed for the management of secondary natural forests in Bajo Calima. 5) Minutes of Community Council meetings	Stakeholders accept and commit themselves to the project in Bajo Calima. The regional socio-economic situation allows project implementation
Output 1: Line enrichment planting and agroforestry systems for secondary natural forests have been established and managed as pilot areas	1) By the end of the first year, 70 hectares of rubberwood will have been established in association with agricultural crops and 30 hectares of Aceite María have been established through line enrichment planting in the secondary natural forest. 2) By the end of the second year, 70 hectares of rubberwood will be managed in association with agricultural crops and 30 hectares of Aceite María will be managed in enrichment lines in the secondary natural forests. 3) By the second year, 16 farms in the pilot areas in 4 population clusters will have made progress with their production systems.	1) Progress reports 2) Number of producers involved 3) Number of hectares established 4) Total agricultural products harvested 5) Total family farms established and operating 6) Total beneficiaries from family farms	The various stakeholders are involved in the implementation of the project in Bajo Calima. The regional socio-economic situation allows project implementation
Output 2: Trained teachers, community leaders, and farmers apply their knowledge in community organization, administrative tasks, use, management and conservation of natural resources	1) By the end of the second year 200 individuals (15 teachers, 30 leaders and 155 farmers) will have been trained. At least 50% of the trainees will be women. 2) By the end of the second year, at least 80% of users will indicate their satisfaction with being involved in the project 3) By the end of the second year, there will be a significant increase in the restoration of degraded areas.	1) Progress reports 2) Total number of individuals trained by seminar 3) Minutes of meetings and confirmed attendance 4) Field days organized 5) Audio-visual records 6) Satisfaction survey	The various stakeholders are involved in the implementation of the project in Bajo Calima. The regional socio-economic situation allows project implementation

Output 3: Research-action programme developed and implemented.	1) By the end of the first year 16 research plots will have been established and duly monitored 2) In the first year, researchers-master's, specialization and undergraduate students will have been selected to carry out applied research work 3) By the end of the second year, the executing agency will have adopted a management plan for the research network plots. 4) By the second year of the project there will be data available on economic yield for at least two associated agricultural products 5) By the second year of the project, there will be information available on variables related to women's activities (cultural, institutional and legal context, participation in social networks and community leadership) 6) By the end of the second year, a manual on management practices for agroforestry systems and line enrichment planting will be available. 7) In the second year there will be a multimedia presentation and booklet to explain the achievements of the project.	1) Progress reports 2) 16 plots established 3) Total number of researchers-students participating in the project 4) Management plan for research plots 5) Audio-visual records 6) Information system within the research-action program.	The various stakeholders accept the implementation of the project in Bajo Calima. The regional socio-economic situation allows project implementation

2.2 Objectives

Objectives Tree



2.2.1 Development objective and impact indicators

To contribute to the implementation of management, conservation and restoration programs for strategic ecosystems in the Pacific region of Colombia, based on enrichment and agroforestry systems established and managed under a sustainable approach.

Impact indicators:

1) By 2023, secondary natural forests in the collective territory of the Bajo Calima Community Council will be sustainably managed under a plan that will meet legality verification requirements.
2) By 2023, pilot sustainable secondary natural forest management systems in the collective territory of the Bajo Calima Community Council will have been extended to 1000 hectares.
3) By 2023, at least 100 families under the Bajo Calima Community Council will have consolidated the production of food for self-consumption.

2.2.2 Specific objective and outcome indicators

To launch a participatory process with a gender focus to achieve sustainable management of secondary natural forests and collective lands in Bajo Calima, Republic of Colombia.

Outcome indicators:

1) By the end of the project, **in the second (2) year**, the Bajo Calima Community Council will have achieved management capacity and organization of the use, management and conservation of its natural resources **through the training of 200 people, including teachers, community members, representatives of public and private institutions, leaders and multipliers in the 10 communities located in the project area**.
2) By the end of the second **(2)** year of the project the basic outline of a secondary natural forest management plan will be available, **based on one (1) enrichment planting management model for secondary natural forests and agroforestry systems**.
3) By the end of the second **(2)** year of the project, it is expected that 40% of members in the Community Council Board will be women

PART 3. DESCRIPTION OF PROJECT INTERVENTIONS

3.1 Outputs and activities

3.1.1 Outputs

Output 1: Line enrichment planting and agroforestry systems for secondary natural forests have been established and managed as pilot areas.

Output 2: Trained teachers, community leaders, and farmers apply their knowledge in community organization, administrative tasks, use, management and conservation of natural resources.

Output 3: Research-action program developed and implemented.

3.1.2 Activities

For Output 1: Line enrichment planting and agroforestry systems for secondary natural forests have been established and managed as pilot areas

1. Zoning and selection of community farms according to population clusters.
2. Production or purchase of suitable plant material to local environmental conditions.
3. Land preparation according to selected techniques, taking into account the specific local conditions.
4. Planting of plant material according to selected techniques, taking into account local environmental conditions.
5. Planning of silvicultural management in agroforestry systems and line enrichment plantations.
6. Planning of agricultural management in agroforestry systems.

For Output 2: Trained teachers, community leaders, and farmers, apply their knowledge in community organization, administrative tasks, use, management and conservation of natural resources

1. Designing seminars and training workshops.
2. Producing teaching materials.
3. Convening and selection of seminar and workshop participants according to the defined context.
4. Executing seminar and workshop program.
5. Carrying out the evaluation and institutional follow-up of seminars and workshops according to the defined system

For Output 3: Research-action program developed and implemented.

1. Designing the experimental field plot network.
2. Implementing the plan to establish the experimental field plot network.
3. Implementing the plot maintenance plan.
4. Measuring and evaluating plots according to the defined system.
5. Convening and selecting researchers among PhD, MSc, specialization and undergraduate students from the School of Forestry.
6. Executing research - action work according to the work plan.
7. Disseminating the reports at institutional and community levels according to the defined plan.
8. Developing a multimedia presentation and booklet with the outcomes of the research, for distribution and training of social stakeholders (institutions and communities)

3.2 Implementation approaches and methods

The following elements will be used as a basis:

- The project will establish strategic partnerships with sectoral institutions and organizations in Bajo Calima, Buenaventura and Valle, such as the CVC (Regional Autonomous Corporation of Valle del Cauca – Environmental Authority), Buenaventura Municipality, Secretariat of Education of the Municipality, timber and rubber latex marketing enterprises. A participatory approach with a gender focus will help interested groups participate in the development of a consensus vision for the utilization and management of secondary forests and forest lands in the region. The development of processes to mobilize and train beneficiaries will take into account the need for stepped consolidation, thus helping build awareness and a sense of belonging that will change perceptions, analyze problems and help identify socio-economic priorities.
- Initially there will be a pilot test with 100 hectares, in 4 clusters, which will then be extended to a larger area.
- Integrated project for research – action, which collects biological, economic and social data. The project will collect not only biophysical but also economic and social data related to the impact of the project on nutrition, health, population migration, family circumstances, social stability and regional employment characteristics. From a qualitative viewpoint, it will be necessary to consider several variables influencing the involvement of women such as the cultural, institutional and legal context, their participation in social networks, and their increasing role in community leadership.
- The project becomes a source of organizational strengthening for the community, through various training processes in technical, administration and socio-economic aspects to facilitate self-management.
- Production of food and other goods and services to assist the community's economic development. Environmental services in particular will be derived from the restoration and improvement of secondary forests and forest lands in the project area.

Taking into account that production work is distributed among the different members of the family, and given the fact that women account for 50% of the population and that harvesting and product processing activities are mostly carried out by women and children, actions will be taken to further contribute to gender equity and improve women's access to resources and production activities by redressing any gender imbalances identified in the process.

- Environmental training of teachers assigned to regional education centers. Training in the same subject for at least 200 regional inhabitants (including Community Council of La Brea and inhabitants of the lower San Juan River). At least 50% of training beneficiaries will be women.
- Based on these premises, the University of Tolima, through the Tropical Forestry Center of Bajo Calima and the Community Council of the Bajo Calima Black Ethnic Group, as co-executors of the project, will be able to continue implementing the system and extend it to other communities, currently left out of the project, through courses and training workshops, to consolidate and widen the network after this project is completed.

3.3 Work plan

OUTPUTS AND ACTIVITIES	RESPONSIBLE PARTY	STAGE 1				STAGE 2			
		YEAR 1				YEAR 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
For Output 1: Line enrichment planting and agroforestry systems for secondary forests have been established and managed as pilot areas	Technical director								
1.1. To zone and select community farms according to population clusters	Professionals and technical experts P1, P4, P7,P8,P9	V				V			
1.2. To produce or purchase plant material suitable to local environmental conditions.	Technical director Sub-contract	V	V	V		V	V	V	
1.3. To prepare the land according to selected techniques, taking into account the specific local conditions.	Technical director Sub-contract		V	V			V	V	
1.4. To carry out the planting of plant material according to selected techniques, taking into account local environmental conditions	Technical director Sub-contract		V	V			X	X	
1.5. To plan silvicultural management in agroforestry systems and line enrichment plantations.	Professionals and technical experts P1, P4, P7, P8		V	V		V	V		V
1.6. To plan agricultural management in agroforestry systems.	Professionals and technical experts P1, P7, P8				V				V
For Output 2: Trained teachers, community leaders, and farmers apply their knowledge in community organization, administrative tasks, use, management and conservation of natural resources.	Professionals and technical experts P1, P4, P5, P6 P7,P8,P9								
2.1. To design seminars and training workshops.	Professionals and technical experts P5, P9	V	V	V	V	V	V	V	V
2.2. To produce teaching materials.	Professionals and technical experts P4, P5, P6 P7,P8,P9	V	V	V	V	V	V	V	V
2.3. To convene and select seminar and workshop participants according to the defined context.	Technical coordinator	V	V	V	V	V	V	V	V
2.4. To implement the seminar and workshop program.	Technical coordinator	V		V	V	V		V	V
2.5. To carry out the evaluation and institutional follow-up of seminars and workshops according to the defined system	Technical coordinator	V	V	V	V	V	V		V
For Output 3: Research-action programme developed and implemented.	Academic co-director								
3.1. To design the experimental field plot network.	Academic co-director		V	V			V	V	
3.2. To implement the plan to establish the experimental field plot network.	Technical director Sub-contract			V	V			V	V
3.3. To implement the plot maintenance plan.	Technical director Sub-contract				V		V		V
3.4. To measure and evaluate plots according to the defined system.	Academic co-director				V		V		V
3.5. To develop sound analytical methods.	Academic co-director					V		V	V
3.6. To convene and select researchers among PhD, MSc, specialization and undergraduate students from the School of Forestry.	Academic co-director	V	V			V	V		
3.7. To implement research - action work according to the work plan.	Academic co-director		V	V	V	V	V	V	V
3.8. To disseminate the reports at institutional and community levels according to the defined plan.	Technical coordinator				V	V	V	V	V
3.9. To develop a multimedia presentation and booklet with the outcomes of the research, for distribution and training of social stakeholders (institutions and communities)	Technical director Sub-contract							V	V

3.4 Budget

3.4.1 Table 1 - Master budget

Outputs /Activities	Budget component		Description	Quantity			Unit cost	ITTO			University of Tolima			Community Council			Total cost
				STAGE 1	STAGE 2	TOTAL	US$	STAGE 1	STAGE 2	TOTAL	STAGE 1	STAGE 2	TOTAL	STAGE 1	STAGE 2	TOTAL	US$
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
O 1:	**Line enrichment planting and agroforestry systems for secondary forests have been established and managed as pilot areas**																
A1.1:	**Zoning and screening of community farms according to population clusters**																
	Meetings with farmers of the 4 clusters to select producer farms																
	111	D	Involvement: director	1	1	2	1,550	1,550	1,550	3,100							3,100
	112	P1	Involvement: expert	0.75	1	1.75	1,135	851	1,135	1,986							1,986
	112	P4	Involvement: expert	0.75	1	1.75	1,100	825	1,100	1,925							1,925
	114	P5	Involvement: expert	0.75	1	1.75	660	495	660	1,155							1,155
	115	P6	Involvement: expert	0.5	0.5	1	643	322	322	643							643
	122	A3, A4	Involvement: assistants	0.75	1	1.75	30	23	30	53							53
	311		DSA Experts	4	12	16	60	240	720	960							960
	312		DSA Administrator/Treasurer	3	8	11	60	180	480	660							660
	313		DSA Participants	5	15	20	15	75	225	300							300
	333		Transport Participants	15	15	30	9	135	135	270							270
	43		Vehicles (4x4, boat)	16	8	24	118	1,888	0	1,888							1,888
	53		Fuel	48	45	93	3,5	168	158	326							326
	Sub-total							**6,751**	**6,514**	**13,265**	**0**			**0**	**0**		13,265
A1.2:	**Production or purchase of suitable plant material to local environmental conditions.**																
	Production of forest and agricultural species seedlings for planting 35 hectares.																
	111	D	Involvement: director	0.5	0.5	1	1,550	775	775	1550							1,550

	112	P1	Involvement: expert (advice, supervision and monitoring)	0.5	0.5	1	1,135	567,5	567.5	1135							1,135
	121	A1, A2	Involvement: field assistants (advice, supervision and monitoring	0.5	1	1.5	525	262,5	525	787,5							788
	122	A3, A4	Involvement: assistants	0.5	0.5	1	500	250	250	500							500
	21		Sub-contract 1 (production or purchase of seedlings)	56000	80000	136000	0.45	25200	36000	61200							61,200
	311		DSA Experts	4	12	16	60	240	720	960							960
	312		DSA Administrator/Treasurer	3	8	11	60	180	480	660							660
	313		DSA field assistants	5	15	20	30	150	450	600							600
	43		Vehicles (4x4, boat)	16	8	24	118	1888	0	1888							1,888
	53		Fuel	48	45	93	3.5	168	157.5	325.5							326
	Sub-total							**29,681**	**39,925**	**69,606**	**0**			**0**	**0**		69,606
A1.3:	**Land preparation according to selected techniques, taking into account specific local conditions.**																
	111	D	Involvement: director (advice, supervision and monitoring)	0.33	0.33	0.66	1,550	511,5	511,5	1023							1,023
	112	P1	Involvement: expert (advice, supervision and monitoring)	0.5	1	1.5	1,135	567,5	1135	1702.5							1,703
	121	A1, A2	Involvement: field assistants (advice, supervision and monitoring)	0.5	0.75	1.25	525	262,5	393,75	656.25	.						656
	122	A3, A4	Involvement: assistants	0.5	0.5	1	500	250	250	500							500
	22		Sub-contract 2 (land preparation)	35	50	85	161	5635	8050	13685							13,685
	311		DSA Experts	3	12	15	60	180	720	900							900
	313		DSA field assistants	3	12	15	30	90	360	450							450
	42		Land	35	50	85	558	0	0	0				19,530	27,900	47,430	47,430
	43		Vehicles (4x4, boat)	15	6	21	118	1770	0	1770							1,770
	53		Fuel	36	30	66	3.5	126	105	231							231
	Sub-total							**9,393**	**11,525**	**20,918**	**0**			**19,530**	**27,900**	**47,430**	68,348
A1.4:	**Planting of plant material according to selected techniques, taking into account local environmental conditions**																
	34 hectares of land and 4 family gardens																

	111	D	Involvement: director (advice, supervision and monitoring)	0.5	0.5	1	1,550	775	775	1550							1,550
	112	P1	Involvement: expert (advice, supervision and monitoring)	0.75	1	1.75	1,135	851,25	1135	1986.25							1,986
	121	A1, A2	Involvement: field assistants (advice, supervision and monitoring)	0.75	0.75	1.5	525	393,75	393,75	787.5							788
	122	A3, A4	Involvement: assistants	0.5	0.5	1	500	250	250	500							500
	23		Sub-contract 3 (planting 35 hectares)	35	50	85	85	2975	4250	7225							7,225
	311		DSA Experts	4	16	20	60	240	960	1200							1,200
	312		DSA Administrator /Treasurer	3	8	11	60	180	480	660							660
	313		DSA field assistants	4	12	16	30	120	360	480							480
	43		Vehicles (4x4, boat)	17	8	25	118	2006	0	2006							2,006
	53		Fuel	48	45	93	3.5	168	157,5	325.5							326
	Subtotal							**7,959**	**8,761**	**16,720**	**0**			**0**	**0**		16,720
A1.5:	**Planning of land clearings for agroforestry systems and line enrichment plantations.**																
	3 clearings																
	111	D	Involvement: director (advice, supervision and monitoring)	0.33	0.33	0.66	1,550	511,5	511,5	1023							1,023
	112	P1	Involvement: expert (advice, supervision and monitoring)	0.75	0.75	1.5	1,135	851,25	851,25	1702,5							1,703
	112	P4	Involvement: expert	0.5	0.5	1	1,100	550	550	1100							1,100
	115	P6	Involvement: expert	0.5	0.5	1	660	330	330	660							660
	121	A1, A2	Involvement: field assistants (advice, supervision and monitoring)	0.5	0.5	1	525	262,5	262,5	525							525
	122	A3, A4	Involvement: assistants	0.5	0.5	1	500	250	250	500							500
	24		Sub-contract 4 (clearing)	35	50	85	105	3675	5250	8925							8,925
	311		DSA Experts	3	12	15	60	180	720	900							900
	312		DSA Administrator /Treasurer	3	8	11	60	180	480	660							660
	313		DSA field assistants	4	12	16	30	120	360	480							480
	43		Vehicles (4x4, boat)	15	5	20	118	1770	0	1770							1,770
	53		Fuel	30	30	60	3.5	105	105	210							210

	Sub-total							**8,785**	**9,670**	**18,456**	**0**			**0**	**0**		18,456
A1.6:	**Planning of agricultural crop harvests.**																
	10 hectares per product																
	111	D	Involvement: director (advice, supervision and monitoring)	0.33	0.33	0.66	1,550	511.5	511.5	1023							1,023
	112	P1	Involvement: expert (advice, supervision and monitoring)	0.75	0.75	1.5	1,135	851.25	851.25	1702.5							1,703
	112	P4	Involvement: expert	0.25	0.25	0.5	1,100	275	275	550							550
	115	P6	Involvement: expert	0.25	0.25	0.5	660	165	165	330							330
	122	A3, A4	Involvement: assistants	0.33	0.33	0.66	500	165	165	330							330
	25		Sub-contract 5 (harvest)	20	35	55	139	2780	4865	7645							7,645
	311		DSA Experts	4	12	16	60	240	720	960							960
	312		DSA Administrator /Treasurer	3	8	11	60	180	480	660							660
	313		DSA field assistants	4	12	16	30	120	360	480							480
	43		Vehicles (4x4, boat)	15	5	20	118	1770	0	1770							1,770
	53		Fuel	36	36	72	3.5	126	126	252							252
	Sub-total							**7,184**	**8,519**	**15,703**	**0**			**0**	**0**		15,703
O2:	**Trained teachers, community leaders, and farmers apply their knowledge in community organization, administrative tasks, use, management and conservation of natural resources.**																
A2.1:	**Designing seminars and training workshops.**																
	Seminars for teachers, community leaders and farmer beneficiaries of the project																
	111	D	Involvement Director	0.5	0.5	1	1,550	775	775	1550							1,550
	118	CD	Involvement Co-Director	0.5	0.5	1	310	155	155	310							310
	112	P1	Involvement: expert (advice, supervision and monitoring)	0.5	0.5	1	1,135	567.5	567.5	1135							1,135
	112	P4	Involvement: expert	0.5	0.5	1	1,100	550	550	1100							1,100
	114	P5	Involvement: expert	1	1.25	2.25	660	660	825	1485							1,485
	122	A3, A4	Involvement: assistants	0.5	0.5	1	500	250	250	500							500
	54		Materials	1	1	2	2,500	2500	2500	5000							5,000
	53		Fuel	25	25	50	3.5	87.5	87.5	175							175

	Sub-total							**5,545**	**5,710**	**11,255**	**0**			**0**	**0**		11,255
A2.2:	**Producing teaching materials.**																
	Sets of material needed to implement workshops for teachers, leaders and farmers																
	114	P5	Involvement: expert Output 5	2	2	4	660	1320	1320	2640							2,640
	122	A3, A4	Involvement: assistants A3, A4	0.75	1	1.75	500	375	500	875							875
	54		Materials 6 seminars for teachers (15 teachers)	25	15	40	13	325	195	520							520
	54		Materials 6 seminars for leaders (50 leaders)	60	70	130	13	780	910	1690							1,690
	54		Materials 6 field days for farmers (150 farmers)	160	600	760	13	2080	7800	9880							9,880
	Sub-total							**4,880**	**10,725**	**15,605**	**0**			**0**	**0**		15,605
A2.3:	**Advertising courses and screening of seminar and workshop participants according to the defined context.**																
	Persons to be trained in the three kinds of planned events (for teachers, leaders and farmers)																
	111	D	Involvement: director	0.5	0.5	1	1,550	775	775	1550							1,550
	112	P4	Involvement: expert	0.75	1	1.75	1,100	825	1100	1925							1,925
	114	P5	Involvement: expert	0.75	1	1.75	660	495	660	1155							1,155
	115	P6	Involvement: expert	1	1	2	660	660	660	1320							1,320
	122	A3, A4	Involvement: assistants	1	1	2	500	500	500	1000							1,000
	311		DSA Experts	5	15	20	60	300	900	1200							1,200
	312		DSA Administrator /Treasurer	3	8	11	60	180	480	660							660
	43		Vehicles (4x4, boat)	16	8	24	118	1888	0	1888							1,888
	53		Fuel	48	45	93	3.5	168	157.5	325.5							326
	54		Office supplies	1	1	2	1,251	1251	1251	2502							2,502
	Sub-total							**7,042**	**6,484**	**13,526**	**0**			**0**	**0**		13,526
A2.4:	**Executing seminar and workshop programme.**																
	Persons trained in the three kinds of planned events																
	111	D	Involvement Director D	0.5	0.75	1.25	1,550	775	1162.5	1937.5							1,938
	118	CD	Involvement Co-Director CD	0.5	0.5	1	310	155	155	310							310

	112	P1	Involvement: expert P1	0.5	1.5	2	1,135	567.5	1702.5	2270							2,270
	112	P4	Involvement: expert P4	0.5	1.5	2	1,100	550	1650	2200							2,200
	113	P2, P3	Involvement: expert P2, P3	0.5	1	1.5	1135	567.5	1135	1702.5							1,703
	114	P5	Involvement: expert P5	0.5	1.5	2	660	330	990	1320							1,320
	115	P6	Involvement: expert P6	0.5	0.5	1	660	330	330	660							660
	122	A3, A4	Involvement: assistants A3, A4	0.5	0.5	1	500	250	250	500							500
	117	P7	Involvement: expert P7	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P8	Involvement: expert P8	0.25	0.25	0.5	555	0	0	0	138.75	138.75	277.5				278
	117	P9	Involvement: expert P9	0.25	0.25	0.5	555	0	0	0	138.75	138.75	277.5				278
	311		DSA Experts	4	12	16	60	240	720	960							960
	312		DSA Administrator /Treasurer	3	10	13	60	180	600	780							780
	313		DSA Participants	120	250	370	15	1800	3750	5550							5,550
	333		Transport Participants	250	250	500	9	2250	2250	4500							4,500
	43		Vehicles (4x4, boat)	40	20	60	118	4720	0	4720							4,720
	53		Fuel	90	80	170	3,5	315	280	595							595
	Sub-total							**13,030**	**14,975**	**28,005**	**416**	**555**	**971**	**0**	**0**		28,976
A2.5:	**Carrying out the evaluation and institutional follow-up of seminars and workshops according to the defined system**																
	Evaluation of workshops on community strengthening in the use and management of their natural resources																
	111	D	Involvement Director	0.5	0.5	1	1,550	775	775	1550							1,550
	118	CD	Involvement Co-Director	0.5	0.5	1	310	155	155	310							310
	112	P1	Involvement: expert	0.5	0.75	1.25	1,135	567.5	851.25	1418.75							1,419
	112	P4	Involvement: expert	0.5	1	1.5	1,100	550	1100	1650							1,650
	114	P5	Involvement: expert	0.5	1	1.5	660	330	660	990							990
	115	P6	Involvement: expert	0.5	1	1.5	660	330	660	990							990
	122	A3, A4	Involvement: assistants	0.5	1	1.5	500	250	500	750							750
	117	P7	Involvement: expert	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P8	Involvement: expert	0.25	0.25	0.5	555	0	0	0	138.75	138.75	277.5				278

	117	P9	Involvement: expert	0.25	0.25	0.5	555	0	0	0	138.75	138.75	277.5				278
	311		DSA Experts	5	20	25	60	300	1200	1500							1,500
	312		DSA Administrator /Treasurer	3	8	11	60	180	480	660							660
	43		Vehicles (4x4, boat)	16	8	24	118	1888	0	1888							1,888
	53		Fuel	45	45	89,999	3.5	157.5	157,4965	314,9965							315
	Sub-total							**5,483**	**6,539**	**12,022**	**416**	**555**	**971**	**0**	**0**		12,993
O 3:	**Research-action programme has been developed and implemented.**																
A3.1:	**Designing the experimental field plot network.**																
	Research plots on agroforestry and silvicultural method association models																
	111	D	Involvement Director	0.75	1	1.75	1,550	1,163	1,550	2712.5							2,713
	118	CD	Involvement Co-Director	0.5	1	1.5	310	155	310	465							465
	112	P1	Involvement: expert	1.5	2	3.5	1,135	1,703	2,270	3972.5							3,973
	113	P2, P3	Involvement: expert	3	3	6	1135	3,405	3,405	6810							6,810
	115	P6	Involvement: expert	1	1	2	660	660	660	1320							1,320
	122	A3, A4	Involvement: assistants	1	1	2	500	500	500	1000							1,000
	311		DSA Experts	5	12	17	60	300	720	1020							1,020
	43		Vehicles (4x4, boat)	16	8	24	118	1,888	0	1888							1,888
	53		Fuel	45	45	90	3.5	158	158	315							315
	Sub-total							**9,931**	**9,573**	**19,503**	**0**	**0**	**0**	**0**	**0**	**0**	19,503
A3.2:	**Implementing the plan to establish the experimental field plot network.**																
	Plots to test yields and improved practices for agroforestry systems and enrichment lines																
	111	D	Involvement: director	0.75	1	1.75	1,550	1,163	1,550	2712.5							2,713
	112	P1	Involvement: expert	0.5	1	1.5	1,135	568	1,135	1702.5							1,703
	112	P4	Involvement: expert	0.5	1	1.5	1,100	550	1,100	1650							1,650
	115	P6	Involvement: expert	0.5	1	1.5	660	330	660	990							990
	121	A1, A2	Involvement: field assistants	0.5	1.5	2	525	263	788	1050							1,050
	122	A3, A4	Involvement: assistants	0.5	1	1.5	500	250	500	750							750

	117	P7	Involvement: expert	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P8	Involvement: expert	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P9	Involvement: expert	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	124	O	Involvement: workers	8	8	16	335	0	0	0	2680	2680	5360				5,360
	26		Sub-contract 6 (establishment of 16 field plots)	6	8	14	125	750	1,000	1750							1,750
	311		DSA Experts	5	12	17	60	300	720	1020							1,020
	312		DSA Administrator /Treasurer	3	8	11	60	180	480	660							660
	313		DSA field assistants	5	12	17	30	150	360	510							510
	43		Vehicles (4x4, boat)	16	8	24	118	1,888	0	1888							1,888
	53		Fuel	48	48	96	3.5	168	168	336							336
	Sub-total							**6,559**	**8,461**	**15,019**	**3,096**	**3,513**	**6,609**	**0**	**0**	**0**	21,628
A3.3:	**Implementing the plot maintenance plan.**																
	Clearing, demarcation and maintenance of research plots																
	112	P1	Involvement: expert P1	0.75	0.5	1.25	1,135	851.25	567.5	1418.75							1,419
	112	P4	Involvement: expert P4	0.5	0.5	1	1,100	550	550	1100							1,100
	115	P6	Involvement: expert P6	0.5	0.5	1	660	330	330	660							660
	121	A1, A2	Involvement: field assistants Y1, Y2	0.5	0.5	1	525	262,5	262,5	525							525
	122	A3, A4	Involvement: assistants A3, A4	0.5	0.5	1	500	250	250	500							500
	117	P7	Involvement: expert P7	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P8	Involvement: expert P8	0.25	0.25	0.5	555	0	0	0	138.75	138.75	277.5				278
	117	P9	Involvement: expert P9	0.25	0.25	0.5	555	0	0	0	138.75	138.75	277.5				278
	124	O	Involvement: workers O	2	4	6	335	0	0	0	670	1340	2010				2,010
	27		Sub-contract 7 (maintenance)	6	8	14	63	378	504	882							882
	311		DSA Experts	4	16	20	60	240	960	1200							1,200
	312		DSA Administrator /Treasurer	3	8	11	60	180	480	660							660
	313		DSA field assistants	4	8	12	30	120	240	360							360
	43		Vehicles (4x4, boat)	17.44	5	22.44	118	2057.92	0	2057.92							2,058

	53		Fuel	49,7882	23	72,7882	3.5	174,2587	80.5	254,7587							255
	Sub-total							**5,394**	**4,225**	**9,618**	**1,086**	**1,895**	**2,981**	**0**	**0**	**0**	12,600
A3.4:	**Measuring and evaluating plots according to the defined system.**																
	Bimonthly measurements (first year) and subsequently six-monthly measurements of biophysical, social, economic and environmental variables in the research plots																
	111	D	Involvement: director D	0.5	0.33	0.83	1,550	775	512	1286.5							1,287
	112	P1	Involvement: expert P1	0.5	0.75	1.25	1,135	568	851	1418.75							1,419
	112	P4	Involvement: expert P4	0.5	0.75	1.25	1,100	550	825	1375							1,375
	113	P2, P3	Involvement: expert P2, P3	0.5	0.75	1.25	1135	568	851	1418.75							1,419
	115	P6	Involvement: expert P6	0.5	0.5	1	660	330	330	660							660
	121	A1, A2	Involvement: field assistants Y1, Y2	0.5	1	1.5	525	263	525	787.5							788
	122	A3, A4	Involvement: assistants A3, A4	1	1	2	500	500	500	1000							1,000
	117	P7	Involvement: expert P7	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P8	Involvement: expert P8	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P9	Involvement: expert P9	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	124	O	Involvement: workers O	2	4	6	335	0	0	0	670	1340	2010				2,010
	311		DSA Experts	4	8	12	60	240	480	720							720
	312		DSA Administrator /Treasurer	3	8	11	60	180	480	660							660
	313		DSA field assistants	4	8	12	30	120	240	360							360
	43		Vehicles (4x4, boat)	10	5	15	118	1,180	0	1180							1,180
	441		Computer equipment	0.33	0.7	1.03	1,850	0	0	0	610.5	1295					0
	442		Forest equipment	0.33	0.7	1.03	3,760	0	0	0	1240.8	2632					0
	53		Fuel	30	25	55	3.5	105	88	192,5							193
	54		Materials	1	1	2	650	650	650	1300							1,300
	Sub-total							**6,028**	**6,332**	**12,359**	**2,938**	**6,100**	**3,259**	**0**	**0**		**15,618**
A3.5:	**Analyzing data according to the defined methods.**																
	Preparation of biological analyses, drafting and distribution of reports																
	111	D	Involvement: director	1	1	2	1,550	1550	1550	3100							3,100

	112	P4	Involvement: expert	0.5	0.5	1	1,100	550	550	1100							1,100
	113	P2, P3	Involvement: expert	0.75	0.5	1.25	1135	851.25	567.5	1418.75							1,419
	115	P6	Involvement: expert	0.5	0.15	0.65	660	330	99	429							429
	122	A3, A4	Involvement: assistants	0.25	0.25	0.5	500	125	125	250							250
	117	P7	Involvement: expert	0.5	0.5	1	555	0	0	0	277.5	277.5	555				555
	117	P8	Involvement: expert	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P9	Involvement: expert	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	54		Materials	1	1	2	380	380	380	760							760
	Subtotal							**3,786**	**3,272**	**7,058**	**555**	**833**	**1,388**	**0**	**0**		8,445
A3.6:	**Advertising for, and screening researchers among masters', specialization and undergraduate students from the School of Forestry.**																
	Advertising for, and screening masters' (4), specialization (6) and undergraduate (6) students for theses and case studies																
	111	D	Involvement Director	0.5	0.5	1	1,550	775	775	1550							1,550
	118	CD	Involvement Co-Director	0.5	0.5	1	310	155	155	310							310
	112	P4	Involvement: expert	0.5	0.5	1	1,100	550	550	1100							1,100
	113	P2, P3	Involvement: expert	2.5	2.5	5	1135	2837.5	2837.5	5675							5,675
	122	A3, A4	Involvement: assistants	0.5	0.5	1	525	262.5	262.5	525							525
	54		Materials	1	1	2	380	380	380	760							760
	Sub-total							**4,960**	**4,960**	**9,920**	**0**			**0**	**0**		9,920
A3.7:	**Executing research - action work according to the work plan.**																
	Execution of 2 Master's theses, 3 specialization cases and 3 undergraduate theses, average cost per work																
	111	D	Involvement Director D	1	1	2	1,550	1,550	1,550	3100							3,100
	118	CD	Involvement Co-Director CD	1	1	2	310	310	310	620							620
	112	P1	Involvement: expert P1	0.5	1	1.5	1,135	568	1,135	1702,5							1,703
	112	P4	Involvement: expert P4	0.5	1	1.5	1,100	550	1,100	1650							1,650
	113	P2, P3	Involvement: expert P2, P3	0.5	1.5	2	1135	568	1,703	2270							2,270
	115	P6	Involvement: expert P6	0.5	0.25	0.75	660	330	165	495							495
	122	A3, A4	Involvement: assistants A3, A4	0.5	0.5	1	500	250	250	500							500

	117	P7	Involvement: expert P7	0.5	0.5	1	555	0	0	0	277.5	277.5	555				555
	117	P8	Involvement: expert P8	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P9	Involvement: expert P9	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	124	O	Involvement: workers O	2.4	4	6.4	335	0	0	0	804	1340	2144				2,144
	311		DSA Experts	3	8	11	60	180	480	660							660
	312		DSA Administrator /Treasurer	3	4	7	60	180	240	420							420
	313		DSA students	20	40	60	20	400	800	1200							1,200
	43		Vehicles (4x4, boat)	64	32	96	118	7,552	0	7552							7,552
	53		Fuel	150	100	250	3.5	525	350	875							875
	54		Materials	1	1	2	380	380	380	760							760
	Sub-total							**13,342**	**8,463**	**21,805**	**1,359**	**2,173**	**3,532**	**0**	**0**		25,336
A3.8:	**Mainstreaming of reports at institutional and community levels according to the defined plan.**																
	Mainstreaming progress reports and final outcomes of the 8 applied research works																
	111	D	Involvement Director D	1	1	2	1,550	1,550	1,550	3100							3,100
	118	CD	Involvement Co-Director CD	1	1	2	310	310	310	620							620
	112	P1	Involvement: expert P1	0.5	1	1.5	1,135	568	1,135	1702,5							1,703
	112	P4	Involvement: expert P4	0.5	1	1.5	1,100	550	1,100	1650							1,650
	113	P2, P3	Involvement: expert P2, P3	0.5	0.75	1.25	1135	568	851	1418,75							1,419
	115	P6	Involvement: expert P6	0.5	0.75	1.25	660	330	495	825							825
	122	A3, A4	Involvement: assistants A3, A4	0.5	0.75	1.25	500	250	375	625							625
	117	P7	Involvement: expert P7	0.5	0.5	1	555	0	0	0	277.5	277.5	555				555
	117	P8	Involvement: expert P8	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	117	P9	Involvement: expert P9	0.25	0.5	0.75	555	0	0	0	138.75	277.5	416.25				416
	311		DSA Experts	10	15	25	60	600	900	1500							1,500
	313		DSA students	10	15	25	20	200	300	500							500
	43		Vehicles (4x4, boat)	20	9	29	118	2,360	0	2360							2,360
	53		Fuel	50	25	75,2256	3.5	175	88	263,2896							263

	54		Materials	1	1	2	380	380	380	760							760
	Sub-total							**7,840**	**7,485**	**15,325**	**555**	**833**	**1,388**	**0**	**0**		16,712
A3.9:	**Developing a booklet with the outcomes of the research, for distribution and training of social stakeholders and communities)**																
	A booklet (500 copies) distributed by the project, average cost																
			Sub-contract 8 (multimedia)	28	1	29		0	6000	6000							6,000
	28		Sub-contract 8 (booklet)	0	2	2	2.550	0	5100	5100							5,100
	Sub-total							**0**	**11,100**	11100	**0**			**0**	**0**		11,100

3.4.2 Table 2 - Consolidated budget by component

ITEM		DESCRIPTION	TOTAL	YEAR 1 STAGE 1	YEAR 2 STAGE 2
10		**PERSONNEL**			
	111	Technical Director	**33,418**	**16,260**	**17159**
	112	2 Field experts (silvicultural systems; community organization)	**47,031**	**19,041**	**27990**
	113	2 Research programme experts (processing and silvicultural systems)	**20,714**	**9,364**	**11350**
	114	Expert (community education)	**8,745**	**3630**	**5115**
	115	Expert (information systems)	**9,982**	**4777**	**5206**
	116	Administrator	**9,648**	**4824**	**4824**
	117	Expert (forests, forest soils, community development)	**11,378**	**4440**	**6938**
	118	Academic Co-director	**2,945**	**1395**	**1550**
	119	Treasurer	**9,648**	**4824**	**4824**
	121	2 Field assistants	**5,119**	**1969**	**3150**
	122	2 Assistants (information systems, secretary)	**11,158**	**5200**	**5958**
	123	Driver	**4,176**	**2088**	**2088**
	124	Workers	**11,524**	**4,824**	**6,700**
	19	**Sub-total**	**185,485**	**82,635**	**102,850**
20		**SUB-CONTRACTS**			
	21	Production or purchase of 56,000 seedlings	**61200**	**25200**	**36000**
	22	Preparation of the land - 35 hectares	**13685**	**5635**	**8050**
	23	Planting - 35 hectares	**7225**	**2975**	**4250**
	24	Clearing -35 hectares	**8925**	**3675**	**5250**
	25	Harvesting - 10 hectares	**7645**	**2780**	**4865**
	26	Establishment of 6 field plots	**1750**	**750**	**1000**
	27	Maintenance of 6 field plots	**882**	**378**	**504**
	28	Preparation of multimedia presentation - booklet	**11100**	**0**	**11100**
	29	**Sub-total**	**112412**	**41393**	**71019**
30		**DUTY TRAVEL**			
	311	DSA Experts	**15660**	**4020**	**11640**
	312	DSA Administrator & Treasurer	**7800**	**2160**	**5640**
	313	DSA Participants	**11270**	**3465**	**7805**
	333	Transport Participants	**4770**	**2385**	**2385**
	39	**Sub-total**	**39500**	**12030**	**27470**
40		**CAPITAL ITEMS**			
	42	Land	**47430**	**19530**	**27900**
	43	Vehicles (4x4, boat)	**36514**	**36514**	**0**
	44.1	Computer equipment	**1905,5**	**610,5**	**1295**
	44.2	Forestry equipment	**3872,8**	**1,241**	**2,632**
	49	**Sub-total**	**89722**	**57895**	**31827**
50		**CONSUMABLE ITEMS**			
	53	Fuel	**5316**	**2894**	**2422**
	54	Materials	**23932**	**9106**	**14826**
	59	**Sub-total**	**29248**	**12000**	**17248**
60		**MISCELLANEOUS**			
	62	Auditing	**10000**	**5000**	**5000**
	69	**Sub-total**	**10000**	**5000**	**5000**
70		**EXECUTING AGENCY MANAGEMENT COSTS**			
	71	Executing Agency Management Costs	**50000**	**25000**	**25000**
	79	**Sub-total**	**50000**	**25000**	**25000**
80		**PROJECT MONITORING AND ADMINISTRATION**			
	81	Monitoring and review costs	**20000**	**10000**	**10000**
	83	Final ITTO evaluation @ ITTO standard fee	**0**		
	84	ITTO ex-post evaluation costs	**15000**		**15000**
	85	ITTO programme support costs (12% of items 1 – 84 above)	**48214**	**21428**	**26786**
	89	**Sub-total**	**83214**	**31428**	**51786**
100		**GRAND TOTAL**	**599,582**	**267,381**	**332,201**

3.4.3 Table 3 - Yearly ITTO budget by component

ITEM		DESCRIPTION	TOTAL	YEAR 1 STAGE 1	YEAR 2 STAGE 2
10		**PERSONNEL**			
	111	Technical Director	**33,418**	**16,260**	**17,159**
	112	2 Field experts (silvicultural systems; community organization)	**47,031**	**19,041**	**27,990**
	113	2 Research programme experts (processing and silvicultural systems)	**20,714**	**9,364**	**11,350**
	114	Expert (community education)	**8,745**	**3630**	**5115**
	115	Expert (information systems)	**9,982**	**4776,5**	**5205,5**
	118	Academic Co-director	**2,945**	**1395**	**1550**
	121	2 Field assistants	**5,119**	**1968,75**	**3150**
	122	2 Assistants (information systems, secretary)	**11,158**	**5200**	**5957,5**
	19	**Sub-total**	**139,111**	**61,635**	**77,477**
20		**SUB-CONTRACTS**			
	21	Production or purchase of 56,000 seedlings	**61,200**	**25200**	**36000**
	22	Preparation of the land - 35 hectares	**13,685**	**5635**	**8050**
	23	Planting -35 hectares	**7,225**	**2975**	**4250**
	24	Clearing - 35 hectares	**8,925**	**3675**	**5250**
	25	Harvesting - 10 hectares	**7,645**	**2780**	**4865**
	26	Establishment of 6 field plots	**1,750**	**750**	**1,000**
	27	Maintenance of 6 field plots	**882**	**378**	**504**
	28	Preparation of multimedia presentation - booklet	**11,100**	**0**	**11100**
	29	**Sub-total**	**112,412**	**41393**	**71019**
30		**DUTY TRAVEL**			
	311	DSA Experts	**15,660**	**4020**	**11640**
	312	DSA Administrator & Treasurer	**7,800**	**2160**	**5640**
	313	DSA Participants	**11,270**	**3465**	**7805**
	333	Transport Participants	**4,770**	**2385**	**2385**
	39	**Sub-total**	**39,500**	**12030**	**27470**
40		**CAPITAL ITEMS**			
	43	Vehicles (4x4, boat)	**36,514**	**36,514**	**0**
	49	**Sub-total**	**36,514**	**36,514**	**0**
50		**CONSUMABLE ITEMS**			
	53	Fuel	**5,317**	**2893,8**	**2422,8**
	54	Materials	**23,932**	**9106**	**14826**
	59	**Sub-total**	**29,249**	**12,000**	**17,249**
60		**MISCELLANEOUS**			
	62	Auditing	**10,000**	**5000**	**5000**
	69	**Sub-total**	**10,000**	**5,000**	**5,000**
80		**PROJECT MONITORING AND ADMINISTRATION**			
	81	Monitoring and review costs	**20,000**	**10000**	**10000**
	83	Final ITTO evaluation – Standard rate			
	84	ITTO ex-post evaluation costs	**15,000**		**15000**
	85	ITTO programme support costs (12% of items 1 – 84 above)	**48,214**	**21428**	**26,786**
	89	**Sub-total**	**83,214**	**31,428**	**51,786**
100		**GRAND TOTAL**	**450,000**	**200,000**	**250,000**

3.4.4 Table 4 - Yearly budget by component – University of Tolima

ITEM		DESCRIPTION	TOTAL	YEAR 1	YEAR 2
10		**PERSONNEL**			
	116	Administrator	9,648	4,824	4824
	117	2 Forest experts (forests, soils) and 1 Sociology expert (community development)	11,378	4,440	6937,5
	119	Treasurer	9,648	4,824	4824
	123	Driver	4,176	2,088	2088
	124	Workers	11,524	4,824	6700
	19	**Sub-total**	**46,374**	**21,000**	**25,374**
40		**CAPITAL ITEMS**			
	441	Computer equipment	1,906	611	1,295
	442	Forestry equipment	3,873	1,241	2,632
	49	**Sub-total**	**5,778**	**1,851**	**3,927**
70		**EXECUTING AGENCY MANAGEMENT COSTS**			
	71	Executing agency management costs	**50,000**	**25,000**	**25000**
	79	**Sub-total**	**50,000**	**25,000**	**25,000**
100		**GRAND TOTAL**	**102,152**	**47,851**	**54,301**

3.4.5 Table 5 - Yearly budget by component - Community Council

ITEM		DESCRIPTION	TOTAL	YEAR 1	YEAR 2
40		**CAPITAL ITEMS**			
	42	Land	**47430**	**19530**	**27900**
	49	**Sub-total**		**19530**	**27900**
100		**GRAND TOTAL**	**47430**	**19530**	**27900**

3.4.6 Table 6 - Project personnel budget - ITTO contribution - US$

CODE	ROLE	BUDGET COMPONENT	NUMBER OF PARTICIPANTS	COST /MONTH US$	% MONTHLY COMMITMENT	NET COST /MONTH US$	NO. OF MONTHS		COST		TOTAL
							STAGE 1	STAGE 2	STAGE 1	STAGE 2	
D	Technical Director	111	1	**2583**	**60**	**1550**	10,49	11,07	16259,5	17158,5	**33,418**
CD	Academic Co-director	118	1	**2583**	**12**	**310**	4,5	5	1395	1550	**2,945**
P1	Field expert (Silvicultural systems)	112	1	**2270**	50	**1135**	9,75	14	11066,25	15890	**26,956**
P4	Field expert (community organization)	112	1	**2200**	50	**1100**	7,25	11	7975	12100	**20,075**
P2, P3	Research programme experts (processing and silvicultural systems)	113	2	**5675**	20	**1135**	8,25	10	9363,75	11350	**20,714**
P5	Expert (community education)	114	1	**2200**	30	**660**	5,5	7,75	3630	5115	**8,745**
P6	Expert (information systems)	115	1	**1650**	40	**660**	7,25	7,9	4,777	5,206	**9,982**
	Sub-total										**122,835**
A1, A2	**Field assistants**	121	2	**875**	60	**525**	3,75	6	1,969	3,150	**5,119**
A3, A4	**Assistant (information systems) and secretary**	122	1	**1000**	50	**500**	11,08	12,83	5200	5957.5	**11,158**
	Sub-total										**16,276**
	Total										**139,111**

Note: for some codes, the number of months per stage may exceed 12 because they apply to different activities.

3.4.7 Table 7 - Project personnel budget - UT contribution - US$

CODE	ROLE	BUDGET COMPONENT	NUMBER OF PARTICIPANTS	COST /MONTH US$	%MONTHLY COMMITMENT	NET COST /MONTH US$	NO. OF MONTHS		COST		TOTAL
							STAGE 1	STAGE 2	STAGE 1	STAGE 2	
AD	Administrator	116	1	1.608	25%	402	12	12	4824	4824	**9.648**
P7	Forest Expert (Forests)	117	1	2.775	20%	555	2,75	4	1526,25	2220	**3.746**
P8	Forest Expert (Soils)	117	1	2.775	20%	555	2	4,5	1110	2497,5	**3.608**
P9	Sociology Expert (community development)	117	1	2.775	20%	555	3,25	4	1803,75	2220	**4.024**
T	Treasurer	119	1	1.608	25%	402	12	12	4824	4824	**9.648**
	Sub-total										**30.674**
M	Driver	123	1	580	30%	174	12	12	2088	2088	**4.176**
O	Workers	124	2	536	50%	335	14,4	20	4824	6700	**11.524**
	Sub-total										**15.700**
	Total										**46.374**

3.5 Assumptions, risks, sustainability

3.5.1 Assumptions and risks

The success of the project will depend on the following specific assumptions:

Major assumptions	Potential risks	Mitigating measures
Government changes do not affect the project	There is a low risk that this factor may endanger the success of the project because it is based on an agreement with an international organization (ITTO), through the Ministry for the Environment and Sustainable Development – MADS, and the executing agency is an official, autonomous higher education institution; therefore, the project would not be affected by government changes.	N/A
The various stakeholders accept and commit themselves to the project in Bajo Calima	There is a low risk or probability that this factor will endanger the success of the project because even before the project the stakeholders already have a favorable opinion and show willingness to be involved.	Actions will be taken to maintain community engagement.
The regional socio-economic situation allows project implementation	There is a low risk or probability that this factor may endanger the success of the project, because the project actually seeks to help find a solution to the socio-economic circumstances of the region, mainly by producing food and items such as rubber (*Hevea brasiliensis* Mull. & Arg.) that will help generate supplementary income in the medium term, and products such as timber, that will contribute to supplementary income in the medium and long terms; good growth rates have been recorded for Aceite María (*Calophyllum mariae* Planch. & Triana) in these regions.	Activities related to these aspects will be strictly monitored.

3.5.2 Sustainability

An essential aspect of the objectives of this project is the pilot establishment of 100 hectares in four clusters, which will be extended to a larger area.

This project will strengthen existing strategic partnerships with the Community Council of Bajo Calima, with which there are cooperation and support agreements in the institutional strengthening field. through workshops and training on natural resource protection; and with the State body that will need to ensure the forest and management of its resources, i.e. the Regional Autonomous Corporation of Valle del Cauca - CVC, with which the University has a loan and restitution contract through the Tropical Forestry Center of Bajo Calima, for the use of facilities and presence in the area of the study, that covers 66,000 ha of secondary natural forests, where there is a clear trend towards degradation resulting in poverty conditions for the local population.

Similarly, the project seeks to establish new partnerships with sectoral institutions and organizations such as the Municipal Council of Buenaventura, Education Secretariat of the Municipality and timber and latex marketing companies such as *Fedecaucho* with the CVC, in an attempt to join efforts to train farmers, teachers and leaders in the region.

The integrated project will promote research – action, including collection of biological, economic and social data related to the impact of the project on nutrition, health, population migration, family circumstances, social stability and regional employment characteristics.

Thus, the project will become a source of organizational strengthening for the communities, through various training processes in technical, administration and socio-economic aspects to facilitate self-management in the long term.

The enrichment of natural forests in lines planted with forest species such as rubberwood and Aceite María; agricultural crops such as maize and taro (*Colocasia esculenta* L. Schott); and tropical fruit such as bacao *(Theobroma bicolor* Humb. & Bonpl.*)*, guayabilla *(Eugenia victoriana* Cuatrec*)* and sugar cane (*Saccharum officinarum* L.), will produce food and other goods in the short, medium and long terms, and these services will help develop the community economy.

The implementation of the project will include the dissemination and demonstration of project outcomes and activities to other regional bodies so as to strengthen future partnerships to extend the project to larger areas.

The key factor in ensuring sustainability is that the University of Tolima has had a regional presence for the past **50** years, **with academic involvement in the Tropical Forest Center,** and expects to continue for many years to come, which will guarantee project continuity, supervision and monitoring as well as training of community members, and will support project continuity and extension, which will require more financial resources to benefit and enhance a larger area than that provided for in the pilot project.

Post-project activities	Possible financing sources
• Continue the implementation of the SFM and agroforestry plan in the areas established under the project.	• Forest sector companies requiring forest products: Timber warehouses. • Academia: University of Tolima. • Research institutions: Pacific Research Institute. • Land-based government programs: Land-based Development Plan; *Visión Pacífico* (*Pacific Vision)*, other international cooperation sources; Regional Autonomous Corporation; relevant municipalities. • Companies subject to compensation measures for affecting natural resources: Port and road projects. • Agencies involved in SFM in Bajo Calima.
• Replicate actions in other localities through tours, workshops and seminars, as well as community training in administrative and socio-economic aspects so as to facilitate their self-management in SFM based on a gender-sensitive approach.	
• Feed and update the information system under the Action Research Programme.	
• Manage strategic partnerships to implement SFM practices associated to high-impact scientific research.	

PART 4. IMPLEMENTATION ARRANGEMENTS

4.1 Organization structure and stakeholder involvement mechanisms

4.1.1 Executing agency and partners

The executing agency of this project will be the University of Tolima through the Tropical Forestry Center of Bajo Calima (CFT), which is part of the School of Forestry of the University. For the last **50** years, the Center has been involved in education, research and community engagement activities in the Colombian Pacific region. At the local level, it has provided support to communities, such as harvesting plans for black communities along the Yurumanguí and Cajambre rivers, as well as in Bahía Málaga (La Plata) and Bajo Calima; currently it is providing technical assistance services for environmental management projects to the Community Council of the black community of the lower Calima River.

The Community Council will be a major stakeholder in the implementation of the project, contributing its ancestral knowledge and its social organizational capacity, which will be essential to convene the region's population, providing support in the selection of farms for the pilot project, offering personnel to implement pilot plantation establishment and maintenance activities, participating and actively calling on the inhabitants to engage in training workshops, and on teachers and community leaders and farmers to apply their knowledge of community organization, administration, use, management and conservation of natural resources. The Community Council will provide its community meeting room in the various clusters for the implementation of some of the workshops.

4.1.2 Project management team

Table 8 – Project management team

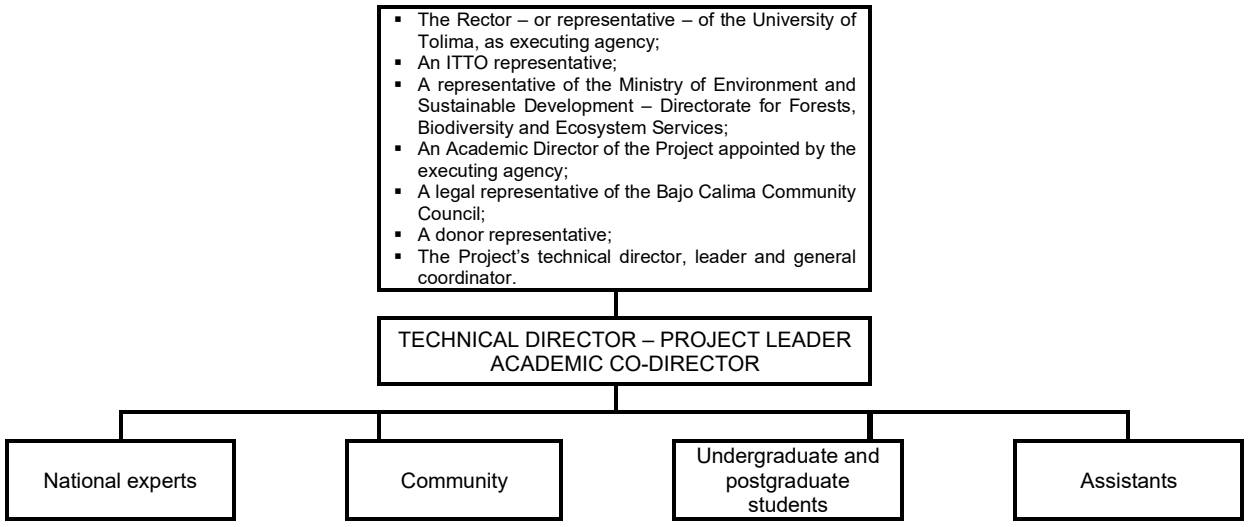
CODE	ROLE	BUDGET COMPONENT	NAME	CATEGORY NATIONAL TEACHER GRADE
D	Technical Director	111	Miguel Ángel Quimbayo Cardona	Assistant professor
	Academic Co-Director	118	Omar A. Melo Cruz	Associate professor
P1	Field expert (Silvicultural systems)	112	Luis Alfredo Lozano B.	Associate professor
P4	Field expert (community organization)	112	Arie Klopp	Senior professor
P2, P3	Research program experts (processing and silvicultural systems)	113	Alejandra María Ramírez -Luisa Lozano	Tenured professor Professor
P5	Expert (community education)	114	Luz Forero	Assistant professor
P6	Expert (information systems)	115	Consuelo Arce	Associate professor
A1, A2	Field assistants	121	Jakeline Alegría. Sebastián Moreno Murillo	Community Leader Community Leader
A3	Assistant (information systems)	122	Hasbeidy Julieth Veloza Escobar	Graduate
A4	Assistant (Forest Center secretary)	122	Students/ Social Service X semester	Students/ Social Service X semester
AD	Administrator	116	Nelson Javier Albarán C.	Director, Bajo Calima Tropical Forest Center
T	Treasurer	121	Faver Hernández	Treasurer/Payment Officer, , Bajo Calima Tropical Forest Center
P7	Forest expert (forests)	117	Fernando Fernández	Assistant professor
P8	Forest expert (soils)	117	Julián Leal Villamil	Senior professor
P9	Sociology expert (community development)	117	Miguel Espinosa Rico	Full-time professor
M	Driver	123	Silvio Solís García	Assistant - Grade 19
O	Workers	124	Regional locals	Regional locals

4.1.3 Project steering committee

The project steering committee will be made up as follows:

- The Rector – or representative – of the University of Tolima, as executing agency;
- An ITTO representative;
- A representative of the Ministry of Environment and Sustainable Development – Directorate for Forests, Biodiversity and Ecosystem Services;
- An Academic Director of the Project appointed by the executing agency;
- A legal representative of the Bajo Calima Community Council;
- A donor representative;
- The Project's technical director, leader and general coordinator.

The main role of the project steering committee will be to supervise the implementation of the project, approve budget expenditures, review the activities implemented, and examine scheduled activities and budgets to propose adjustments as required.



4.1.4 Stakeholder/beneficiary involvement mechanisms

Target beneficiaries

Four (4) sites or farms will be selected in each selected cluster. The beneficiaries will include firstly those who volunteer to participate in the project and are located in the selected clusters. Furthermore, indirect beneficiaries of the project will include those communities that use the agricultural products to be produced and the enterprises and institutions that will be directly involved in the project. Secondly, target beneficiaries must have an agricultural tradition and also have land on which to establish the associated crops envisaged in the project. Moreover, the plantations should be geographically established in nearby locality to facilitate the marketing of harvested products.

4.2 Reporting, monitoring and evaluation

The following reports will be prepared following the ITTO Manual:

- Inception report: to be submitted after project approval; it will include the project document and a yearly plan of operation (YPO).
- Six-monthly reports: progress reports on operational and financial activities.
- Annual reports: these will include an assessment of the outcomes achieved in accordance with the logical framework.
- Monthly reports: for internal monitoring of operational and financial progress.
- Completion report: to be submitted upon project completion.

Six-monthly and annual reports will be submitted to ITTO. These will include an assessment of outcomes and impacts in accordance with the logical framework. Monthly reports will report on the progress made in the implementation of activities based on the yearly plan of operation. These monthly reports will be part of the review to be carried out by the PSC.

Internal monitoring: this will ensure the successful implementation of the project, including any necessary adjustments to the work plan and/or the YPO and implementation in accordance with defined corrective actions. The internal monitoring process will cover the following aspects:

- Follow-up of commitments resulting from the agreement to be signed between ITTO and the executing agency;
- On-time delivery and quality of outputs;
- Progress and proper implementation of work;
- The extent to which the specific objective has been achieved;
- Social, economic and environmental impacts and the effect of mitigating measures.

External monitoring: to be carried out by ITTO in cooperation with the project donors, as appropriate, to supervise the implementation of the project. This process will make it possible to:

- assess if the project is proceeding in accordance with the agreed work schedule so that the Organization may take the necessary actions (for example, payments to the executing agency);
- propose and participate in any necessary reviews of the project as a result of this assessment;
- report to the steering committee on the situation and completion prospects of the project.

Mid-term evaluation: It is the systematic and objective collection of information, on-the-spot assessments and analysis of the validity, design, appropriateness, performance and impact of the project during its implementation stage. Mid-term evaluations will be carried out in circumstances when:

- there are problems in project implementation, upon request of the ITTO Secretariat, donors or the project steering committee (PSC), as appropriate;
- the need for a mid-term evaluation was foreseen at an early stage of project development or implementation.

Ex-post evaluation: It is the collection of information and assessment of the project after its completion with the aim of establishing the extent to which it achieved its objective, its degree of effectiveness and efficiency, and its sustainability.

4.3 Dissemination and mainstreaming of project learning

The activities addressed to teachers, community leaders and farmers in the areas of community organization, administration, use, management and conservation of natural resources, include the design of six (6) seminars and training workshops for teachers, six (6) for community leaders and six (6) for beneficiary farmers.

4.3.1 Academic material will be produced to disseminate project outcomes, as required for 18 workshops for teachers, leaders and farmers.

4.3.2 The mainstreaming of project learning will include an evaluation and follow-up of project seminars and workshops at the institutional level.

4.3.3 A multimedia presentation and booklet (200 copies) of research results will be produced for dissemination and training of social stakeholders (institutions and communities).

4.3.4 The institutional web page of the University of Tolima will be used to provide information on project progress. Social media such as Facebook will also be used for this purpose both within the country and throughout South America and the Caribbean.

4.3.5 Partial results will be presented at the 2019 IUFRO World Forestry Congress, while final results will be presented at the 2021 FAO World Forestry Congress.

4.3.6 The project results will be used in the updating and development of policies, standards, guidelines and technical guides on forest management to be carried out by the Ministry of Environment and Sustainable Development. Furthermore, project learning will contribute to the overall strategy for deforestation control and forest management led by this Ministry, which involves turning forests into windows of opportunity to offer better living standards for their inhabitants, and contributing to forest conservation.

ANNEX 1. Profiles of the executing and collaborating agencies

1. Expertise of the Executing Agency

The University of Tolima (www.ut.edu.co) is an official higher education institution, authorized by the laws and regulations of the Republic of Colombia. The Faculty of Forestry and the Forest Engineering program at the University were established on 5 June 1961 by Agreement 05 of the Higher University Council.

The Faculty's mission is "To offer higher education at different levels, modes and stakeholders, in the fields of production, use, sound management and restoration of renewable natural resources: soils, water and forests, associated resources and their links to ecosystems, grounded in solid knowledge resulting from scientific and humanistic research, to protect the sustainability of the nation's environment". Since 1967 the Faculty has been researching the management of tropical ecosystems (tropical rainforests), and it has an experimental center in Bajo Calima (Buenaventura, Department of Valle del Cauca). More than 2000 forest engineers have graduated from the University, which operates training programs at different academic levels, from undergraduate to doctorate degrees. It has established and maintained links with the various forest sector institutions and businesses that contribute to forest development in the country. The present research system is based on PROGRAMS, AREAS AND SUB-AREAS integrated into Departments, undergraduate and post-graduate programs, and Research Centers.

Institutions with which research and social projection projects have been carried out

International Tropical Timber Organization (ITTO)

- Project PD 415/06 Rev. 2 (M): "Systematization and Modelling of Economic and Technical Information to Train Professionals Related to the Production, Processing and Marketing of Timber Products", implemented by the University of Tolima through an agreement with ITTO and the Ministry for the Environment and Sustainable Development – MADS, Colombia.
- Proyecto PD 203/03 Rev. 3 (M): "Systematization and Modeling of Economic and Technical Information to Train Professionals Related to the Production, Processing and Marketing of Timber Products", implemented by the University of Tolima through an agreement with ITTO and the Ministry for the Environment and Sustainable Development – MADS, Colombia.

Ministry for the Environment

- Project: Determination of global utilization quotas by natural forest species.
- Project: Design of a forest utilization rate system for Colombia.

Regional Autonomous Corporation of Tolima - CORTOLIMA

- Project: Bio-physical and socio-economic description of the Tatacoa strategic ecoregion and its range of influence (2001)
- Project: Study of the succession dynamics of forest ecosystems in the buffer zone of the natural national park Los Nevados (2001 - 2002)
- Phenology and growth of 20 species of high ecological and commercial value in the Department of Tolima (2010 – 2017)
- Urban tree survey in the city of Ibagué (2016)
- Designation of Galilea Forest Reserve – Phases I and II (2017 – 2018)

Forest Corporation of Tolima

- Effect of the application of pruning and thinning and research program in *Pinus patula* SCHL. plantations in three farms of the Forest Corporation of Tolima in Padua (Tolima). (1996)
- Evaluation of the drying rate and preservation performance for three species planted in the North of Tolima. 2002

Interconexión Eléctrica S.A.- ISA

- Project: Establishment of a BIOTROP plot in the Florencia forest, Caldas (2001-2002)

UN Program and Ibagué Mayor's Office

- Integrated Services Project for Youth in Cañón del Combeima.(2001 - 2002)

University Corporation of Ibagué - CORUNIVERSITARIA.

- Strength and structural behavior analysis through the thin element of four types of joints used in furniture construction, with cedro, ocobo and melina.

2. Research Resources

2.1 Farms or knowledge management centers

Tropical Forestry Center of Bajo Calima (*Centro Forestal Tropical del Bajo Calima* – CFT)*:*
The Center has been implementing activities in the Bajo Calima Region of Colombian Pacific Coast for 50 years. Students carry out their work experience at the Center, which also constitutes a "natural" laboratory where students of Ecology, Forest Inventories, Natural Forest Management and other courses can develop research projects. The Center has signed a commodatum contract with the Regional Autonomous Corporation of Valle del Cauca for the use of a 10-hectare area, including buildings such as classrooms and sports area, as well as living and working quarters for students, teachers and researchers. In addition, the Center has signed cooperation agreements with the Community Council for the provision of research and training support in an area of 66,000 hectares of second growth and very humid rainforests, representative of forest ecosystems of the Pacific region.

Armero Farm:
In the Northern part of the Department of Tolima, with an area of 700 hectares, of which some 400 are forest lands. The School carries out experiments to select suitable forest species for the recovery of arid and semi-arid zones in this area, as a part of the "Forest Action Plan for Northern Tolima".

2.2 Laboratories

The Faculty has the following laboratories:

- Photogrammetry
- GIS (Geographic Information Systems)
- Wood technology
- Dendrology
- Environmental Management and Environmental Impact Assessment
- Biodiversity

3. Personnel

The Faculty of Forestry has 22 full time teachers. Additionally, it has 16 senior professors that have a teaching role.

The staff of the Tropical Forestry Center of Bajo Calima includes two (2) resident professors, one of them on secondment and both with PhD degrees, four (4) operators, a warehouse keeper, and a director. Every year, the Center has 82 students undertaking a practical six-month course in academic and social studies.

The organization of the Tropical Forestry Center of Bajo Calima is subject to the internal guidelines of the Faculty of Forestry of the University of Tolima, under the leadership of the Dean. It includes an assessment committee comprising highly experienced teachers specialized in forest projects, community involvement and research; a director; a resident teacher; a treasurer and workers with over 20 years in the region, and mostly natives of the area, which has helped ensure the active participation of the local communities.

4. Experience of the executing agency – Tropical Forestry Center of Bajo Calima

The Center has participated in projects that have been models for the country, such as the environmental and land management project of the Municipality of Buenaventura, the first project of its kind in Colombia, implemented by University of Valle and the University of Tolima for the CVC. In 2006 the Center carried out forest inventories that served as the basis for forest zoning in 12 watershed areas in the Department of Valle del Cauca, while in 2008 it completed the forest zoning of 24 watershed areas in the same Department.

At the local level, it has provided support to communities, such as harvesting plans for black communities in the south of the Municipality of Buenaventura (Yurumanguí and Cajambre rivers), Bahía Málaga (La Plata) and Bajo Calima; currently it is providing technical assistance for environmental management projects to the Community Council of the black community of the lower Calima River. In addition, it works with the indigenous community of Buenavista in the Department of Chocó, as part of its academic activities, to develop an environmental management plan.

Research projects under implementation:

- Production of nursery seedlings for Community Involvement activities
- Silvicultural management with community involvement in the secondary natural forests of Bajo Calima
- Enrichment of degraded secondary natural forests with 17 commercially or ecologically valuable species
- Enrichment of degraded secondary natural forests with Bacao (*Theobroma bicolor* Humb. & Bonpl.)
- Enrichment of degraded secondary natural forests with Guayabilla (*Eugenia victoriana* Cuatrec.)
- Permanent sample plots with the Aceite María species in the Bajo Calima and Dindo areas
- *Ex-situ* collection of Orchids, Bromeliads, Platanillo and Heliconias in the Tropical Forestry Center of Bajo Calima.
- Community-based work in indigenous communities of Buenavista and Tiosirilio

Institutions with which it has implemented research projects

- Regional Autonomous Corporation of Valle del Cauca – CVC
- Plan Padrinos
- Municipal Council of Buenaventura – Valle
- Cementos ARGOS
- Agua Dulce Project
- G2 Seismic-Ltda
- Inter-American Institute for Cooperation on Agriculture - IICA

ANNEX 2. Profile of the Community Council

The communities of El Crucero (or Kilómetro 9), Las Brisas, Villa Estela, La Estrella and La Colonia (also known as Puerto Patiño and/or Bajo Calima) are called "road communities" because they are situated in the secondary forests along the road, while the other 5 communities are called "river communities" because they can only be accessed from the river, except for San Isidro which is also accessible by a road in very poor condition.

The location of the rural population may be due to tropical and humid conditions in the area, which make it difficult to settle further inland. Settlement along river banks and close to the beach facilitates transport, access to food and communication. Migration is one of the most promising alternatives for hundreds of farmer and indigenous communities who consider the city has the potential to improve their living conditions. The city of Buenaventura is very close and Bajo Calima inhabitants are able to access it by road.

The dominance of black ethnic communities in these basins used to be associated with mining in colonial times from the 17th century when slaves were used; it developed gradually over the next three centuries.

The presence of three ethnic groups (black, indigenous communities and mestizo settlers), is a fact of life in this region. According to the historical origins of the settlement process of these groups, they may be classified as natives or settlers; this factor is an indicator that helps identify the level of ownership of the land by each group.

In this region, indigenous communities and black people are classified as natives, not only because of the length of their residence in the area (ancestral inhabitants) but also because they have preserved their own cultural identity. The mestizo settler group has a different behavioral pattern and cultural identity; the land is not part of their identity, rather it is a means of production unrelated to its social organization – it is a survival or wealth accumulation factor.

Land tenure

In Bajo Calima the sense of ownership is governed by customary law rules. Some areas are subject to individual property, while for others there is community land tenure, i.e. lands in which the soil is for common use (in fact, the land belongs to the Community Council which exercises ownership rights). However, the people belonging to this Council often live in hamlets such as the 10 centers in this document; in general, very few people live in remote areas far from population centers.

Land use areas: identified land use areas have specific characteristics for certain activities and they may be physical or cultural:

Flat lowland plains: located on river banks and gorges; thanks to their higher fertility, these are the choice lands for agriculture, hunting of animals that eat fruit crops - for example people consider that not only chickens and pigs are part of their farm, but also the “guagua” and “guatín”.

Terraces or low hills: these are higher, with shallower and less fertile soils than the lowland plains; currently they are the source of forest products such as rods, boards, and posts; this is where the region's secondary forest dominates. Timber products sold originate from secondary forests here.

High hills: these are as high as terraces but with sharper gradients. Crops here are very limited.

Mountains: no crops are grown in these areas; this is where primary and/or secondary forests are found, whether logged or not.

“Respaldos”: these are (often mature) forest areas found on isolated spots on farms.

Rivers and gorges: these are areas for fishing and also hunting on the river banks. Currently the main activity here is gold mining. The Calima River is an important religious area where ceremonies are held to honor the Virgen del Carmen; previously other saints were honored here as well, now it is also a place for social gatherings.

The utilization areas are for both men and women, and all family members (father, mother and children) participate equally in production activities, although for some specific activities there is a clear gender-based division of labor. The whole family participates in the establishment of the “chagra” (or plot) where food crops such as corn, taro and sugar cane are planted. The planting and cultivation of corn is an activity where men actively participate, but with the help of women for about 20 to 30% of the time.

As a general rule, site preparation work is generally carried out by men, while the planting, maintenance and harvesting of crops as well as the processing of products are activities that are mostly carried out by women and children.

Women are responsible for the raising and upkeep of chicken and ducks, from which they obtain both eggs and meat for dietary needs. They are also responsible for the preparation and cooking of food and are therefore charged with the use and distribution of food products. Women are also responsible for the production of crafts and the preparation of food for sale.

Furthermore, women are involved in timber logging activities, carrying out timber felling operations at shorter distances than men, including skidding and loading/transport activities. Women also carry out small scale mining activities, panning for gold along river banks using a “batea” (a small, shallow wooden pan). Their participation rate in this activity can be as high as 50% - 60%. If carried out with the use of more sophisticated equipment such as dredge or motor pumps, mining activities are delegated to men. Activities that require more physical strength, such as housing construction or roof building, are carried out by men. Hunting and fishing are strictly male-only activities.

The participation of women has been increasing in each and every one of the activities that were previously considered to be the exclusive domain of men.

A particular case in point is the greater involvement of women in the Community Councils which were established in 1995. At first, the participation of women in these councils was minimal, but today their participation is increasing. Thus, out of the 13 members that make up the Bajo Calima Community Council, 4 are women (30% of total membership). Although to date no woman has been appointed as Legal Representative or Chair of this Council, the current members are convinced that it will not be long before women are appointed to these high-ranking management positions.

Women have been taking on leading roles in community meetings, not only in providing logistic assistance, but also as active spokespersons and decision makers. Sixteen years ago the participation of women in meetings was limited at best. In other words, they had virtually no participation in community meetings or gatherings. Today, the participation rate for men and women in these organized gatherings is 60% and 40%, respectively.

Organization of the Community Council

- *General Assembly*: this is the maximum authority of the Community Council and it includes all the people who live within the territory and fully recognised by the Council under their governing system, and recorded through an internal census process; one of its roles is to elect the Members of the Board of the Community Council.

- *Community Council Board:* this is in charge of leadership, coordination, implementation and internal administration of the community that established a Community Council to perform the duties assigned to it by Law 70 of 1993, and its regulatory decrees, and other roles that the community assigns to it. The Board of Directors includes the legal representative, treasurer, secretary and general coordinators for health, education, sports, recreation and culture, community groups, infrastructure, environment and communications.

- *Legal representative*: this is the person in charge of executing and implementing the Council's social policies, complying with and enforcing the statutes, regulations, orders and resolutions of the Board of the Community Council. Furthermore, it represents the body before authorities and persons and companies whenever required, enters into contracts and administers the benefits derived from such contracts.

- *Treasurer:* is in charge of the financial records of the Council, reports on its expenses and handles banking transactions with Council funds. This is the person in charge of the accounting books of the Community Council and submits them to the chartered accountant who prepares the relevant balance sheet and signs it.

- *Secretary:* role includes keeping minutes books of the Council, reading any outgoing and incoming communication and keeping the general archives; preparing and distributing calls for meetings and resolutions.

DISTRIBUTION OF THE BAJO CALIMA CC BY PARISH, GENDER AND AGE

The Population Census of the Bajo Calima CC has shown the following results:

The Bajo Calima CC area has a population of 3325, comprising 917 families distributed in 10 parishes which include 5 with road access and 5 with river access, as shown below:

COMMUNITY	Total population	Men	Women	No. of families
Villa Estella	442	198	244	117
Km 9	315	159	156	85
Las Brisas	119	65	54	24
La Estrella	94	50	44	22
La Colonia	1742	853	889	508
San Isidro	369	187	182	94
La Esperanza	105	67	38	27
Trojita	55	33	22	16
Guadual	57	31	26	16
Ceibito	27	15	12	8
TOTAL	**3325**	**1658**	**1667**	**917**

ANNEX 3. Terms of reference of personnel and consultants and sub-contracts funded by ITTO

G1. PROJECT DIRECTOR

- Education: professional specialized in any of the areas of the forest production chain, with proven integrated vision of the entire forest production chain process.

- The Technical Director, who will work under the coordination of the Dean of the Faculty of Forestry of the University of Tolima and collaborate closely with the Director of Forests, Biodiversity and Ecosystem Services of the Ministry for the Environment and Sustainable Development, will be responsible for planning, organizing and coordinating project activities. His/her main work base will be the Tropical Forestry Center.

- He/she will have the overall responsibility of liaising with the other participating institutions, with a view to the effective implementation of scheduled activities.

- Experience: minimum 5 years in forest project management.

- Duties:
  - To provide guidance and direct the project in accordance with the guidelines of ITTO and relevant participating institutions.
  - To organize and develop the detailed work plan, the operational plan and budgets required.
  - To manage and audit the project budget.
  - To plan, manage and coordinate project activities.
  - To participate in the selection of project personnel.
  - To identify the needs of the project and to evaluate the tasks carried out by the project personnel.
  - To ensure the timely and suitable implementation of project activities.
  - To coordinate and carry out activities as required to achieve the involvement of public and private sector institutions at the national, regional and local levels.
  - To coordinate the preparation of documents and publications of project outputs.
  - To coordinate activities to define and purchase the various technological elements required.

- Duration: Full-time, working 100% of the monthly scheduled roster for 22 months to be charged to the project.

G1. PROJECT ACADEMIC CO-DIRECTOR

- Academic Co-director, who will work under the coordination of the Project Technical Director and the Dean of the School of Forest Engineering of the University of Tolima. The Academic Co-director and the Project Technical Coordinator will be jointly responsible for planning, organizing and coordinating the project's academic and training activities.

- He/she will have the overall responsibility of liaising with other academic and training institutions, with a view to the effective implementation of scheduled activities.

- Education: professional specialized in any of the areas of the forest production chain, with proven integrated vision of the entire forest production chain process as it relates to academic and education curricula for the training of students and community members.

- Over 5 years' experience in the design and implementation of academic and training programs for the forest sector.

- Over 5 years' experience in forest projects.

- Duties:
  - To support the Technical Director in guiding and designing project training and academic activities in accordance with the guidelines approved by ITTO and relevant participating institutions.
  - To support the Technical Director in the organization and development of the detailed work plan, the operational plan and budgets required for academic and training activities.
  - To support the Technical Director in the planning, management and coordination of project academic and training activities.
  - To participate in the selection of project personnel and undergraduate and post-graduate students.
  - To assist in the identification of the academic and training needs of project participants and in the evaluation of tasks carried out by the project personnel in the academic and training fields.
  - To support the Technical Director in the coordination and implementation of academic and training activities as required to achieve the involvement of public and private sector agencies, institutions and companies particularly related to the academic and training fields at the national and regional levels.
  - To support the Technical Director in the coordination, preparation and drafting of documents and publications on the results obtained by the project in the academic and training fields.
  - To support the Technical Coordinator in the coordination of activities to define and purchase the various technological elements required.

- Duration: Part-time, working 20% of the monthly scheduled roster allocated by the University of Tolima for 24 months.

G2. NATIONAL EXPERTS

- Under the supervision of the project director and in coordination with the rest of the project personnel.
- Monthly schedule and duration of assignment are shown in table 8.
- Education: professional experts related to the relevant areas, with minimum specialization levels and proven expertise in the specific areas.
- Experience: minimum 5 years' experience in the specific fields, as applicable.
- Duties:
  - To participate in the design of the research program with special emphasis on their specific area of expertise.
  - To select, identify and evaluate the sources of information in their specific area of expertise, in accordance with the modelling approaches and criteria defined by the project.
  - To make recommendations and provide guidance for information gathering in their specific area of expertise.
  - To make recommendations and provide guidance for information processing in their specific area of expertise.
  - To identify and define models for their specific area of expertise, in accordance with the design of the information system and modelling approaches and criteria as defined in the project.
  - To make recommendations and participate in the design, implementation, validation and adjustment of models in their specific area of expertise.
  - To participate in the implementation and follow-up of training workshops in accordance with stipulated requirements.

G3. CURRICULA VITAE OF THE KEY STAFF

Name	Position	Degree(s)
Miguel Ángel Quimbayo Cardona	Research Group Director, GIBDET	Biologist, PhD Area: Forest Management and Wildlife.
Luis Alfredo Lozano	Associate Professor	Forest Eng., MSc. Biology, D.Sc. candidate (Biological Sciences)
Luz Amalia Forero	Resident Professor	Forest Eng. MSc. Agricultural Sciences, PhD. Agricultural Sciences - Area: Community Involvement
Omar A. Melo	Associate Professor	Forest Engineer. PhD. Area: Forestry and Forest Management; D.Sc. Agricultural Sciences – Area: Agriculture
Fernando Fernández	Assistant Professor	Forest Engineer. M.Sc. Area: Management and Conservation of Forests and Biodiversity; D.Sc. Botanical Sciences – Area: Forestry
Miguel Espinosa Rico	Senior Professor	Anthropologist. MSc. Land, Conflict and Culture
Julián Leal Villamil	Senior Professor	Forest Eng. MSc., PhD candidate Area: Soils and Watersheds
Alonso Barrios	Assistant Professor	Forest Eng. MSc. Area: Silviculture; D.Sc. Forestry
Consuelo Arce	Assistant Professor	Systems Eng. MSc. in ICT
Nelson Javier Albarán Castro	Director, Bajo Calima Tropical Forest Center	M.Sc. candidate - Area: Rural Development, University of Tolima

1.
Surname: **Melo Cruz**
Name: **Omar Aurelio**
Date of birth: 25 September 1965
Nationality: Colombian
Identity document: 5.937.625
Employer institution: University of Tolima
Current position: Associate Professor.

2. Degrees (area / discipline, University, Year):

Forest engineer. University of Tolima (1989).

3. Postgraduate degree, institution and year.

MSc. in Silviculture and Forest Management. National University, Medellin Campus. 1995.
PhD in Agricultural Sciences. National University, Medellin Campus. 2015.

4. Positions held (type of position, institution, date) in the last 3 years:

Full-time professor in Silviculture and Forest Ecology

1.	
Surname:	**Quimbayo Cardona**
Name:	**Miguel Ángel**
Date of birth:	18 March 1977
Nationality:	Colombian
Identity document:	93.403.454
Employer institution:	University of Tolima
Current position:	Assistant professor

2. Degrees (area / discipline, university, year):
Biologist, University of Tolima, 2002.

3. Post-graduate degree, institution and year:
PhD in Sciences. Major: Conservation of Forest Ecosystems. 2008-2012. University of Sao Paulo (USP), "Luiz de Queiroz" Higher School of Agriculture (ESALQ). Piracicaba, Brazil.

4. Positions held (type of position, institution, date) in the last 3 years:
Assistant professor and researcher, Department of Forestry, Faculty of Forest Engineering.. 2006 to date.

Visiting professor, Doctoral Program in Environmental Education and Culture University of Southern Colombia. Neiva, Colombia. 2022. Course: Crosscutting seminar on "Management of Environmental Systems".

1.
Surname: **Lozano Botache**
Name: **Luis Alfredo**
Date of birth: 20 December1961
Nationality: Colombian
Identity document: 14.242.667 Ibagué
Employer institution: University of Tolima
Current position:

2. Degrees (area / discipline, University, Year):

Forest Engineer	University of Tolima	7 March 1986

3. Postgraduate degree, institution and year.

MSc. in Biology	University of Tolima	22 April 2001
D.Sc. in Biology, Candidate	University of Tolima	

4. Positions held (type of position, institution, date) in the last 3 years:

Dean of the Faculty of Forestry, 26 August 2012 – 2018
Professor, Forest Harvesting Course, University of Tolima (2004 -)

1. Surname: **Arce González** Name: **Consuelo** Date of birth: 10 May 1953 Nationality: Colombian Identity document: 41.091.088 Employer institution: University of Tolima Current Position: Dean (E), Faculty of Forest Engineering
2. Degrees (area / discipline, University, Year): Systems engineer INCCA University 1979
3. Postgraduate degree, institution and year. MSc in E-learning Autonomous University of Bucaramanga 2012
4. Positions held (type of position, institution, date) in the last 3 years: Dean (E), Faculty of Forest Engineering, University of Tolima Director, Academic Unit of the Faculty of Forestry (2017 -)

1. Surname: **Fernández Méndez** Name: **Fernando** Date of Birth: 19 January 1978 Nationality: Colombian Identity document: 93.407.191 Employer institution: University of Tolima Current position: Professor
2. Titles (area / discipline, University, Year): Forest Engineer, University of Tolima, 2002
3. Postgraduate degree, Institution and year. MSc. in Forest Management and Conservation, CATIE, 2007 D.Sc. Scientiae em Botánica, Universidade Federal De Viçosa. 2018
Positions held (type, institution, date) over the past 3 years: Professor, PhD student. Lecturer, Tropical Forestry Center of Bajo Calima. Area: Tropical Natural Forest Research

1. Surname: **Barrios Trilleras** Name: **Alonso** Date of birth: 08 June 1978 Nationality: Colombian Identity document: 93408851 Employer institution: University of Tolima Current position: Professor
2 Titles (area / discipline, University, Year): Forest Engineer, University of Tolima, 2005
3 Post-graduate degree, institution, year: M.Sc. in Sciences, Honors in Forest Resources, Austral University of Chile. 2007 D.Sc. in Forestry, Austral University of Chile. 2018
4 Positions held (type, institution, date) over the past 3 years: Professor, PhD student Head, Department of Forestry, University of Tolim

1. Surname: **Forero Peña** Name: **Luz Amalia** Date of Birth: 9 July 1966 Nationality: Colombian Identity document: 65,731,395 - Ibagué Employer institution: University of Tolima Current position: Resident Professor, Tropical Forestry Center of Bajo Tolima
2. Titles (area / discipline, University, Year): Forest engineer - University of Tolima – 1992
3. Postgraduate, institution and year. Specialized in University Teaching, University of Nariño, 2003 MSc in Agricultural Sciences, National University of Colombia, Medellin Campus, 2005 PhD – Agricultural Sciences, National University of Colombia, Palmira Campus, 2015
4. Positions held (type, institution, date) over the past 3 years: Resident Professor, Bajo Calima Center, 2012 Director, Tropical Forestry Center of Bajo Calima, University of Tolima, 2009-2011

1.	
Surname:	**Klop**
Name:	**Arie**
Date of birth:	6 November 1958
Nationality:	Dutch /Netherlands
Identity document:	C.E.310825
Employer institution:	University of Tolima
Current position:	Visiting Lecturer and Consultant – University of Tolima
2. Degrees (area / discipline, university, year):	
Forest engineer, University of Wur - Wageningen, NL. 1 June 1981	
3. Post-graduate degree, institution and year:	
MSc in Forestry, University of Wur - Wageningen, NL. 22 January 1985	
4. Positions held (type of position, institution, date) in the last 3 years:	
University of Tolima, Senior Professor, Agroforestry Specialist Bioesferas Corporation, 2015 to date	

1.	
Surname:	**Ramírez Arango**
Name:	**Alejandra**
Date of birth:	02-05-1978
Nationality:	Colombian
Identity document:	43757869
Employer institution:	University of Tolima
Current position:	Professor
2 Degrees (area / discipline, university, year):	
Forest engineer, National University, Medellín Campus, 2002	
3 Post-graduate degree, institution, year:	
M.Sc. in Forest Products 2010	
4 Positions held (type of position, institution, date) in the last 3 years:	
Professor – Course: Industrial Timber Processing, University of Tolima (2014 - …)	

1.	
Surname:	**Leal Villamil**
Name:	**Julián**
Date of birth:	19-02-1988
Nationality:	Colombian
Identity document:	1110469877
Employer institution:	University of Tolima
Current position:	Senior professor
2 Degrees (area / discipline, university year):	
Forest engineer University of Tolima 2009	
3 Post-graduate degree, institution, year:	
M.Sc., Watershed Management, University of Tolima 2016	
4 Positions held (type of position, institution, date) in the last 3 years:	
Senior professor, University of Tolima (2018 – 2022)	

1. Surname: **Espinosa Rico** Name**:** **Miguel Antonio** Date of birth: 17 November 1958 Nationality: Colombian Identity document: 5.831.613 Employer institution: University of Tolima Current position: Full-time professor, University of Tolima. Department of Social and Legal Sciences. Faculty of Arts and Humanities. 2009 to date
2. Degrees (area / discipline, university, year): Degree in Social Sciences, University of Tolima, 1981
3. Post-graduate degree, institution and year: MSc in Development, MSc in Geography Pedagogical and Technological University of Colombia/Agustín Codazzi Institute of Geography Agreement , Santa Fe de Bogotá, 4 December 1992. PhD in Geography, National University of Colombia
4. Positions held (type of position, institution, date) in the last 3 years: Full-time professor, University of Tolima. Department of Social and Legal Sciences. Faculty of Arts and Humanities. Since 1 June 2009. Director, Center for Regional Studies - CERE. University of Tolima. 17 August 2014 – 14 September 2017

1. Surname: **Albarán Castro** Name**:** **Nelson Javier** Date of Birth: 15 June 1962 Nationality: Colombian Identity document: 14240374 Employer institution: University of Tolima Current position: Director, Tropical Forestry Center of Bajo Calima
2. Degrees (area / discipline, University, Year): Forest Engineer University of Tolima 1986
3. Postgraduate degree, institution and year. Master's Degree in Rural Development – Candidate University of Tolima
4. Positions held (type, institution, date) over the past 3 years: Director, Tropical Forestry Center, Bajo Calima, University of Tolima Head of Academic Unit, University of Tolima

ANNEX 4. Production systems in the collective territory of the Community Council of Bajo Calima, Buenaventura, Colombia

There are two clearly distinctive areas in Bajo Calima; they do not have obviously determined physiographic boundaries but are rather divided on the basis of the historical trends that have defined production activities in the region. The two production and population areas are found along the roads and along the rivers; roads and rivers are the main features that influence the population's perception of their land.

a) Road

The first zone refers to the Bajo Calima road axis, which is part of the road leading from Cali to Buenaventura, going through the area that used to be under PULPAPEL concession and which finally leads to Bahía Málaga. This road axis was mostly built by the concessionaires of the forest to transport their products and as an infrastructure project for the region; since the concession returned to State hands, the road has been in very poor condition. This area features a high level of ecosystem intervention and the largest settlements along its edges, such as Bajo Calima (also known as La Colonia or Puerto Patiño), the main regional population center with 1700 inhabitants approximately. Furthermore, the communities of Villa Estela with 442 inhabitants, El Crucero or kilometer 9 with 315 inhabitants, Las Brisas with 119 and La Estrella with 94 inhabitants are found in this area. The main activity in the road area is timber logging; activity agriculture is limited to family subsistence farms, mainly because of the loss of top soil caused by timber overlogging and naturally low fertility levels of the local soils.

b) River

The river area follows the lower basin of the Calima River axis until it joins the San Juan River. The population of this area is smaller and is more widely spread; it conserves the typical building shapes of the Pacific and uses the river as the main communication axis. The largest center is San Isidro with 369 inhabitants; other population centers in this physiographic area include La Esperanza (105 inhabitants), La Trojita (55 inhabitants), Ceibito (27) and Guadualito with 57; furthermore the indigenous community of Guayacán is situated here, with approximately 100 inhabitants. In this region agriculture is more important though it is not sufficiently developed to have a significant impact on trade outside the area; it remains a staple food crop and subsistence activity.

In the Bajo Calima region, all production activity (mining, agriculture, forest utilization) is mainly traditional. There is no mechanization of production, logging, collection, most products harvested are for self-consumption, there is a lack of local marketing channels for the various products, and there is intensive use of family labor. Forest activity has changed since the PULPAPEL concession withdrew from the area in 1993; this had an impact on employment levels and, as a result, on income, affecting all the other sectors, which is reflected in the gradual drop in volumes produced.

The lack of roads (the existing one is in terrible condition) makes for difficult and costly transport of goods to marketing centers, despite the short distance involved, thus discouraging production for trade. However, sealing work has begun on the road leading to the Aguadulce agro-industrial complex, with the first 7.5 kilometers in the current road to Bajo Calima.

ANNEX 5. List of companies by specific area with which the University has been in contact and which will be invited to participate in the project

Note: This list will be extended based on the arrangements to be made by the University.

COMPANY	SPECIFIC AREA
TABLEMAC	Production of panels
NÚCLEOS DE MADERA	Harvesting, sawmilling, drying and preservation
REFOCOSTA	Forest chain and board production
IMA	Production of furniture and marketing
SMURFIT KAPPA-CARTON COLOMBIA	Reforestation, harvesting and processing Pulp, paper and cardboard
SENA	National furniture center
SERRANO GÓMEZ	Immunization
SERYE S.A.	Immunization
PRIMAL LTDA.	Machinery and equipment
PRIMADERA	Forest chain and board production
EUROSIERRAS SAS	Forestry equipment
ASOMAVALLE	Timber processing
INDUCOLMA SAS	Wooden packing materials
MADEPAL	Wooden packing materials, pallets and drums

ANNEX 6. Line enrichment and agroforestry systems to be implemented in this project

SCIENTIFIC NAMES OF FOREST AND AGRICULTURAL SPECIES USED IN LINE ENRICHMENT AND AGROFORESTRY SYSTEMS

This proposal expects to establish a 100 hectare pilot area of agroforestry systems, consisting of 70 hectares of rubberwood (*Hevea brasiliensis* Mull. Arg.) and 30 hectares of aceite maría (*Calophyllum mariae* Planch. & Triana), representative of 17000 hectares (10000 of river plains and 7000 of dissected terraces) in an attempt to obtain timber and non-timber products such as timber and latex. The aceite maría plant material will be obtained from the region, while Brazilian clone varieties will be used for rubberwood: FX 3864, IAN 710 and IAN 873, which have proven resistance to the so-called *South American leaf disease* and high production under relatively extreme environmental conditions such as those in Bajo Calima.

Agroforestry processes will be used to decrease the negative impact of the population's need for food products. Taro *(Colocasia esculenta* L. Schott*)*, maize (*Zea maiz* Vell.), banana (*Musa* sp.), sugar cane (*Saccharum officinarum* L.) and fruit species such as borojó *(Borojoa patinoi* Cuatrec.*)*, bacao *(Theobroma bicolor* Humb. & Bonpl.*)* and guayabilla *(Eugenia victoriana* Cuatrec.*)* will be used, depending on environmental conditions in the proposed sites.

4 production clusters will be established, as follows:

Cluster 1: River communities of: San Isidro, Ceibito and La Trojita where the two forest species will be established in association with agricultural crops; in this region there are already rubberwood plantations that were established in the mid-fifties, but have yet to be evaluated. In this center 20 hectares of rubberwood and 10 of aceite maría will be established also in association, according to preferences and soil conditions on selected farms.

The models to be used will include:

- Rubberwood (or aceite maría) in association with maize, and rotation with borojó *(Borojoa patinoi* Cuatrec.*)*
- Rubberwood (or aceite maría) in association with taro *(Colocasia esculenta* L. Schott*)*, and rotation with guayabilla *(Eugenia victoriana* Cuatrec.*)*
- Rubberwood (or aceite maría) in association with bacao *(Theobroma bicolor* Humb. & Bonpl.*)*
- Rubberwood (or aceite maría) in association with maize and sugar cane

Depending on the farmers, one of the fruit crops may be replaced by banana.

Planting density and spacing:
Rubberwood would be planted 204 trees/hectares (7x7 m)
Aceite maría would be planted 278 trees/hectares (6x6 m))
Maize would be planted following traditional regional methods (broadcast): the equivalent of 120 pairs of corn cobs, i.e. approximately 25 pounds of grain)
Borojó *(Borojoa patinoi* Cuatrec.*)* would be planted 612 plants/hectare (3.5x3.5 m)
Bacao *(Theobroma bicolor* Humb. & Bonpl.*)* would be planted 333 plants/hectare (6x5 m)
Taro *(Colocasia esculenta* L. Schott*)* would be planted 3,600 plants/hectare
Sugar cane would be planted 3,600 plants/hectare

Cluster 2: situated in La Colonia or Bajo Calima, in the areas known as La Mojarra, San Luis and Cahuiza where there used to be palm oil and chontaduro (palm fruit) plantations of old, which were eventually abandoned. In this cluster, the project proposes to establish 20 hectares of rubberwood and 10 of aceite maría. In La Colonia there was a rubberwood production trial; 13 hectares were planted, managed and used by the Secretariat of Agriculture of Valle del Cauca, with positive results, although the plantation was eventually abandoned and is currently being logged by the community for timber. Very close to La Colonia, the University of Tolima is running a plantation trial with Aceite María, which has produced good growth rates.

The models to be used will include:

- Rubberwood (or aceite maría) in association with maize, and rotation with borojó *(Borojoa patinoi* Cuatrec.*)*
- Rubberwood (or aceite maría) in association with taro *(Colocasia esculenta* L. Schott*)*, and rotation with guayabilla *(Eugenia victoriana* Cuatrec.*)*
- Rubberwood (or aceite maría) in association with bacao *(Theobroma bicolor* Humb. & Bonpl.*)*
- Rubberwood (or aceite maría) in association with maize and sugar cane

Depending on the farmers, one of the fruit may be replaced by banana.

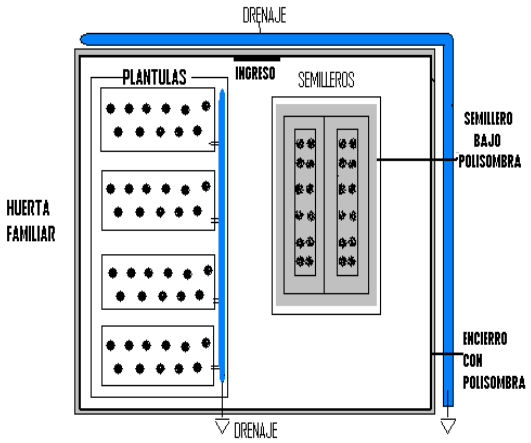
Planting density and spacing:
Rubberwood will be planted 204 trees/hectares (7x7 m)
Aceite maría will be planted 278 trees/hectares (6x6 m))
Maize will be planted following traditional regional methods (broadcast): the equivalent of 120 pairs of corn cobs, i.e. approximately 25 pounds of grain)
Borojó *(Borojoa patinoi* Cuatrec.*)* will be planted 612 plants/hectare (3.5x3.5 m)
Bacao *(Theobroma bicolor* Humb. & Bonpl.*)* will be planted 333 plants/hectare (6x5 m)
Taro *(Colocasia esculenta* L. Schott*)* will be planted 3,600 plants/hectare
Sugar cane will be planted 3,600 plants/hectare

Cluster 3: Community of Villa Estela, on the road. In this cluster, the project proposes 15 hectares of rubberwood and 5 of aceite maría in enrichment lines for the degraded secondary natural forests; the community of Villa Estela has a long history of forest use, although it has leaders with a strong sense of ownership, conservation and agricultural tradition that will be of crucial importance for the success of this proposal.

Rubberwood and aceite maría will be planted with the same densities per hectare as indicated for the two above clusters, but they will not be associated with any agricultural product, and the secondary forest will be managed in such a way as to encourage the penetration of sunlight for the two species.

Cluster 4: This includes the communities of La Estrella, Las Brisas and El Crucero, with plantations of 15 and 5 hectares of rubberwood and aceite maría respectively; close to the community of La Estrella, in the site known as El Dindo, there is a trial run by the Corporación Nacional de Investigación Forestal, CONIF, with aceite maría (3 hectares of plantation).

For clusters 3 and 4 the project proposes line enrichment planting in secondary natural forests, as recommended by various authors such as Carrillo, Bonilla and Mayorca (2008)[1], Martínez (2007), because of previous experiences in the community and the CVC no positive results were achieved. Family farms are proposed for these clusters, taking advantage of the experience gathered in this respect by the Tropical Forestry Center of the University of Tolima[2]. The figure shows a design tested at the CFT, but which should be adapted to social and biological conditions of the area where it is to be tested. In order to solve the food security problem and decrease the degradation effect on these ecosystems, resulting from overlogging for rods and boards, line enrichment planting will be used. Furthermore, it is proposed that El Crucero, because of its strategic location, be the storage center for all the products and where value adding work can be performed; it would also be the marketing point for the products.



The following map shows the location of the four proposed clusters (figure 4).

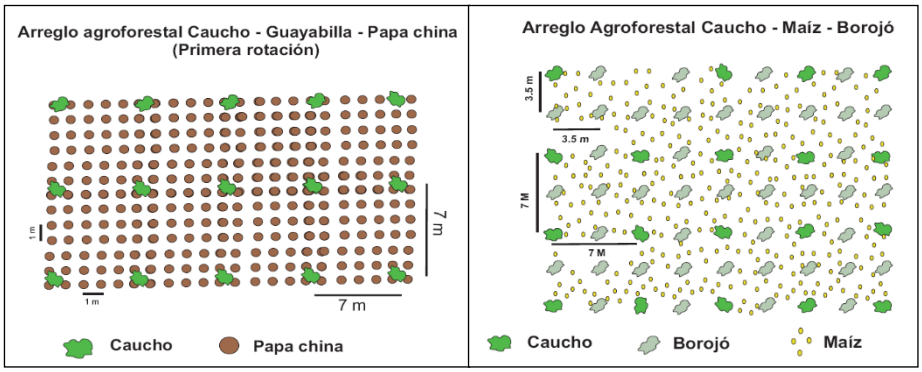
[1] CARRILLO, LEADY CAROLINA, BONILLA, JEIMY and MAYORCA, HERNANDO. 2007. Estudio de caso para una plantación de aceite maría productora de materia prima para la elaboración de muebles y molduras. Ibagué: especialización en producción, transformación y comercialización de la madera. School of Forest Engineering, University of Tolima. ITTO – University of Tolima Agreement.

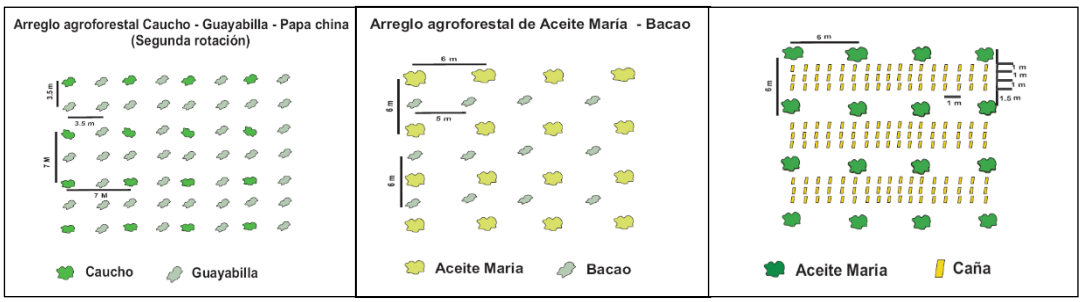
[2] The University of Tolima, through the Tropical Forestry Center of Bajo Calima, has described, as an academic exercise, the family farms and vegetable gardens established in the communities within the Bajo Calima Community Council.

Figure 4. Clusters proposed for the Project on Bajo Calima Community Council lands.

The enrichment lines are proposed to run up to 500 metres from the edge of the road, since this is considered to be the maximum distance a man can move efficiently with a forest product on his shoulder without causing serious strain. In the road area these distances are in the most degraded part of the ecosystems and in general are covered by "marranero" fern (*Pteridium aquilinum*), so plantations will serve a dual purpose: they will recover degraded ecosystems and, on the other hand, they will offer an economic alternative to the communities living within the project target area.

The following figures show the various arrangements:





The main activities to be carried out in the models proposed, for the first two years, appear in the following table:

MODEL	YEAR 0	YEAR 1	YEAR 2
Forest – Maize with borojó *(Borojoa patinoi* Cuatrec.*)* rotation	xx		
Planting associated species		xx	xx
Maize harvest		xx	
Planting borojó *(Borojoa patinoi* Cuatrec.*)*			
Forest – Taro *(Colocasia esculenta* Schott*)* with guayabilla *(Eugenia victoriana* Cuatrec*)* rotation	xx		
Planting associated species	xx	xx	xx
Taro *(Colocasia esculenta* L. Schott*)* harvest			xx
Planting guayabilla *(Eugenia victoriana* Cuatrec*)*			
Forest associated with bacao *(Theobroma bicolor* Humb. & Bonpl.*)*	xx		
Planting associated species			
Forest associated with sugar cane			
Planting associated species	xx		
Harvesting sugar cane		xx	xx

SCIENTIFIC NAMES OF FOREST AND AGRICULTURAL SPECIES USED IN LINE ENRICHMENT AND AGROFORESTRY SYSTEMS

Aceite maria
Family: Clusiceae
C.N. *Calophyllum mariae* Planch. & Triana.

Borojo
Famillia Rubiaceae
C.N. *Borojoa patinoi* Cuatrec.

Bacao
Family: Sterculiaceae
C.N. *Theobroma bicolor* Humb. & Bonpl.

Guayabilla
Family: Myrtacea
C.N. *Eugenia victoriana* Cuatrec

Taro
Family: Araceae
C.N. *Colocasia esculenta* (L.) Schott

Maize
Family: Poaceae
C.N. *Zea maiz* Vell.

Sugar cane
Family: Poaceae (Graminaceae)
C.N. *Saccharum officinarum* L.

Banana
Family: Musaceae
C.N. *Musa* sp.

ANNEX 7. Technical factsheet for Aceite Maria

The timber of the Aceite Maria species (*Calophyllum mariae* Planch. & Triana) has been widely used for its excellent physical, mechanical and workability properties, which in addition to its organoleptic characteristics, such as grain and colour, makes it an excellent raw material for a wide variety of products, and it can therefore be used as a substitute for other species such as mahogany (*Swietenia macrophylla* King), cedar (*Cedrela odorata* L.), African mahogany (*Khaya* spp.), Birdseye maple (*Acer* spp.), Birch (*Betuna alleghaniensis*) and Pitch Pine (*Pinus rigida*). Furthermore, the price of this species is competitive in the timber market, which is why its logging rate has increased.

RANGE AREA

This species is found in countries such as Mexico, Panama, Suriname, Colombia, Venezuela, Ecuador and Bolivia, all the way up to Brazil.

In Colombia, it is found along the Pacific Coast, in the Tumaco and Mistrat (Risaralda) region, the San Lucas mountain range, in Carare-Opon, the Eastern Plains, in the middle part of the Caqueta region, in the northern part of Guaviare, in the vicinity of Mitu (Vaupes), and in La Chorrera, in the Colombian Amazon region.

TREE CHARACTERISTICS

This is a tree of large statue, reaching heights of between 20 and 30 meters, although it can in fact grow up to 45 meters tall; it has a diameter of 40 to 60 centimeters, sometimes reaching up to 2.0 meters, and a straight, cylindrical shaft, free of branches in the lower 2/3 basal area and sometimes small buttresses at the base. The species grows at sea level and up to 1,700 meters above sea level, in tropical moist forests - especially in hill and terraced areas - and prefers alluvial, deep, clayey, very humid and acid soils (pH 4.5-6.0). It has simple leaves with an opposite position arrangement, with parallel secondary nerves. As a rule, it has an average commercial height of 15 m. The color of its outer bark ranges from yellowish-grey to dark red, which is characterized by its hard consistency and wide and deeply marked fissures. Its inner bark is reddish and exudes a kind of quite sticky yellow resin. The fruit of this tree consists of a rounded drupe. The species grows in association with species such as *Swietenia* sp., *Cedrela* sp., *Dalbergia* sp., *Cybistax donnel*, *Cordia alliodora*, *Guaicum offlcinale* and *Dacryoides excelsa*. On the Pacific coast, it is associated with: *Carapa Guianensis, Brosimun Utile* and *Dialyanthera acuminata*. Its ready adaptability also allows it to grow in soils that are rich in iron and aluminum but poor in potassium and phosphorus; it tolerates floods in flood-prone plains nearby water courses and is resistant to shade, so that it can be easily and abundantly found in the lower strata of the forest canopy. The individuals of this species are also easily identified externally by their rounded and dense crown that only covers the upper third of the tree.

WOOD

Its sapwood is pinkish white in color transitioning to a pale-red heartwood. Its smell and taste are not distinctive or are generally absent. The wood has medium to bright luster, with a coarse texture and wood grain that has timber vessel lines and interlocked satin strands.

FLOWERING

The flowering of this species is rare and occurs only once a year between the months of November and June along the Colombian Pacific coast and, at the time, it produces small male and female flowers of a yellowish cream color in bunches that are usually shorter than the leaves.

FRUIT

The fruit produced by this tree species is a pale green, rounded drupe ranging from 2.5 to 3.0 centimeters in diameter, which turn brown in color when they are ripe. Their pulp has a fragrant aroma and surrounds a single, large rounded kernel. In Colombia, the trees bear fruit during the first months of the year.

DRYING

The wood does not crack easily, although sometimes it develops moderate defects that can be avoided by radial cutting. It also dries easily and quickly outdoors thanks to the size of its pores (medium to large) that facilitate the elimination of water. However, this type of drying can cause the wood to twist, but this can be avoided by using kiln drying techniques and to this end, it is recommended to use kiln schedules T2-D4 and T2-D3 of the USA drying manual.

DURABILITY

The durability of the wood of this species is considered to range from very durable to moderately durable and apparently it is not very resistant to marine borers, termites and fungi.

WORKABILITY

The wood is moderately difficult to saw due to the resin it exudes. It is easy to process and work on different machines and tools. It does not present difficulty for gluing, lacquering and finishing.

PRESERVATION

The heartwood is very resistant to the penetration of immunizing agents, while the sapwood is easily impregnable.

USES

Furniture in general, boats (canoes) and luxury constructions, parquet floors, bridges, coachwork, tool handles, stairs, poles and railway sleepers (mining), moldings, handrails, toys, crafts and wood veneers, interior constructions, wood struts, carpentry, cabinets and formwork. It is widely used in the manufacture of musical instruments or parts thereof.

SURVIVAL

Several silvicultural studies on this species have been carried out in Colombia, including studies in the research plots that were established by the National Forest Research and Development Corporation (CONIF) and the National Institute for Natural Resources (INDERENA) in the hills of Bajo Calima, near Buenaventura, in the 1980s, in the plots installed in the municipality of Puerto Boyaca on the lands of the *Reforestadora Bosques del Futuro* in 1998, and the preliminary results of the Arboretum of the Bajo Calima Tropical Forestry Center obtained on its 10th anniversary, in 1994. All the studies showed that the species grows slowly during the first few years, with an average growth of 1.0 to 1.5 meters per year, to later achieve significant increases in height and, on average, the timber can potentially be harvested at 15 years of age. Past studies have found that the species can potentially be used as the tree component in silvicultural works in the Colombian Pacific coastal region, that it is highly suitable for agroforestry systems and the enrichment of degraded ecosystems, and that it has high germination rates. Out of 100% of seeds planted, 90% will develop when planted without endocarp, 95% with endocarp broken and 75% when planted with the whole fruit. In addition, the species produces 700 seeds per kilogram, which are collected in the field and do not need pre-germinative treatment, while their seedlings, which are shade tolerant, grow well in full light, which makes them suitable for open-field plantations.

MARKETING

The Regional Autonomous Corporation of Central Antioquia (Corantioquia) published a report in the Forest Chain Information System journal (2005) which stated that a total volume of 3,774 m^3 of this species was extracted from a total area of 874,079 ha. Today, its scarcity and indiscriminate logging, in addition to the lack of management actions or plans for both natural and plantation forests of this species, has resulted in a low level of marketing. This was confirmed by the M&M journal when it phoned six sawmills in Bogota and only one could provide the wood as long as it was pre-ordered and at a price of 600,000 pesos per m^3. The remaining five sawmills reported that the Aceite Maria wood can be bought for up to twice as much, although they also offered *abarco* timber as an alternative.

ANNEX 8. Justification of the acquisition of a vehicle and outboard motorboat

The need to have means of land and river transport is based on the following considerations:

The project will be implemented in a rural area that is away from the Municipality of Buenaventura, at about 30 km from the community area located furthest from the roadway.

The target communities are connected by land through tertiary roads (El Crucero, La Estrella, Villa Stella, Las Brisas y Bajo Calima (La Colonia)) and by river transport through the Calima River (San Isidro, La Esperanza, Guadual, Ceibito, La Trojita), but there is no regular public land or river transport service to facilitate the transport of project staff, materials and supplies as required for the implementation of the project.

The Tropical Forestry Center of the University of Tolima, which will be the operational base of the project, is located 20 kilometers from the Municipality of Buenaventura, within the area of the Bajo Calima Community Council. It is connected through single-lane tertiary dirt roads with poor maintenance, which are only suitable for cabin pickup trucks.

Riparian communities are located along the Calima River, so it is possible to use 30 ft boats with 75 HP outboard motors.

If a medical emergency should arise, it would be possible to reach the nearest medical centers – which are located 30 km away – by land from the facilities of the Bajo Calima Tropical Forestry Center, the operational base of the project.

ANNEX 9. Response to the Expert Panel's recommendations and corresponding modifications

Comments

A) Overall assessment

The Panel recognized the importance of this proposal intending to launch a participatory process with a gender focus to achieve sustainable management of secondary natural forests and collective lands in Bajo Calima, Republic of Colombia. The proposal focuses on sustainably managed timber plantations utilizing agroforestry systems that incentivize the people living in the area to make a legal living and enhance the local food chain. The Panel noted that the rationale, objectives, and goals of the project are well defined and conform closely with ITTO objectives and priorities. The technical elements of the project appear to be sound, and likely to yield significant benefits in terms of livelihoods, as well as reductions in deforestation and forest degradation in the region. It also noted that the information and detailed analysis provided regarding the communities and the governance structures in the areas in which this project is to be implemented is well described. The history of collaboration in forest management and agroforestry development between the communities and project collaborators – especially the University of Tolima - is apparent in the proposal and builds upon a past ITTO project. This past work creates trust among the participants, which is essential.

However, the Panel further noted that there was still a need for improvement of some sections and sub-sections of the revised project proposal dealing with: ITTO objectives, geographical location not described in details for the target project sites, social and environmental aspects not referring to the relevant elements of the ITTO Environmental and Social Guidelines (PS-23), impact indicators for the development objective with indicated time-bound beyond the project duration, ITTO budget for project personnel representing around 35% of total amount to be disbursed to the executing agency for project implementation purpose, which are subject to specific recommendations, here below.

B) Specific recommendations

The proposal should be revised taking into account the overall assessment **and** the following:

1. Improve the Sub-section 1.2.1 (Conformity with ITTO objectives and priorities) by fully quoting the ITTO objectives to be followed by related explanation, while reducing the number of ITTO objectives to the most relevant ones in correlation with the outcomes of the specific objective.
2. Improve the Sub-section 1.3.1 (Geographical location) with appropriate description of the project target sites to be clearly indicated in a map to be added in this Sub-section.
3. Re-visit the Sub-section 1.3.2 (Social, cultural, economic and environmental aspects) with relevant elements of the ITTO Environmental and Social Guidelines (PS-23).
4. Make the outcome indicators of the specific objective SMART (as required in the ITTO manual for project implementation, on page xx in the Spanish version) by using the time-bound within the project duration.
5. Amend the ITTO budget in line with the above overall assessment **and** specific recommendations, and also in the following way:
    a) Reduce substantially the ITTO budget for project personnel by equitably sharing the costs between the implementing agency and ITTO, as a way to contribute to the project sustainability after its completion with external funds provided by ITTO,
    b) Delete the second column (source) in the table of Master budget and avoid the calculation mistake such as the one made on budget line 111 of ITTO budget table,
    c) Adjust the budget item 81 with the standard rate of US$10,000.00 per year for the monitoring and review costs (US$20,000 for 2 years) of a project implemented in Latin America and the budget item 83 with the standard rate of US$15,000 for ex-post evaluation costs,
    d) Recalculate the ITTO Programme Support Costs (sub-item 83) so as to conform with standard rate of **12%** of the total ITTO project costs (on budget items 10 to 82); and
6. Include an Annex that shows the overall assessment and specific recommendations of the 56th Expert Panel and respective modifications in tabular form. Modifications should also be highlighted (bold and underline) in the text.

C) Conclusion

Category 1: The Panel concluded that the proposal could be commended to the Committee with incorporation of amendments.

Modifications:

1. Improve the Sub-section 1.2.1 (Conformity with ITTO objectives and priorities) by fully quoting the ITTO objectives to be followed by related explanation, while reducing the number of ITTO objectives to the most relevant ones in correlation with the outcomes of the specific objective.

✓ ITTO objectives have been quoted in full in sub-section 1.2.1. (page 8) and have been marked in bold and underlined under items c, f, g, j, l, n, q, r, followed by an associated explanation while reducing the number of objectives to the most relevant ones related to the specific objective, as follows:

Item c), **Contributing to sustainable development and poverty alleviation.**
The following has also been added:

which establishes the organization of "human groups" under "Community Councils". The human group of Bajo Calima was established as the "Community Council of the Lower Basil of the Calima River".

of this

in the heart of the tropical rainforest region,

lacking public services, industries and marketing of their food products, being one of the poorest communities in the Pacific area of Colombia.

Item f): **Promoting and supporting research and development with a view to improving forest management and efficiency of wood utilization and the competitiveness of wood products relative to other materials, as well as increasing the capacity to conserve and enhance other forest values in timber producing tropical forests.**

Item g): **Developing and contributing towards mechanisms for the provision of new and additional financial resources with a view to promoting the adequacy and predictability of funding and expertise needed to enhance the capacity of producer members to attain the objectives of this Agreement.**

Item j): **Encouraging members to support and develop tropical timber reforestation, as well as rehabilitation and restoration and rehabilitation of degraded forest land, with due regard for the interests of local communities dependent on forest resources.**

Item l): **Strengthening the capacity of members for te collection, processing and dissemination of statistics on their trade in timber and information on the sustainable management of their tropical forests.**

Item n): **Strengthening the capacity of members to improve forest law enforcement and governance, and address illegal logging and related trade in tropical timber.**

Item q): **Promoting better understanding of the contribution of non-timber forest products and environmental services to the sustainable management of tropical forests with the aim of enhancing the capacity of members to develop strategies to strengthen such contributions in the context of sustainable forest management, and cooperating with relevant institutions and processes to this end.**

The following has also been added: **staple food products.**

Item r): **Encouraging members to recognize the role of forest-dependent indigenous and local communities in achieving sustainable forest management and develop strategies to**

enhance the capacity of these communities to sustainably manage tropical timber producing forests.

2. Improve the Sub-section 1.3.1 (Geographical location) with appropriate description of the project target sites to be clearly indicated in a map to be added in this Sub-section.

☑ In sub-section 1.3.1, the indication of the geographic location has been improved with the inclusion of a map with coordinates on page 11, and a clear description of target sites. All changes have been marked in bold and underlined, as follows:

Four production clusters are proposed, as follows:

- ✓ ***Cluster 1***: **Riparian communities of San Isidro, Ceibito and La Trojita, where the two forest species will be established in association with agricultural crops; in this region there are already rubberwood plantations that were established in the mid-fifties, but have yet to be evaluated.**

- ✓ ***Cluster 2*: situated in La Colonia or Bajo Calima, in the areas known as La Mojarra, San Luis and Cahuiza, where there used to be palm oil and chontaduro (palm fruit) plantations, which were eventually abandoned.**

- ✓ **Cluster 3: Community of Villa Estela, on the road. The community of Villa Estela has a long history of forest use, although it has leaders with a strong sense of ownership, conservation and agricultural tradition that will be of crucial importance for the success of this proposal.**

- ✓ ***Cluster 4*: This includes the communities of La Estrella, Las Brisas and El Crucero, with plantations of 15 and 5 hectares of rubberwood and aceite maría respectively; close to the community of La Estrella, in the site known as El Dindo, there is a trial run by the National Corporation for Forest Research (*Corporación Nacional de Investigación Forestal* - CONIF), with aceite maría (3 hectares of plantation).**

3. Re-visit the Sub-section 1.3.2 (Social, cultural, economic and environmental aspects) with relevant elements of the ITTO Environmental and Social Guidelines (PS-23).

☑ Sub-section 1.3.2. has been revisited and references have been made to the relevant principles of the ITTO Environmental and Social Guidelines (PS-23) (pages 12-14); in addition, complementary information has been added in relation to each principle as follows (all changes have been marked in bold and underlined):

Introduction to sub-section 1.3.2 added on page 12:

☑ **Following ITTO's ESM (Environmental and Social Management) guidelines (PS23), this project will take into account the closely interrelated principles that are key to achieving ITTO's core objectives.**

References to guidelines principles marked in bold and underlined as follows:

☑ **Compliance with principle 1: Environmental sustainability.**
The following has been added in bold and underlined**: and thus ensure the conservation and use of biodiversity in an environmentally and economically sustainable manner, maintaining and improving the health and vitality of forests.**

☑ **Compliance with principle 2: Social sustainability.**
The following has been added on page 13**: The implementation of this project is aimed at maintaining and improving forest-based socioeconomic opportunities and benefits, promoting job creation and safe and healthy working conditions, and preserving cultural heritage.**

☑ **Compliance with Principle 3: Gender equality and empowering women.**

The following has been added in bold and underlined: **Women's involvement is essential in each and every one of the activities, which were previously the exclusive domain of men, since in addition to participating in planting, harvesting and maintaining crops, raising and maintaining poultry, making and cooking food, making handicrafts, marketing food products, cutting wood and mining, their involvement in the community councils was previously minimal but today their participation is approximately 23%. One of the project's specific objectives and outcome indicators is that by the end of the second year of the project, 40% of the members of the community council's board of directors will be women, in order to close the gender gap and to empower women at all levels.**

The following has been added in bold and underlined under sub-section 1.3.2. (page 13):

☑ **Compliance with Principle 4: Good governance. The project consolidates a culture of joint responsibility for the care and harvesting of forests, promotes a forest economy based on goods and services, and thus consolidates territorial governance by strengthening community awareness through the management of information and knowledge. This commitment to promote good governance is a fundamental aspect in achieving project objectives.**

The following has been added in bold and underlined under sub-section 1.3.2. (pages 13-14):

☑ **Compliance with Principle 5: Security of tenure to forest land and access to forest resources. The area where the project will be implemented is located within the collective territory of the Community Council of the Lower Basin of the Calima River, whose forest land use and tenure are recognized under Law 21 of 1991 and Law 70 of 1993. This has allowed the community to have absolute security of land tenure and access to forest resources, goods and services. However, the lack of sustainable management of secondary natural forests has resulted in inadequate and recurrent intensive harvesting, causing the degradation of the forest cover. This project seeks to train and raise awareness in the community, among teachers, leaders and farmers, and facilitate increased participation of women. The establishment of natural forest enrichment lines over 100 hectares and the adoption of a management plan for 16 plots in the research network will be basic tools to consolidate land tenure and access to forest resources, thus becoming an important aspect of governance, where the ownership, control and customary rights of communities over local land and forest resources are recognized and supported.**

4. Make the outcome indicators of the specific objective SMART (as required in the ITTO manual for project implementation, on page xx in the Spanish version) by using the time-bound within the project duration.

☑ Under sub-section 2.2.2. Specific objective and outcome indicators, page 25:

The following has been added (in bold and underlined) for indicator 1: **in the second (2) year**,

☑ The following as also been added in relation to indicator 1: **through the training of 200 people, including teachers, community members, representatives of public and private institutions, leaders and multipliers in the 10 communities located in the project area.**

☑ The following has been added (in bold and underlined) in relation to indicator 2: **(2)**

The following has also been added under indicator 2 (p.23): **based on one (1) enrichment planting management model for secondary natural forests and agroforestry systems**.

Under indicator 3, the following has been added (in bold and underlined): **(2)**

5. Amend the ITTO budget in line with the above overall assessment **and** specific recommendations, and also in the following way:

a) Reduce substantially the ITTO budget for project personnel by equitably sharing the costs between the implementing agency and ITTO, as a way to contribute to the project sustainability after its completion with external funds provided by ITTO,

✓ As can be seen in tables 1, 2 & 3, the personnel budget has been substantially reduced as indicated below:

3.4.3. Table 3, page 39 – Yearly ITTO budget by component: Item 10, and budget components 111-112-113-114-115-118-121-122 (changes marked in bold).

3.4.2. Table 2, Consolidated budget by component - page 38, item 10 and budget components 111-112-113-114-115-117-118-121-122 and124 (changes marked in bold) now show a substantial reduction in personnel costs.

3.4.1 Table 1, pages 27-35, Master budget (changes marked in bold)

b) Delete the second column (source) in the table of Master budget and avoid the calculation mistake such as the one made on budget line 111 of ITTO budget table.

✓ As can be seen in Table 1 – Master Budget (pages 27-35) the second column (source) has been deleted.

c) Adjust the budget item 81 with the standard rate of US$10,000.00 per year for the monitoring and review costs (US$20,000 for 2 years) of a project implemented in Latin America and the budget item 83 with the standard rate of US$15,000 for ex-post evaluation costs.

As can be seen in Table 2, Consolidated budget by component - page 38 (in bold): budget item 81 has been adjusted at the standard rate of US$10,000.00 for ITTO monitoring and review costs.

Budget item 83 has been added at the rate of US$15,000 as it had not been included in the initial proposal. This adjustment can be seen in Table 2, Consolidated budget by component (page 38), Item 83 (in bold); this same item has also been added in Table 3, Yearly ITTO budget by component (page 39) in bold.

d) Recalculate the ITTO Programme Support Costs (sub-item 83) so as to conform with standard rate of **12%** of the total ITTO project costs (on budget items 10 to 82);

✓ As can be seen (in bold) in Tables 2 and 3, pages 38-39, ITTO programme support costs have been re-calculated at the standard rate of 12% of the total project costs (item 85).

6. Include an Annex that shows the overall assessment and specific recommendations of the 56th Expert Panel and respective modifications in tabular form. Modifications should also be highlighted (bold and underline) in the text.

✓ This information has been reflected in Annex 9 (pages 69-73).