



FAO/GLOBAL ENVIRONMENT FACILITY PROJECT DOCUMENT



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EXECUTIVE SUMMARY	
<p>The Bolivarian Republic of Venezuela is located at South America's northernmost tip, with a total area of 1,501,466 km² (916,445 km² of lands; 585,000 km² of water; 504,845 km² of territorial sea and 80,155 km² of coastline) and surrounded by Colombia, Brazil, Guyana, the Atlantic Ocean and the Caribbean Sea. It has a population of 28,974,070 inhabitants according to the 2011 Population and</p>	

Housing Census, with a projected population of 30,620,404 inhabitants for 2015.

Venezuela is one of the 17 megadiverse countries in the world, mainly due to its location at the intersection of the Amazon, Andean, Caribbean and Guyana biogeographic regions. The vegetation coverage in the country is 75 million hectares (ha), and it includes a diversity of forest, shrub and herbaceous plant communities that represent 87.7% of the national territory

The forest surface is approximately 47.63 million ha managed through different categories such as Forest Reserves, Woodlots and Protected Forest Areas. Forest Reserves represent 34% of the aforementioned area (16.3 million ha). These are areas that due to their characteristics and potential are destined to permanent forest production without compromising their protective, recreational, and scientific functions, under the criteria of continuous or sustained yields through management plans. One of the most important reserves of the country is the Imataca Forest Reserve (IFR), which is the project's intervention area. It has a surface area of 3,821,900 ha. The IFR hosts an important biodiversity, including some 2,800 plant species, 450 species of birds, 153 mammals, 90 reptiles, 62 amphibians and 242 fish species. According to estimations for an area of 200,000 ha of forests of the IFR the carbon stocks amount to 159 ton/ha, which results in a total of 31,800,000 tons of C (116,388,000 t CO_{2eq}). The forests of the IFR ensure the conservation of its highly fragile soils. The population in the IFR is approximately 38,199 people comprising indigenous and non-indigenous people.

In 2003, 8% of the total area of the IFR was intervened (around 272,000 ha.). Mining was the main land use (53%, of the area) followed by the forestry (39%) and agriculture activities (7%). These productive activities impact on the global values of the IFR and have derived in degradation processes that have been only recently evaluated. For a 28-year period it has been estimated that 29,798 ha of tropical moist forest were degraded due to unsustainable harvesting of timber, mining and shifting agriculture. Carbon emissions due to unsustainable forestry practices have been estimated in 1,443,365 ton/CO_{2eq}. In addition, mining results in the contamination of soils and water and affects the health of miners. Furthermore there are threats of expansion of mining and agriculture over other forest areas of the IFR.

There are several constraints to solve the pressures over the IFR, namely: 1) gaps in technical skills for forest ecosystem monitoring and evaluation and production of timely information about forest ecosystem status, land use dynamics and carbon stocks; 2) absence of knowledge about and valuation of forest biodiversity; 3) lack of integration of information systems for adequate monitoring of forest ecosystems, biodiversity, carbon stocks and land use changes; 4) weaknesses in inter-institutional and inter-sectorial coordination to implement the new SFM vision; 5) weak operational capacity for the community SFM and forest land use planning; and 6) lack of instruments and technical capacities for conservation, sustainable management and use, and restoration of forest ecosystems, and associated ecosystem services.

The project will contribute to remove the identified barriers through mainstreaming biodiversity conservation, sustainable land management and climate change mitigation in the forestry sector to achieve a sustainable forest management through the innovation in information management, incentive programs, participatory governance, empowerment of forest-dependent communities and multiple mechanisms for restoration of forested areas under degradation processes in forest ecosystems representative of Venezuela.

The project's **global environmental objective** is to mainstream biodiversity conservation, sustainable land management, and climate change mitigation in the forestry sector to achieve Sustainable Forest Management (SFM) based on an eco-social approach. The **development objective** is to support government institutions and community organizations in applying innovations in information management, incentive schemes, participative governance, empowerment of forest-dependent peoples, and multiple mechanisms for restoration of areas under degradation processes in key representative forest ecosystems in Venezuela.

To achieve the stated objectives the project will be implemented through the following components:

- 1) Integrated National Forest Information System (SINIB)
- 2) Building of capacities and innovative tools for SFM
- 3) Forest restoration, conservation, and SFM/SLM in areas affected by degradation processes
- 4) M&E and information dissemination

The expected outcomes include: i) 4,465,909 ha of forest ecosystems monitored and evaluated through protocols facilitating collection and analysis of high quality data, including generation of biodiversity thematic maps, assessment of GHG flows and stocks, identification of carbon hotspots and development of national MRV standards. (Baseline: 1,748 temporary plots (0.5 ha) have been designed at national level within the NFI; progress has been made over 8% of the plots. For the IFR biodiversity indices, species list and aboveground carbon have been prepared in a 10,000 ha area; ii) The Forest Land Use and Management Plan (POMF) of Unit V/IFR mainstreams data and information on forest coverage, land use changes, deforestation, degraded areas, carbon stocks and measures for conservation of forest biodiversity covering an area of 167,320 ha. (Baseline: POMFs are elaborated and implemented without considering the ecological characteristics of forests. The POMF of the IFR/Unit V was elaborated in 2004 and does not include global environmental benefits); iii) Stabilized populations of *algarrobo* (*Hymenaea courbaril*), yellow trumpet tree (*Handroanthus serratifolius*, *H. impetiginosus*), *zapatero* (*Peltogyne floribunda*) and *mureillo* (*Erismia uncinatum*) within Unit V monitored through: study on autoecology; abundance and diametric distribution of species (baseline and targets to be determined in year 1); iv) Direct avoided emissions: 1,136,759 tCO_{2eq} in 5 years in 25,000 ha (227,351 tCO_{2eq}/year for 5,000 ha/year) and indirect avoided emissions: 18,188,149 tCO_{2eq} in 5 years (3,637,629 CO_{2eq}/year in 80,000 ha) (Baseline: Estimated loss of 453,135 tCO_{2eq}/year due to the use of conventional forest practices over an area of 5,000 ha under forest use); v) One (1) National Program for environmental and social sustainability standards for production of wood and non-wood forest products designed and implemented in Unit V covering 15.000 ha. (Baseline: No national standards for native forest management. The Forest Law foresees the development of sustainability standards as the basis for certification by the relevant body); vi) One (1) inter-institutional coordination and consultation platform for forest governance in Venezuela operating and effectively fulfilling its functions as per its work plan, and promoting the use of the SINIB (Baseline: Decree No. 2083 (2002) regulates institutional coordination but there are no formal coordination mechanisms in the forestry sector); vii) National manuals for restoration of tropical humid forests and forestlands elaborated, validated and disseminated. (Baseline: Currently no manuals for restoration of forests and forestlands); viii) At least 200 representatives of government institutions, NGO, grassroots organizations and communities trained in SFM/SLM (at least 40% are women) (Baseline: No training program on restoration. The ENF is working since 2012 engaging and training communities living in Unit V in the Santa Maria I and II harvesting units); ix) Populations of *algarrobo* (*Hymenaea courbaril*), yellow trumpet tree (*Handroanthus serratifolius*, *H. impetiginosus*), *zapatero* (*Peltogyne floribunda*) and *mureillo* (*Erismia uncinatum*) stabilized through reforestation, analogue forestry and agroforestry and monitored through structure, floristic and soil composition (Baseline and targets to be determined in year 1); x) 512,985 tCO_{2eq} sequestered in 1,440 ha (Baseline: Estimated loss of 453,135 tCO_{2eq}/year due to the use of conventional forest practices over an area of 5,000 ha under forest use); xi) Land degradation processes reduced in 1,440 ha through reforestation, analogue forestry and agroforestry: 50% reduction in the degraded surface area (420 ha) compared to the baseline (Baseline: Deforestation rate in Unit V for 2000-2013 was 827 ha, with an average annual rate of 0.018%)

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GLOSSARY OF ACRONYMS

ABAE	Bolivarian Agency for Space Activities
ABRAE	Areas Under Special Administrative Regime
AWP/B	Annual Work Plan and Budget
BH	Budget Holder
CBD	Convention on Biological Diversity
CONARE	National Reforestation Company
DGB	Forests General Directorate
PEP	Project Executing Partner
FAO	Food and Agriculture Organization of the United Nations
FPMIS	Field Project Management Information System
GEBs	Global Environmental Benefits
GEF	Global Environment Facility
GEFSEC	GEF Secretariat
GHG	Greenhouse Gases
GIS	Geographical Information System
IGVSB	Simon Bolivar Geographic Institute of Venezuela
IFLA	Latin American Forestry Institute
IPCC	Inter-governmental Panel on Climate Change
IFR	Imataca Forest Reserve
LTO	Lead Technical Officer
LTU	Lead Technical Unit
LULUCF	Land Use, Land Use Change and Forestry
M&E	Monitoring and Evaluation
MPPEA	Ministry of Popular Power Eco-socialism and Water
MRV	Monitoring, Measurement, Reporting and Verification
NFI	National Forest Inventory
NGO	Non Governmental Organization
NPD	National Project Director
ONDB	National Office for Biological Diversity
PIR	Project Implementation Review
PMU	Project Management Unit
POMF	Forest Land Use and Management Plan
PPR	Project Progress Report
PSC	Project Steering Committee
PTC	Project Technical Coordination
PY	Project Year
RAINFOR	Amazon Forest Inventory Network
RLC	FAO Regional Office for Latin America and the Caribbean
SIGEFOR	Electronic Forest Goods Permits System
SINACIF	National Forest Inventory Information System
SINIB	National Integrated Forest Information System
SFM	Sustainable Forest Management
SLM	Sustainable Land Management
SNIEF	National Forestry Statistical Information System
SVIDB	Venezuelan Biological Diversity Information System
TCI	Investment Centre Division (FAO)
TOR	Terms of Reference
UNCCD	UN Convention to Combat Desertification and Drought
UNFCCC	UN Framework Convention on Climate Change
UN-REDD+	Collaborative Programme for Reduction of Emissions from Deforestation and Degradation of Forests
USD	United States Dollar

SECTION 1 – RELEVANCE (STRATEGIC FIT AND RESULTS ORIENTATION)

1.1 GENERAL CONTEXT

a) General development context related to the project

The Bolivarian Republic of Venezuela is located at South America's northernmost tip, with a total area of 1,501,466 km²¹ and surrounded by Colombia, Brazil, Guyana, the Atlantic Ocean and the Caribbean Sea. The country is divided into 23 States, the Capital District and 72 Federal Dependencies. It has a population of 28,974,070 inhabitants according to the 2011 Population and Housing Census, with a projected population of 30,620,404 inhabitants for 2015².

Venezuela is one of the 17 megadiverse countries in the world, mainly due to its location at the intersection of the Amazon, Andean, Caribbean and Guyana biogeographic regions. It is in the fourth position in amphibian diversity, sixth in bird diversity, eighth in mammals and vascular plants, and ninth in reptiles. The number of species of dicotyledonous plants is estimated to be half the world's total, and includes 14,292 species of angiosperms as well as an estimated 100,000 species of coleoptera. The levels of endemism are high, particularly in birds, mammals and invertebrates.

The vegetation coverage in the country is equivalent to 75 million hectares (ha), and it includes a diversity of forest, shrub and herbaceous plant communities that represent 87.7% of the national territory. Due to its great diversity of natural areas, the Government established in 1950 a national system of Areas Under Special Administrative Regime (ABRAE), which currently covers an area of 63.5 million ha, and comprises, in accordance with their protective or productive nature: national parks, forest reserves, woodlots, natural monuments, protected forest areas, and wildlife refuges, among other categories. Moreover, there are 22 life zones in the country, represented by 650 vegetation types, and which contain a wide diversity of fauna. The forest area is approximately 47.63 million ha, which corresponds to 54 % of the country's total area. Within this surface area 15 forest reserves, 4 woodlots and 39 protected forest areas have been established for permanent forest production purposes, totalizing 16,317,202 ha.

The forest reserves are forest areas that can be found in both public and private lands and that due to their characteristics and potential are destined to permanent forest production without compromising their protective, recreational, and scientific functions, under the criteria of continuous or sustained yields through management plans.

One of the most important reserves of the country is the Imataca Forest Reserve (IFR), which is the project's intervention area. It is located in the country's southeast, covering the municipalities of Casacoima and Antonio Díaz of the Delta Amacuro State and the municipalities of Sifontes, Padre Pedro Chien, and Roscio and Piar of

¹ Including 916,445 km² of lands; 585,000 km² of water; 504,845 km² of territorial sea and 80,155 km² of coastline.

² The National Institute of Statistics

http://www.ine.gov.ve/index.php?option=com_content&view=category&id=98&Itemid=51

the Bolívar State. The IFR was created in 1961 and it currently stretches over an area of 3,821,900 ha. It is a territory of great natural and cultural richness, which combines a great diversity of ecosystems, forest and mineral resources. According to 2011 census data, the population in the IFR was approximately 38,199 people, living within the 12 parishes spanning within the boundaries of the reserve. The population comprises indigenous peoples, miners, small farmers and lumberers; with 44.3% being indigenous population, 25.4% non-indigenous population and 30.3 % lacking census data on their ethnicity. The existing indigenous peoples belong to the Warao, Kariña, Pemon, Akawaio, Arawaco, Sanema and others ethnic groups.

The different indigenous groups have a defined ethnic identity and socio-economic organization, and have traditionally depended on the IFR's forest resources for their socio-cultural development. This includes housing, sacred sites and traditional activities such as hunting, fishing, agriculture, and use of wood and non-wood products. The largest ethnic groups are the Warao, Pemon and Kariña, with more than one thousand individuals each. The Warao are socially and politically organized in sub tribes with several camps of 25 to 60 members. Their economy has traditionally been based on fishing, hunting and gathering of wild fruits, small-scale subsistence agriculture and more recently, the production of cash crops such as rice. The Pemon are organized in neighborhoods made up by nearby semi-permanent settlements integrated by 40 to 60 individuals. Their traditional activities are shifting cultivation, fishing, hunting and gathering. They have been gradually integrated into other activities such as more intensive agriculture and livestock production, paid labor in government missions and tourism. The Kariña have a social structure model based on the extended family, with autonomous communities. Their economy is based on the traditional *conuco*³ agricultural system, hunting, fishing and gathering, combined with other market activities such as the sale of surpluses from farming, hunting and mining. The Akawaio and Arawako ethnic groups have smaller populations and a mixed economy similar to the above described for other groups.

Even though small farmers do not have an ethnic identity, they have a cultural matrix and land-use patterns similar to the indigenous groups. They mainly undertake small-to medium-scale agriculture as well as the extraction of wood and non-wood resources both for household consumption and sale in the market. Forest private concessionaires operated in the reserve until 2012. Miners include the small *saquero* and *batero*⁴, and the industrial miners of national and multinational companies.

In 2003, 8% of the total area of the IFR was intervened (around 272,000 ha.). Mining was the main land use (53%, of the area) followed by the forestry (39%) and agriculture activities (7%)⁵.

³ See the description of the *conuco* agricultural system in section 1.1.b.

⁴ The *saquero* is the miner who extracts the granular mineral material and delivers it to a mill; 75% of the extracted gold is for the miller 25% for the *saquero*. The *batero* is the miner who extracts gold directly in the alluvial mine, washing the material in a pan or *suruka*.

⁵ The last study carried out at the IFR (Berroterán, J.L.ed.,2003) through 1:250,000 scale satellite images gave the following results on land use: 11% no information due to clouds, shadows, and out the rest, 8% corresponds to "Intervened Systems", of which: 53% was mining, 39% was forestry and only 7% was agricultural use.

b) Status of the Global Environmental Benefits (GEB), threats and causes

Forestry activities and conversion of forest areas to pastures or crops have for decades generated multiple jobs and economic benefits, which have provided food and investment opportunities and improving the livelihoods of the population. However, productive activities (agriculture, livestock, mining and forestry) in Venezuela have historically been undertaken to the detriment of forests, causing deforestation and degradation. Venezuela has long-standing efforts in forest conservation and management through developing measures such as the Forest, Land and Water Law, annual forest harvesting permits, forest land use planning and management plans, and forest concessions. However, a rapid and retrospective assessment reveals that after six decades of “forest management” in the country, neither implementation of land use planning and management plans or governmental policies have managed to preserve the forest heritage.

In fact, the forest area that is annually harvested and converted into agricultural lands or pastures in Venezuela amounts to: i) 32,140 ha/year of tropical wet deciduous forest (representing estimated emissions of 3.82 million tons of CO_{2eq}); ii) 7,500 ha/year of tropical dry forest, wet and dry mountainous forest (representing estimated emissions of 0.95 million tons of CO_{2eq}); and iii) 2,000 to 4,000 ha/year of tropical rain forest, wet forests with a short dry season (representing estimated emissions of 0.58 million tons of CO_{2eq}). On the other hand, natural forest regeneration processes have predominantly occurred in abandoned/unused land over the course of the last 30 years – with the major occurrence in rain and wet forests with a short dry season - with a yearly growth rate of the above soil biomass of 5 to 7 m³/ha.

Venezuela has a significant area of arid lands, semi-arid, sub-humid and drylands, which cover approximately 45% of the national territory. The processes of erosion of these lands are a serious environmental problem and are considered as the main factor of the degradation of productive soils. The more vulnerable States that already have desertification and land degradation trends are Nueva Esparta, Sucre, Anzoátegui, Lara, Falcón, Táchira, Mérida, Trujillo, Guárico, Monagas and Zulia, which altogether reach 10.08% of the country's territory. These zones extend from the Paria Peninsula to the Peninsula of La Guajira. A large part of these areas are classified as drylands and sub humid lands that comprise the North-eastern Region and Los Llanos. In the Central Western Region, specifically in the Falcon State, the advance of degradation of the physical and biological environment is highly dangerous and around 70 % of the dry and very dry tropical forests have been lost. It is estimated that the erosion has resulted in the loss of 40% of the region's agricultural soil and the disappearance of native tree species and fauna.

The loss of forest ecosystems and associated ecosystem services (habitats for globally significant biodiversity, carbon stocks and soil conservation) are mainly driven by the destruction and alteration of natural habitats due to land use changes. Productive activities such as agriculture and livestock production, urban development and industrial expansion are the most relevant drivers. Another highly impacting activity is mining, which causes fragmentation of forests and contamination of water, air and soil. Forest fires, wildlife hunting and the harvesting of plants with high ornamental value are additional factors affecting the loss of biodiversity, both at national level and in particular, in the IFR.

Global values of the IFR (biodiversity, carbon, soil conservation and water)

The IFR's forest ecosystems provide important ecosystem services, including biodiversity habitats, carbon stocks, soils and water conservation. The IFR is dominated by a mainly tree vegetation, characterized by high-medium, tropical moist and dense forests on undulated lands and lowlands that make up ecosystems dominated by plant species of high forestry potential, and species of wild animals that include a large number of mammals, birds and reptiles traditionally used by the indigenous and non-indigenous peoples living in the forests, as a source of food and proteins.

These ecosystems host an important biodiversity, including some 2,800 plant species, equivalent to 15% of the total number of reported species for Venezuela, with 8% being endemic to this region. Included in this number are 881 tree species, 26 species of palms and 23 species of lianas. In addition, the IFR provides habitat for 450 species of birds, 153 mammals, 90 reptiles, 62 amphibians and 242 fishes. The endangered species hosted by the IFR include: Ocelot (*Leopardus pardalis*), Mountain Tapir (*Tapirus pinchaque*), Harpy Eagle (*Harpia hapyja*), Red-footed Tortoise (*Geochelone carbonaria*), Yellow-footed Tortoise (*Geochelone denticulata*), Blue-and-yellow Macaw (*Ara ararauna*); and tree species such as the carob tree (*Hymenaea courbaril*), Puy (*Handroanthus serratifolius*, *H. impetiginosus*), Peltogyne (*Peltogyne floribunda*), Erisma (*Erisma uncinatum*) and Cedar (*Cedrela odorata*), which have decreased in the IFR forests as a result of the selective extraction by forest concessionaires for more than 20 years, due to their commercial value. Given the great size of the reserve and the lack of access roads, it is estimated that 70% of the IFR's area has not yet been explored.

According to estimates for an area of 200,000 ha of intervened and not intervened forests (Units III and V) in the IFR, the carbon stocks amount to 159 ton/ha⁶, which results in a total of 31,800,000 tons of C (116.388.000 t CO_{2eq}) for this area.

The forests of the IFR ensure the conservation of its highly fragile soils. The IFR area is characterized by landscapes of hills, peneplains and valleys formed by Ultisol and Entisol soils, characterized by being strongly acidic, leached, with moderate cationic exchange capacity, and with low rates of base saturation and regular quantities of organic matter. These characteristics make these soils highly susceptible to degradation processes if the vegetation cover is removed.

State and perspectives of the Global Environmental Benefits (GEBs)

As previously mentioned, the population in the IFR undertakes agricultural, forestry and mining activities (see the description of activities by population group in 1.1.a above). Such productive activities impact on the global values of the IFR and have derived in degradation processes that have been only recently evaluated. For a 28-year period it has been estimated that 29,798 ha of tropical moist forest were degraded in the Units V and El Manteco⁷, as a result of unsustainable logging, mining and slash and burn agriculture. Moreover, the annual average deforestation rates recorded for the last decade were 0.017 % (827 hectares) in Unit V and 0.56 % (19,164 hectares)

⁶ Preliminary results obtained in four plots established by the National Forest Company and RAINFOR

⁷ The National Forest Company (ENF) is responsible for sustainable management and use of the IFR's Management Units, particularly four units (including the two units mentioned) that amount to 599,400 ha. See a more detailed description of the ENF in section 1.1.1.a below on baseline initiatives.

in El Manteco. The latter figures are similar to the figures reported for the Venezuelan Amazon basin while the former figures equal the reported rates for Venezuela. The main productive activities and their impacts on the IFR global values are described below:

- **Shifting cultivation:** Forest-dependent indigenous groups and communities have traditionally used the forest to produce food crops through the so-called *conuco* production system, consisting of a rotating and itinerant cultivation system characterized by clearing (slash-and-burn) small extensions of no more than three hectares, where different crops are simultaneously grown such as yucca, maize, bananas, sweet potatoes, yams, pineapple and chili peppers, mostly for household consumption. The *conucos* are used for approximately two years and then abandoned since they lose productivity due to low soil fertility. With the growth of the indigenous population this ancestral use has gradually changed to a more sedentary use, with larger areas intervened under this production system, and in some cases, the surpluses are sold to the nearby populations. In 2003 the agricultural use covered an area of 17,000 ha (0.45% of the reserve surface), with an area of 8,631 ha (0.23 %) under active use and 8,369 ha (0.22%) under abandonment. The similar proportion between the active and abandoned agricultural indicates a resting period of approximately 10 years. Even though the abandoned area undergoes a natural regeneration process, the pressure of expansion over the forest is high due to the high rotation.
- **Mining:** Mining occupies around 4% of the reserve (some 152,000 has). Active mining has an extension of 62,923 has (1.7% of the IFR), with a threat of expansion toward the south and center of the IFR. The highest proportion of abandoned mining compared to active mining indicates that it is an unsustainable use over time due to the rudimentary methods used. The miners are individuals coming from different states of Venezuela and from other countries, usually migrant travelers living in precarious conditions, and remaining in the area while the mine is profitable.

Mining is essentially divided into alluvial or vein gold mining, organized artisanal mining and illegal mining, as well as large mining concessions. Small-scale mining is carried out by depositing the gold-bearing material in containers with mercury to amalgamate the gold. Subsequently, the amalgamated material is subjected to high temperatures in order to volatilize the mercury and hence release the gold. This is an uncontrolled and indiscriminate process that impacts on the miners' health, due to the vapors generated, and on the environment due to improper waste disposal. In addition to the mercurial pollution of soils and watercourses, the extraction of alluvial gold material causes removal of the vegetation and soil cover. The disturbed soil leaves galleries and holes of different sizes, and depending on the quantity of gold-bearing material removed the discarded material can obstruct the natural circulation of water courses and rendering the land unavailable for cultivation due to the stones and gravel. This also poses a difficulty for the regeneration of the vegetation.

The environmental damages are associated with deforestation, soil loss by water erosion, sedimentation of water bodies, over-exploitation of wildlife in the mine's influence area, chemical pollution of water bodies and wildlife, including endemic and/or endangered species and accidental or intentional wild fires. Among the socio-economic impacts are the sedimentation of water sources and chemical

contamination of the water for human consumption, the direct and indirect chemical poisoning of miners and introduction and spreading of various diseases. The greatest damage by illegal mining is the formation of large craters and soil erosion that cause the disappearance of all vegetation and wildlife species in the place.

- **Unsustainable forestry practices and illegal logging:** Forestry activities in the IFR began in 1982 under the figure of forest concessions to private companies, which main interest was the selective logging of the species with highest commercial value and without taking into account the sustainability of the forest resource and the development of the forest value chain as an option to strengthen the local and regional economies. This responded to a strictly commercial view of the forest as a producer of wood products and to the development of the wood industry and maximization of profits. This vision prevailed for many years resulting in the degradation of forest ecosystems with few direct benefits to indigenous and non-indigenous communities living in and around the forests, and to the country. Between 1987 and 2013, a decrease of 1,580 ha in the forest area was estimated for the IFR's Unit V with the consequent loss of 1,443,365 ton/CO_{2eq} due to non-sustainable forestry practices. Private concessions in the IFR were revoked and a new concession was granted to the National Forest Company (NFC), a state company established in 2010 (see detailed information in sections 1.1.c on institutional framework and 1.1.1.a on baseline initiatives below). Although the concept of Sustainable Forest Management (SFM) is currently being promoted, conventional forestry techniques that have environmental impacts are still being used in the IFR. It is estimated that for every tree logged, 27 trees are lost, which generates a considerable loss of understory biomass and smaller individuals. As a result of harvesting, an area of approximately 5,000 ha of forest is modified every year and almost 50% of the stored carbon is emitted in relation to the reference value for pristine forests. These losses of aboveground biomass of living trees with DBH>10cm have been estimated to be 92 ton/ha/C, which represents the emission of 460,000 ton/ha/C every year for the mentioned area. Illegal logging is another problem affecting the IFR. Until 2013 there were approximately 1,500 illegal carpentries working within the four municipalities of Bolívar State covering the IFR, with a processing capacity estimated at 360,000 m³/year of half-finished wood and processing in practice around 60% of the said capacity, or 600,000 m³/year.
- **Hunting:** Hunting is practiced to a lesser extent. The non-indigenous population hunts for food and the indigenous peoples sell part of the hunt. The Collared Peccary (*Pecari tajacu*) and the White-tailed Deer (*Odocoileus virginianus*) are the most important species in terms of biomass, followed by the Tapir (*Tapirus terrestris*), the Lowland Paca (*Cuniculus paca*) and the Red-footed Tortoise (*Chelonoidis carbonaria*). The Collared Peccary is the most appreciated, followed by the Merida Brocket (*Mazama bricenii*), the Red-footed Tortoise, Tapir and the Helmeted Curassow (*Pauxi pauxi*). The Red-footed Tortoises are in the first place in capture in both groups. Among the birds, the Helmeted Curassow is the most important and it is in the second place in frequency of capture.

c) Institutional and policy framework

Institutional framework

The **Ministry of Popular Power for Eco-socialism and Water** (MPPEA) was created in 2015 succeeding the former ministries for Eco-socialism, Housing and Habitat; and the Environment. The MPPEA is the national environmental authority responsible for the formulation and implementation of the forestry policy through environmental planning and land use and management, and guides the forest resource conservation policy in Venezuela. The MPPEA rules over the forest ecosystem management and conservation, the recognition of the multiple forest uses and functions and their valuation as an important part of the national economy. Within the MPPEA, the Forests General Directorate (DGB) is responsible for the leadership in forestry matters in the country, designing and evaluating the policies, plans and strategies related to the administration, management, conservation and monitoring of the forest heritage and other forest components. In addition, the DGB coordinates the implementation of the national forestry policy and ensures its observance and adoption by other bodies and public and private institutions that have responsibilities in forest management.

The MPPEA has ascribed entities, including the National Forest Company, the National Reforestation Company and the Latin American Forestry Institute with mandates related to the management of the forest ecosystems of Venezuela.

The National Forest Company (ENF) was established in 2010, with the objective of promoting the sustainable production of forest goods and services through planning of the forest heritage. The company controls most of the wood and non-wood products from the country's forests under a low-impact forest harvesting model and a new sustainable development scheme that fosters synergies with the government's social missions to achieve social welfare through access to basic services and training of local communities. Under its sustainable forest management scheme the ENF may establish community enterprises for processing of wood and industrial or semi-industrial non-wood products to benefit forest-dependent communities. It may also establish working agreements with public or private stakeholders. The objective is to develop an enabling environment for SFM and build the capacities of communities or other social organizations to engage them in the sustainable management of forests. The ENF is responsible for managing a total of 1,566,665 ha, of which 599,400 ha are located in the IFR.

The National Reforestation Company (CONARE) has the mission to promote, protect, conserve and restore the environment, through forest management and multiple use, and the establishment of plantations, awareness raising and engagement of society members to ensure respect for earth's regenerative capacities and the right of human beings to meet their basic needs. Planting tree species in different natural spaces at national level, especially in degraded areas, is a key function and to comply with this mandate it is implementing since 2000 the reforestation of middle and upper river watersheds with erosion, degradation, poor management of soils, and sedimentation problems throughout the country.

The Latin American Forestry Institute (IFLA) has the mandate of acting as liaison between the Academia and the national and international science sector in the fields

of forestry and natural resources integrated management, through collecting, adapting, reproducing and disseminating the scientific and technological information.

Legal and policy framework

The **Constitution of the Bolivarian Republic of Venezuela** (1999) is the highest-ranking legal instrument and considers the principles of sustainable development as a cross-cutting and decisive component for the social and economic development of the country. Articles 127 to 129 state that it is every generation's right and duty to protect and maintain the environment for its own benefit and that of the future generations, and introducing a vision of collective rights.

Within the constitutional framework, the **Plan of the Nation 2013-2019** is the document that sets forth the development guidelines and priorities. It includes macroeconomic and macro-social goals; historical, national, strategic and general objectives, and objectives for the policies and sectorial programmes. The plan has five Historical Objectives, of which the Historical Objective V refers to contributing to the preservation of life on the planet and the salvation of the human race. In particular the National Objective 5.1 is "To build and promote the eco-socialist productive economic model, based on a harmonious relationship between man and nature that guarantees the rational, sustainable and optimal use of natural resources while preserving the processes and cycles of nature"; and its Strategic Objective 5.1.3 "To generate socio-productive alternatives and new economic, social and financial cooperation schemes for the leverage of eco-socialism and the establishment of a fair trade, under the principles of complementarity, cooperation, sovereignty and solidarity". The National Objective 5.2 states "To protect and defend the permanent sovereignty of the State over the natural resources for the supreme benefit of its people, who shall always be its main guarantor". It is worth mentioning within this last objective, the Strategic Objective 5.2.1 "To promote actions at the national and international levels for the protection and preservation of strategic areas, among them: water sources and reservoirs (surface waters and ground waters), integrated management of watersheds, biodiversity, and sustainable management of seas, oceans, and forests".

The MPPEA is the national authority for implementation of the Organic Law of the Environment and the Forest Law, both of great importance for sustainable forest management. **The Organic Law of the Environment** was passed in 2006 and seeks to establish the guiding principles for the conservation, defense and improvement of the environment to benefit the quality of life. This law incorporates for the first time the concept of environmental management, which it defines as "the process consisting of a set of actions or measures designed to diagnose, inventorying, rehabilitate, restore, enhance, preserve, protect, control, monitor and use ecosystems, biodiversity, and other natural resources and elements of the environment, in order to guarantee the sustainable development". Thus, the law calls for the prevention, control and regulation of activities that can degrade the environment, ensure the preservation of a sound, safe and ecologically balanced environment, as well as the design and development of strategies to rehabilitate and restore degraded ecosystems.

The **Forest Law** was passed in 2013. It aims at establishing the principles and rules to ensure the conservation of the country's forests and other forest heritage components, in accordance with the social, environmental and economic interest of the country, for the benefit of present and future generations. Article 7 specifically refers to forest management, understood as the set of actions and measures to ensure the

sustainability of forest ecosystems and their components, giving prominence to the protection of forests, conservation of water sources and biodiversity, as well as the recovery and increment of the forest cover in the national territory, the promotion of forest plantations for multiple use and agroforestry systems.

It is important to mention that both the Organic Law of the Environment and the Forest Law recognize the existence of forest-dependent populations, and provide for their participation and consultation associated with the use of natural resources and specifically forest management in the indigenous peoples' lands that have been demarcated, in addition to overall participation through public consultation in general. The Forest Law also stipulates that the communal councils must include in their integral development community plans, actions aimed at the conservation, development and sustainable management of forests and other components of the forest heritage, according to the results of participatory diagnoses.

In this sense and complementing these two laws, the legal framework provides for other laws that guarantee the participation and consultation with indigenous peoples and local communities within the framework of natural resource use activities, such as the Law of Indigenous Peoples, the Law on Demarcation and Guarantee of Indigenous Peoples' Habitat and Lands, the Organic Law of Popular Power and the Law on Communes.

Additionally, the Organic Law for Territorial Land Use Planning passed in 1983, rules the aspects of land use on the basis of principles such as: the management and conservation of the forest ecosystems, the recognition of the forest's multiple uses and functions, their valuation as an important part of the national economy, the need to undertake rational activities to maintain and increase the forest cover through reforestation and afforestation in deforested and degraded unproductive lands, generation of employment and social welfare, and the harmonization of national and international demand with the supply of the resource. In accordance with the stipulations of the law, the ABRAE (including Forest Reserves) must have management plans.

Within the framework of the Forest Law's new sustainable forest management vision, the Forest Policy aims to achieve sustainable forest development on the basis of building a fair, balanced, participatory and inclusive productive model with greater collective and individual benefits and in harmony with the conservation of forest ecosystems and the environment. It favors the forest as a living being and not as a commodity; it considers the sustainability of the forest heritage, conservation and protection of biodiversity, the multiple use of the forest, research that responds to the current and potential interests of the policy, the development of new technologies for forest management and the consolidation of the forest productive chains and networks.

1.1.1 Rationale

- a) Baseline projects and investments for the next 3-5 years addressing the identified GEB threats (main co-financing sources of the project)*

For many years the forests of Venezuela were managed for the selective extraction of wood. This purely extractive vision has evolved to a more comprehensive vision that envisages the social, economic and environmental sustainability of forest

management. It sees the forest as producer of goods and services to satisfy social needs, based on its sustainable management under the principle of multiple use associated with the set of relations and interactions among the components of the system, human beings and other living creatures, while at the same time identifying and prioritizing the social needs and economic variables, in particular the cultural ones.

Within the framework of this new vision, the Government of Venezuela implements a number of initiatives aimed at the conservation of biodiversity, mitigation of climate change and sustainable forest management that are related to the project and which will provide co-financing (confirmed in co-financing letters for the amount of USD 25,730,000 that will be mobilized during the project implementation, see details on amounts and sources in section 1.1.1.c on incremental reasoning). These initiatives are described below listed by thematic areas of relevance to the project.

1. Monitoring and evaluation of forest ecosystems and associated ecosystem services

The National Forest Inventory (NFI) seeks to provide homogeneous, detailed, reliable and continuous statistical and cartographic information on the state and evolution of forest resources. It includes the elaboration of an updated 1:250,000 scale map of the country's forest cover, the development of a system to manage the large amount of information produced by the forest inventory, and field information gathering in the entire national territory. The NFI is an important tool for sustainable forest planning and management necessary in the context of the new production (and development) model in order to enforce the rational and environmentally sustainable use of the forest resource. Furthermore the NFI will contribute to comply with one of the indicators to measure the fulfillment of Millennium Development Goal #9 (the proportion of territory covered by forests) and the greenhouse gas (GHG) inventory as part of National Communications to the United Nations Framework Convention on Climate Change (UNFCCC). The NFI methodology was elaborated with FAO support and complies with IPCC guidelines in regards to estimations of potential carbon. A total number of 1,748 temporary plots will be established nationwide within the NFI framework, with a current 8% progress in the fieldwork. During the NFI pilot phase in the IFR, the forest mass was estimated, several biodiversity indexes were calculated, species lists were generated, and the aboveground biomass carbon was estimated for a 10,000 ha area.

In terms of information and knowledge of the forest associated biodiversity, there are taxonomic information on species at a forest inventory level and botanical surveys; analysis of endangered and threatened species; dispersed information on the use of species and ethnobotany; classification systems of forests as producers of goods and services; and techniques for economic valuation of forest or ecosystem services.

The NFI has been implemented in the country, but there is no formal initiative for carbon monitoring and monitoring, measurement, reporting and verification (MRV) of GHG emissions from deforestation and forest degradation. There are punctual initiatives through partnerships between the Amazon Forest Inventory Network (RAINFOR) and the Forestry Sciences College of the University of the Andes for re-measurement of 26 permanent plots installed since the 1950s in different regions of the country; and the National Experimental University of Los Llanos (UNELLEZ) to

install 12 plots in the Amazonas and Bolivar States in the last decade. Of these 12 plots, four were established by ENF-RAINFOR in the IFR's Imataca Management Unit V (Unit V). This has allowed estimating the existing carbon stocks in Unit V as well as emissions due to conventional forestry practices. Current information available in Venezuela comes from the 12 permanent plots where the RAINFOR protocols have been applied; four to measure and estimate the aboveground biomass carbon (in Unit V) and eight to measure belowground biomass (in Amazonas State).

The Bolivarian Agency for Space Activities (ABAE) operates the Miranda satellite, which generates high-resolution images for the whole country. Sensors located in the Miranda satellite will allow obtaining data on the natural resources and other environmental components on a regular and reliable basis, while at the same time reducing the costs of final products and increasing the quality of the basic information generated for the country.

The IFLA has a Project Unit charged with the responsibility to generate the necessary processes to transform an innovative idea on environmental issues into a development project. For this purpose, it has a geomatics team that includes geography professionals and a set of experts covering different areas of environmental knowledge. Since the year 2000 the Project Unit has coordinated studies regarding resources inventories; land use planning; land use; cadasters; environmental assessments; management and conservation in National Parks; environmental sanitation; and watershed management.

2. Technical capacities for forest ecosystem monitoring and evaluation

At present, the DGB/MPPEA has: 16 forestry-engineering professionals, 5 professionals representing multidisciplinary aspects of forestry issues (2 geographers, 1 biologist, 1 natural resources engineer and 1 agricultural engineer), 4 higher degree technical forestry officials. These professionals and technicians have acquired knowledge and skills in methods and techniques in different subjects with an emphasis on: Geographic Information Systems (GIS); methods for sustainable forest use and management; forest monitoring; forest statistics; vegetation indexes; formulation of forestry projects; strategic planning; evaluation of environmental and socio-cultural impacts; agroforestry; sustainability indicators and criteria; and methodologies to assess environmental degradation.

The DGB participates, within the framework of the Amazon Cooperation Treaty Organization, in the project "Deforestation Monitoring, Forest Use and Land Use Changes in the Pan-amazon Forest", which provides training in the use of computer systems to calculate deforestation in the Amazon. Additionally the MPPEA implements an annual short courses training program covering information systems; environmental impact studies; environmental indicators; assessment, evaluation and environmental recovery; among other topics; however, the program is able to train few technical and professional staff due to financial constraints. In addition, this project will generate information on forest ecosystems (including the area of the IFR) that will be incorporated into the Integrated Forest Information System to be developed by the GEF project, and which will also be useful for the development of SFM and SLM that can be taken into account within the GEF project.

3. Relevant information systems for forest ecosystem monitoring and evaluation, sustainable forest management and decision-making

The DGB, the National Office for Biological Diversity (ONDB), the Simon Bolivar Geographic Institute of Venezuela (IGVSB) and the ABAE have non-integrated information systems that store information and generate reports on various topics related to forest ecosystems:

- The National Forest Inventory Information System (SINACIF) is a geospatial information system for managing the basic and thematic digital cartography required by NFI, as well as for storing the field data and processing information that the different users of this system may require. In addition, it has a database of bibliographic references related to the different experiences undertaken in the field of forest inventory in Venezuela.
- The National Forestry Statistical Information System (SNIEF) aims to facilitate the organization, storage, processing, analysis and dissemination of forestry statistics. The SNIEF seeks to integrate the information generated by different institutions and improve the collection, processing, analysis and validation of information related to forest management, forest industries, forest plantations and commercialization of wood and non-wood forest products. The SNIEF will develop an open source web platform system with a database that will produce quantitative and qualitative statistics and reliable indicators on the forestry sector and its contribution to the social, economic and environmental development of the country.
- The Electronic Forest Goods Permits System (SIGEFOR) has the main objective of providing an official national level instrument to control the circulation of forest goods, and facilitate the monitoring processes.
- GIS: the DGB uses software that complies with the GIS standards allowing digital interpretation of satellite images within the framework of its ongoing projects. Likewise, these systems allow thematic-geographic information management by superimposing different layers of information to prepare thematic maps.
- The ONDB's Venezuelan Biological Diversity Information System (SVIDB) manages information on biodiversity components, emphasizing on those that have specific relevance to different cultures, are vulnerable or endangered.

4. Improvement of the forestry national policy and legal framework

Venezuela has been taking important steps in developing policy and legal framework for the sustainable use and management of its forest ecosystems, namely the Forests and Forest Management Law passed in 2008, which replaced the Forest, Soil and Water Law of 1966, and more recently the Forest Law passed in 2013. The 2008 Forests and Forest Management Law introduced the concept of forests not only as producers of wood products, but as forest ecosystems with multiple uses, producing all types of goods and services with clear environmental, socio-economic and cultural value; hence innovating over the former view that prioritized the commercial value of few species without considering the social and environmental sustainability and the multiple use principle. The new Forest Law passed in 2013 was as an additional step in the improvement of the legal framework adapting the previous law to the national priorities and guidelines set forth in the Plan of the Nation 2013-2019 and

mainstreaming the principles of the forest policy (see the description of the law and forest policy in the section 1.1.c above). This law constitutes an important project baseline, and the project will contribute to the implementation of the new sustainable forest management paradigm through the generation of information, experiences and lessons from the eco-social perspective.

5. Conservation, management and sustainable use of forest ecosystems, soils and water (MFS/SLM)

The Tree Mission fulfills the social function of engaging and empowering the rural and urban communities organized in committees and cooperatives, in forest restoration activities. Its objectives are to promote the sustainable use of forests, to increase the forest area and to restore forest landscapes, conserve biodiversity, ensure water production, and promote agroforestry systems and new environmental ethical values. Since the start-up of the program in 2006, nearly 5,000 conservation committees throughout the country had been established; 157,317 kilograms of fruits and native seeds collected, classified and distributed; and 45 institutional tree nurseries and nearly 4,000 community nurseries established. By 2013, 34,277 ha were planted, and in 2014 there were 40 million trees planted at national level. For the 2014-2015 period planting of 3.7 million trees is expected. As of December 2014, 759 kg of seeds were collected in Bolivar State (where the IFR is located) to be planted in school tree nurseries.

CONARE has among its main functions to plant tree species in different natural spaces at the national level, especially in degraded areas. Since 2000, it has undertaken reforestation activities producing seedlings in its own tree nurseries. Through various projects and agreements, between 2002 and 2011 CONARE has reforested a total of 16,361 ha in the states of Táchira, Guarico, Barinas, Zulia, Trujillo, Monagas, Aragua, Cojedes, Falcon, Merida, Lara, Yaracuy, Portuguese and the Capital District. It has also signed cooperation agreements with the oil company *Petroleos de Venezuela SA* (PDVSA) for the reforestation of areas affected by PDVSA's prospecting activities, the repopulation of protective areas of watersheds and maintenance of plantations for three years.

The MPPEA through the Vice-Ministry of Environmental Conservation implemented at national level the National Productive Reforestation Plan, organizing communities in conservation committees with the objective to reduce deforestation and degradation through the establishment of plantations for agro-forestry and protection purposes, seeking to promote a new environmental ethics in the beneficiary communities and improve their livelihoods.

The Environmentally Sustainable Community Program, also known as Conservationist Social Infrastructure for Endogenous Development, is a national level program that provides financial incentives to producers for the implementation of soil and water conservation practices (SLM) at farm level, with the purpose of replacing or improving traditional practices with sustainable production systems and practices to improve productivity and livelihoods. The financial incentive provided is based on the costs of establishing the new conservation practices.

The National Agricultural Development Plan includes forestry projects aiming at selection, collection, handling and analysis of forest seeds, financing to individuals and organized communities, training for the development and implementation of

multi-purpose agroforestry systems and plantations, and a program for promotion and development of multi-purpose forest production systems.

The IFR has a Management Plan and Use Regulation adopted in 2004. The plan divides the IFR in management units based on the ecological characteristics, spatial distribution of land use, potentialities, conflicts and socio-economic feasibility of undertaking activities in the different ecosystems; and comprises 10 zoning areas: (i) Forest Management, ii) Forest management with limitations, iii) Protection, (iv) Gene Reservoir, v) Rehabilitation, vi) Forest Management with high presence of indigenous communities, vii) Forest Special Management - Mining, viii) Forest Special Management - Mining with high presence of indigenous communities, ix) Special Agroforestry Management, and x) Special Agroforestry Management with high presence of indigenous communities.

The creation of the ENF in 2010 seeks to shift from the model of forest harvesting of few commercially interesting species that has traditionally characterized the Venezuelan forestry sector, to a new model of sustainable forest management with an eco-social approach that fosters community involvement, the minimization of the environmental impacts of forest management, and maintenance and conservation of the forest ecosystems for future generations. In the framework of the Forest Management Plan and Use Regulation, the ENF has been assigned four Management Units of the IFR for a total area of 599,400 ha. The ENF elaborated in 2012 a Forest Land Use and Management Plan for Unit V, as well as Forest Operational Plans for the Harvesting Units Santa Maria I (2013-2014) and Santa Maria II (2014-2015 currently under implementation)⁸.

Within the framework of Unit V's Management Plan, the ENF aims to strengthen the relationships with the communities settled in or around the management unit. In this sense, participatory diagnoses have been conducted with the communities to plan and implement a social organization process seeking to improve production means and modalities for the future establishment of medium sized Social Production Enterprises that will be directly responsible for the production, processing and marketing of forest goods produced through sustainable forest management, thereby improving the livelihoods of the communities. The ENF is responsible for conducting inventories and surveys, supply of wood to local sawmills, organizing carpenters to formalize their activity and empowering community members to act as para-botanists to support field surveys, and employing hand labor to open new roads. The ENF has created a total of 1086 direct jobs of which 10-15% corresponds to local inhabitants, and has promoted the formalization of about 500 illegal carpentries.

b) Remaining barriers to address threats on GEB

Baseline studies and assessments during this full project document preparation identified several key barriers that currently prevent mainstreaming of biodiversity

⁸ The levels of planning in the IFR (in accordance with the regulations in force) comprise: i) the Management Plan and Use Regulation covering the whole of the IFR, ii) the Forest Land Use and Management Plan corresponding to the management units that exist within the IFR (currently out of the four existing units, Unit V has this plan), iii) and Forest Operational Plans corresponding to the harvesting units in which the management unit is divided. Harvesting units are areas varying from 3,000 to 5,000 ha planned for harvest every year.

conservation, sustainable forest and land management and climate change mitigation in the forestry sector to achieve sustainable forest management. These barriers are described below:

Barrier #1: Gaps in technical skills for forest ecosystem monitoring and evaluation and production of timely information about forest ecosystem status, land use dynamics and carbon stocks

There are some important constraints for mainstreaming threats to the local and global environmental benefits generated by forest ecosystems into forest monitoring and evaluation. The NFI has certain deficiencies. The NFI monitors forest coverage by different types of forests; however, the thematic information is not complete and is out of date, which forces to make extrapolations with little accuracy over forest resources. The lack of use of geo-spatial instruments and in particular the lack of skills and capacity to process geo-spatial information results in the non-application of tools that could update the data regularly in a cost-effective manner, as well as deficiencies in accuracy in the analysis and results of the NFI. The current NFI does also not include socio-economic data on communities and sectors depending on, utilizing and converting forest resources and areas. Currently the operating protocols of the NFI do not involve communities and local stakeholders in data collection and monitoring of forests. These three aspects make the information produced by the NFI less appropriate for supporting decision-making processes, planning and forest management at the local level. Finally, even though the NFI applies a methodology for monitoring of carbon stocks and GHG emissions from land-use changes and deforestation based on the methodology of the IPCC, there is still a need to clarify some of the formulas and values used with data on carbon flux and other GHG from different forest types around the country. The result is that the GHG emissions estimations of the forestry sector currently has a high uncertainty rate and cannot be used as the basis for defining national MRV standards.

Data on the forest cover of Venezuela is based on satellite images 15 or more years old that do not reflect the current situation of the forests and there is no system providing information on its dynamics, which would be a key information to enhance the development of the forestry sector in the country as a sector of national interest. There are no protocols for updating and processing geospatial information and multi-temporal analysis of the forest cover. Decisions are taken for each individual project in accordance with its objectives and goals, and with the assistance of the Simon Bolívar Geographic Institute, universities or national and international agencies.

There is no national plan to estimate forest carbon in the country, although specific studies have been developed for different types of forests of Venezuela. Venezuela has expressed a willingness to achieve scientific and technical readiness to implement a forest carbon stocks and fluxes monitoring system (SMRFC) through the elaboration of national level deforestation maps and statistics that does not compromise the national sovereignty. In this spirit, the design of the SMRFC is based on generating information that can be measured (monitored), reported and verified (MRV). In addition to the national, regional and local levels, it is also necessary to develop monitoring systems that enable reporting, verifying and comparing the five land use related carbon pools related (aboveground biomass, below-ground biomass, deadwood, litter and soil organic matter).

The DGB's technical and professional human resources have received training and have experience in forest conservation, management and use. However there are

organizational, financial and bureaucratic shortcomings that hinder the development of forestry projects that mainstream biodiversity, carbon, land use and land use changes and therefore the generation of knowledge to promote innovation is limited. These constraints prevent the professional staff to undertake research, not having up-to-date technological tools to provide timely responses to social and environmental demands, which are the main factors determining forest and environmental management.

Barrier #2: Absence of knowledge about and valuation of forest biodiversity

Another weakness of the available information on forest ecosystems is the state of its biodiversity and its value for communities dependent on forests or living in their areas of influence. This results in the lack of valuation of biodiversity and their services and the integration of conservation measures in forest planning and management.

There is taxonomic information on the species at the forest inventory level, botanical surveys, and analysis of endangered or threatened species, but there is no cross-referencing of information at all or at a very general level.

There are coverage maps and plotting of the mining concessions, but there is no updated quantification of surfaces affected or estimation of the status of biodiversity affected by deforestation and degradation. Information on use of the species and ethnobotany is scattered, and there is no consensus on the classification of products, goods and services, or a systematized database of these aspects. These represent an obstacle to the proper mainstreaming of biodiversity conservation measures in forest management plans and operational plans.

Barrier #3: Lack of integration of information systems for adequate monitoring of forest ecosystems, biodiversity, carbon stocks and land use changes

The existing information systems are not integrated due to the lack of continuity in integration efforts, which have lacked coordination and synergy regarding data and information management. Therefore there is no system that integrates the diversity of information from the points of view of those who generate the information as well as the themes covered. There is no standardization of methodologies and criteria to collect and measure the different variables considered, nor a permanent monitoring and evaluation of the status and changes in the use/coverage of the area, especially in relation to the illegal mining, extraction of forest products and deforestation with agricultural purposes.

Baseline information is fragmented in time and dispersed in several governmental institutions, which has resulted in the lack of timely availability of up-to-date data. The generation of information through research is in most cases undertaken in a discontinuous and fragmented manner due to the little inter-institutional coordination. Within most of the institutions there is poor technical and computer technology support.

Barrier #4: Weaknesses in inter-institutional and inter-sectorial coordination to implement the new SFM vision

There are weaknesses in the coordination and articulation among the different institutions or agencies with mandates in forest matters such as: ministries, institutes, state governments, municipalities, companies and industries. The existing coordination mechanisms, such as roundtables, workshops and others are activated to undertake specific actions based on stated objectives; however in the forestry sector there are no mechanisms operating in a continuous and sustained manner and providing an effective coordination framework and coordination of efforts. The inter-sectorial relationships for implementation of national policies, plans, programs and projects are not established. On the other hand, there is an overlap in the responsibilities of institutions charged with the management of the forest heritage. Given that forestry is a sub-sector within the agricultural sector, it has little autonomy and there are conflicts in roles regarding land use and forest resources management between the environmental and agricultural authorities. Historically there has been low participation of the communities living in forest areas in decision-making and sharing of social, economic and environmental benefits.

Barrier #5: Weak operational capacity for the community SFM and forest land use planning

Although the country has a new framework and instruments for territorial planning, planning of the use of forest resources, and SFM, the capacity for their implementation is very weak. There are only limited previous experiences in the country with community SFM based on participatory forestry planning and management with an ecosocial approach.

The IFR has a Management Plan and Use Regulation (2004), which has been the basis for preparing the Forest Land Use and Management Plan (POMF) of Unit V. Nevertheless, in the intervention area there is no prior experience in working with communities based on an SFM approach before the ENF began its operations.

Since 2012 the ENF began to approach the indigenous and non-indigenous communities living in the management unit to encourage their involvement in the operations. In this context, participatory diagnoses were undertaken to gather information and understand the problems of the communities and to help resolve those problems prioritized by the community members. Even though consultations were carried out to inform the communities on the ENF's proposed interventions, as mandated by the regulations in force, the involvement of the communities has been limited to training and recruitment to work in certain activities. It is necessary to strengthen the knowledge of technicians and communities on techniques and tools to guide the community forest management in the IFR.

Barrier #6: Lack of instruments and technical capacities for conservation, sustainable management and use, and restoration of forest ecosystems, and associated ecosystem services

With the Tree Mission and CONARE the government has created funded programs and an initial institutionality to begin the forest restoration in areas affected by land degradation. However, the progress in the implementation is slow as a result of the lack of: a) coordination and monitoring of the various initiatives; b) strategies for the recovery of forest ecosystems and to reverse the land degradation processes with an ecosocial approach; and c) technical instruments and capacities such as standards and

indicators for the prioritization of degraded areas with potential for restoration, good practice guidelines for community management of forest seeds, plans to improve marketing and value chains for wood and non-wood products relevant for sustaining SFM/SLM practices.

There are no national SFM standards and incentives for their adoption. The POMF are developed and implemented without considering the ecological characteristics of the forests, basically due to lack of knowledge; and the selective logging practices affect the forest structure and floristic composition, in addition to the negative modification of the habitats for animal species, and the effects on soils and surface waters. The domestic market for forest wood and non-wood products is relatively small; and in addition the low per capita income, the economic crisis in recent years, high prices and a lack of culture in the use of wood are the main factors that have caused a low domestic consumption of wood products. The market has not been entirely analyzed and the information on domestic consumption is incomplete. Furthermore the forest industry uses moderate technology that needs to be developed and modernized for a more efficient and competitive production.

The environment and industry ministries compile statistics on wood products that are systematically published on an annual basis, but there is no experience by public or private institutions in the systematic analysis of the trends derived from this information, publication and dissemination to producers and consumers. Regarding non-wood products, even though information is collected, it is necessary to expand the database that is currently compiled in the ministry forestry statistics yearbooks. There is no experience in the analysis of the information collected, publication of reports and dissemination to producers and consumers. These weaknesses affect the production and use of non-wood products. There is a need to develop accurate mechanisms for collecting and processing reliable statistical information, as well as establishing credit lines of credit or financial support to develop activities in this economic sector. In most cases, there are no records of species, uses and commercialization schemes on an artisanal or industrial scale.

Although the ENF is working in the IFR since its creation under an SFM approach, there are no specific incentives to promote the adoption of SFM by the communities, and no processes for certification of products have been started. Even though SFM is embodied in various legal instruments and specifically the Forest Law makes direct reference to incentives, there are still no validated national criteria and indicators for environmental and social sustainability of SFM that can add value to the products and services coming from forest ecosystems under SFM and contribute to implementation of the Law.

Financial incentives programs have been developed to finance restoration, conservation and management and use of non-wood forest products. The funding of these programs comes from regular budgets of the MPPEA, which in practice, has meant that these incentives have not been sustained in the long-term. This is due to the continuous decrease of the annual budgetary allocations as a consequence of changes in national development priorities, allocating resources to other areas such as health, education, and housing, national defense, and road construction and improvement. Therefore, there is a need to develop sustainable financial mechanisms for preserving or restoring areas where the natural resources are being lost or degraded.

c) Incremental/additional reasoning (added value of the GEF/LDCF/SCCF financing)

The long-term solution to the identified constraints is mainstreaming biodiversity conservation, sustainable land management and climate change mitigation in the forestry sector to achieve a sustainable forest management through the innovation in information management, incentive programs, participatory governance, empowerment of forest-dependent communities and multiple mechanisms for restoration of forested areas under degradation processes in forest ecosystems representative of Venezuela. Through the GEF's incremental support the availability and access to information on the status of forest ecosystems and associated ecosystem services (biodiversity, carbon stocks and soil conservation) and capacities will be strengthened for the implementation of a new sustainable forest management model with an ecosystem, landscape, integrated, participatory and multiple-use approach, to achieve sustained yields of the various products, goods and services offered by forest ecosystems, thereby improving the livelihoods of forest-dependent communities and/or communities located in the area of influence of forest ecosystems.

To remove the identified barriers and generate GEBs, the GEF resources will be incrementally invested to the above-mentioned baseline initiatives, as detailed below:

Component 1: Integrated National Forest Information System (SINIB)

To overcome barriers 1, 2 and 3 (see subsection 1.1.1 .b), Component 1 will implement an Integrated Forest Information System of the forests of Venezuela for national forest monitoring and evaluation complementing the NFI with geo-spatial and socio-economic information, and developing tools for monitoring of carbon stocks and GHG emissions, and the forest associated biodiversity, and involving communities and local stakeholders in participatory monitoring of the forest cover. This will improve the knowledge of forest ecosystems and will ensure access to better information on the status of forest resources and their ecosystem services as a basis for forest planning and management.

Component 1 co-financing will address the transcription, digitization and interpretation of data and information from forest monitoring; design and implementation of protocols and methodologies; image interpretation and generation of maps; field information gathering as per the developed protocols; extension services to local communities for participatory monitoring; compilation, validation and transcription of data on biodiversity products and goods; existing equipment and procurement of new equipment.

In order to undertake these activities, the following co-financing has been committed:

- The MPPEA will provide the amount of, USD 800,000 in kind.
- The ENF will contribute with USD 3,110,000 in kind.
- FAO will contribute with USD 30,000 in cash.

The incremental financing from the GEF of USD 2,203,668 for Component 1 will be directed to provide technical assistance to: (i) strengthen the information gathering process through procurement of high resolution satellite images and the development

of new geo-spatial applications for monitoring and forest management; (ii) prepare protocols for socio-economic information gathering; (iii) studies on GHG emissions, and forest carbon stocks and fluxes; (iv) define national MRV standards; (v) elaborate biodiversity maps and of listings forest species and associated flora and fauna (endemic, threatened, exotic); (vi) multi-temporal analysis of vegetation cover; (vii) elaborate guidelines for the study and definition of zoning for management units; and (viii) establishment of a data base of goods and products from biodiversity and forest ecosystems, and their multiple use.

Component 2: Building of capacities and innovative tools for SFM

To remove barriers 4 and 5 (see subsection 1.1.1 .b) Component 2 will strengthen the operational and technical capacities to enable the implementation of instruments for forest planning and land use, and SFM with a high involvement of community and national and state government stakeholders. Furthermore, it will support the formulation and implementation of forest land use planning and community SFM operational plans that mainstream GEBs. It will also promote the development of national SFM environmental and social sustainability standards including important criteria and indicators for the generation of GEBs, such as REDD monitored by an MRV system, conservation of biodiversity and forest ecosystem services, and conservation of the forest cover in areas under land degradation processes.

Co-financing for Component 2 includes the construction and validation of a capacity building proposal for institutional and community stakeholders and review of training means; facilities and equipment to implement workshops, and mobilization to the workshops; logistical support, mobilization and facilities to promote community participation in the design of forest operational plans, co-management scheme and participatory SFM monitoring; logistical support for meetings and workshops with stakeholders for inter-institutional coordination agreements and their contents, as well as an action plan to strengthen inter-institutional coordination.

The following co-financing has been committed to undertake the above-mentioned activities:

- The MPPEA will provide USD 1,024,530 in kind.
- The ENF will contribute with USD 4,629,332 in kind.
- FAO will provide a cash contribution of USD 70,000.

The incremental funding from the GEF of USD 1,036,101 for Component 2 will be directed to provide technical assistance to: (i) implement a capacity-building program for SFM, using the information generated by the SINIB; (ii) prepare forest operational plans based on the information generated by the SINIB under an ecosystem approach; (iii) design and pilot a forest co-management scheme with community involvement; and (iv) design and pilot a SFM environmental and social sustainability standards program.

Component 3: Forest restoration, conservation, and SFM/SLM in areas under degradation processes

To overcome barrier 6 (see subsection 1.1.1 .b) Component 3 will promote investments in restoration and rehabilitation of forests in areas with the greatest potential to generate GEBs, based on the information generated by the SINIB and in

close coordination with local governments and communities, and applying an ecosystem approach and prioritizing the multi-functionality of forests. Thus, the intention is to recover the ecological stability through plantations of species that help fulfilling the basic protection functions with special characteristics such as resistance to drought and ability to grow in soils with low nutrient availability or for establishing multiple use plantations.

Co-financing for Component 3 addresses collection of information on experiences and lessons learned in commercialization, markets and value chains of wood and non-wood products; statistical analysis of the information; preparation of technical reports; design of community plans for commercialization of forest products; logistical support and agreements to establish a national network of community forest seed providers; community organization to implement a local component of the seed network; restoration of 1,560 ha of forests through agroforestry, analogue forestry and reforestation; design of the financial schemes for SFM / SLM, commercialization of non-wood products and implementation of SFM standards; meetings and inter-institutional agreements for implementation of the financial schemes.

In order to carry out these activities, the following co-financing has been committed:

- The MPPEA will provide the amount of USD 425,470 in kind.
- The ENF will contribute with USD 781,830 in kind.
- CONARE will provide USD 8,000,000 in kind.
- Tree Mission will contribute with USD 2,986,600 in kind.
- IFLA will provide USD 990,000 in kind.
- FAO will contribute with USD 100,000 in cash.

The incremental funding from the GEF of USD 4,178,748 for Component 3 will be directed to provide technical assistance to: (i) define standards and indicators to prioritize relevant areas for forest rehabilitation and restoration; (ii) prepare good community practices guidelines for forest seeds management and seed trees identification with emphasis on native species; (iii) establishment of a National Network of Community Suppliers of Forest Seeds; (iv) development of a strategy for restoration and recovery of the forest cover with an eco-social approach; (v) systematization of experiences and lessons learned in commercialization of wood and non-wood products; (vi) market analysis for main forest products; (vii) formulation of community plans for commercialization of wood and non-wood forest products; and (viii) establishment of investment fund to promote SFM / SLM, support to commercialization of non-wood products and financing of SFM sustainability standards.

Component 4: M&E and information dissemination

Component 4 will support monitoring and evaluation of project progress and achievement of indicator targets, monitoring of risk mitigation measures and identification of new measures to address unforeseen risks, systematization of lessons learned (including successes and failures) resulting from project implementation, which will be disseminated throughout the country and might be useful for projects to be implemented in similar regions.

- The ENF will contribute with USD 728,838 in kind.
- The IFLA will provide the amount of USD 510,000 in kind.

- Tree Mission will contribute with USD 13,400 in kind.

The incremental financing from the GEF of USD 435,974 for Component 4 will be directed to M&E activities including the project progress monitoring and compliance of indicators, external mid-term and final evaluations, project systematization and preparation of dissemination materials.

1.1.2 FAO's comparative advantages

FAO has comparative advantages in projects related to SFM and sustainable management of natural resources related to forestry and agriculture. FAO has supported the Government of Venezuela in the development of policies and legal regulations for the forest sector, providing relevant technical assistance in the elaboration of policies, training activities, conservation of biodiversity, and strengthening management and conservation of natural resources in the communities.

In 1963-1970 FAO supported the former Ministry of Agriculture and Livestock through the "Pre-investment study for the development of forestry in the Venezuelan Guayana" in the IFR area, which included the forest inventory (and botanical survey) of 2,500 km², economic study for establishment of industries, silvicultural studies addressing the management of species of interest, assessment of technical properties of wood and a land use plan for the region.

FAO implements forestry projects under several approaches, and will provide its long-term experience in implementation of SFM, collaborative watershed management, and ecosystem approaches. Additionally, exchange of information and experience with other FAO projects will be facilitated (e.g. satellite data and methodologies for NFI and establishment of monitoring parcels). Venezuela's current NFI was supported by FAO through a TCP project that created the NFI methodology applied. FAO, together with UNDP and UNEP, is implementing the United Nations collaborative initiative on REDD in member countries including Panama, Colombia, Ecuador, Bolivia and Paraguay in Latin America which will provide important synergies with the proposed project. In addition, FAO is implementing the Forest Farmer initiative, which will promote a better integration of the actions of forestation, reforestation and forests management in family farming. Also at the regional level, FAO is developing a program that promotes the improvement of governance and the forestry control in several countries.

Supervision and technical backstopping for the implementation of the proposed project will be provided by technical and operational staff from the FAO Representation in Venezuela (day-to-day supervision), the FAO Regional Office for the Latin American and Caribbean Region, the FAO Forestry Department and the FAO-GEF Coordination Unit.

1.1.3 Participants and other stakeholders

Table 1.1 below summarizes the main stakeholders to be involved in project implementation and their respective roles.

Stakeholder	Interest/role in project
Ministry of Popular Power for Eco-	Executes the forest policy through instruments of Environmental and territorial planning. It gives directions to the forest resources

socialism and Water (MPPEA)	conservation policy in Venezuela. The MPPA governs the management and conservation of forest ecosystems, recognizing the multiple uses and functions of forests and its value as an important part of the national economy. Lead Execution Agency and co-funder of components 1, 2 and 3 and project management costs.
National Forest Company (ENF)	MPPEA ascribed entity; It aims at sustainable production of forest goods and services through the planning of the national forest heritage. Strategic partner. Will accompany the process of community involvement in the planning and SFM. Co-funder of components 1, 2, 3 and 4 and project management costs.
Tree Mission	MPPEA ascribed entity. Supports the implementation of forest policy of MPPA through instruments Environmental Planning, Territorial Planning, Environmental and Socio Cultural Impact Assessment, Environmental Education. Works in empowering and incorporating rural and urban communities in forest restoration. Co-funder of components 3 and 4.
Latin American Forestry Institute (IFLA)	Will support in terms of research and academic consultancy. Strategic partner and co-funder of components 3 and 4.
National Reforestation Company (CONARE)	MPPEA ascribed entity. Expertise in and responsible for forest recovery and restoration. Strategic partner and co-funder of component 3.
Bolivarian Agency for Spatial activities (ABAE)	Responsible for the Venezuelan satellite (Miranda) that can provide high resolution satellite images for forest ecosystem monitoring under Component 1
Communes ⁹	Project beneficiaries. Will be involved in the implementation of activities under Components 1 and 2

1.1.4 Lessons learned from past and related work, including evaluations

Several SFM/SLM related lessons were identified and will be considered in the design and implementation of project interventions under Components 2 and 3 (see details in Section 2).

FAO has identified several important lessons learned from experiences in sustainable forest management in Latin America¹⁰:

- Duly organized grass-roots organizations with strong and inclusive leaderships are necessary for the success of forest management processes;
- Inclusive decision making is a constant challenge that needs to be taken into account in community forest management;
- A second tier organization that groups grass-roots organizations may be decisive to help communities advance their natural resources management processes, acting as a catalyzer of the real interests and needs of the communities;

⁹ Communes are a socialist space that, as local entities, integrate neighboring communities with a common history, cultural characteristics, customs and uses, recognized within the territory they occupy and the productive activities they carry out and over which they exercise the principles of sovereignty and participation as an expression of the Popular Power, in accordance with the social production regime and the endogenous and sustainable development model foreseen in the National Economic and Social Development Plan of the Nation (Art. 5 of the Organic Law of Communes dated 21/12/2010).

¹⁰FAO (2010). Casos ejemplares de manejo forestal sostenible en ALC. Elaborado por Casaza, J. y Sabogal, C. Junta Castilla de León/FAO. RLC. Chile

- Systematic assistance and the joint work of diverse institutions is necessary to help young community organizations to advance toward SFM, from planning and implementation to monitoring and oversight;
- The role of the State is key when working with communities. A decisive and sustained support to capacity development in SFM is needed;
- The institutional and legal framework should be favourable for producers to respond to economic incentives. Trust between governmental authorities and the institution in charge of promoting actions or projects is a key element;
- Resources invested in the research applied to forestry, forest management and industry issues have a notable incidence in achievement of SFM as well as positive impact on economic and productive results.

In addition, experiences and research undertaken in Venezuela have identified the following lessons:

- To involve stakeholders in the participatory process of forest land use planning, it is important to consider the diversity of cultural and socio-environmental experiences of the different stakeholders who might influence each group's interest. The expected objectives to be achieved through the participatory process must be clearly stated from the beginning using a language that will allow the stakeholders to understand each of the terms used. Particular attention should be paid in the analysis of the different stakeholders to identify potential difficulties and conflicts of interest among them¹¹.
- To build trust and ensure the active participation of the members of the various indigenous and non-indigenous communities, several elements should be considered. Communal councils should learn how to implement a participatory diagnosis. It is necessary that the heads of communal councils be trained in the implementation, application and systematization methods and techniques. Participatory diagnosis requires time to enable building trust, discussion, analysis and reflection in the search to identify solutions to problems, in addition to solidarity and community identity¹².
- It is necessary to carry out a proper assessment of the social aspects of forestry in the context of the analysis of the needs of local forest dependent communities, and how forestry can help improving many aspects of their livelihoods¹³.
- Regarding forest restoration, it is necessary to establish reasonable goals based on ecological, economic, social and technical knowledge about the system to restore, taking particular care not to extrapolate, without sufficient analysis, successful experiences in other localities with apparent similar conditions to the proposed intervention but that might actually be very different¹⁴.

¹¹ Socio-environmental conflicts and participatory planning in the sustainable forest development Alexander Mansutti. Universidad Nacional Experimental de Guyana. Universidad Nacional Experimental de Guayana

¹² Participatory diagnosis for the comprehensive community development within the framework of the the Communal Councils Law: a case study in communities of the Piaroa Amazonas state, Molina, Carrero (2008) Latin American Forest magazine.

¹³ Program of forestry research for management purposed developed in the western plains (Caparo reserve) 1970.

¹⁴ Induced natural regeneration and forest plantations with native species: potential and limitations for the recovery of tropical forests in the western plains of Venezuela; Mauricio Jerez and other authors

- To ensure the success of establishing agroforestry systems, the socio-economic and cultural needs of the rural population should be considered when selecting the technological options and methodologies¹⁵.
- Initiatives that promote the use and commercialization of non-wood products should include adding value to the species in use and the ones to be promoted, as well as their articulation with the market¹⁶.
- For a successful implementation of incentives, once the costs of the SFM/SLM practices have been determined, it is important to define the necessary resources (funds, supplies and services) and the mechanisms to deliver such resources. Indiscriminate delivery of subsidies should be avoided, because it creates dependency and are not always well used. Mechanisms that prioritize social goals rather than economic ones, and small competitive grants awards can serve to encourage SFM/SLM local initiatives. Adequate monitoring and evaluation mechanisms must be put in place to make sure that these funds are implemented effectively and efficiently.

The Tree Mission has identified the following lessons learned from agroforestry systems that have been implemented:

- For the success of agroforestry systems, the soil and climate requirements of forest species must be known, and the seeds must be of known quality and origin in order to increase the chances of success in the development of the species. It is preferable that the seeds come from the same area where the seedlings are going to be established and, in particular, from trees that have been chosen for having specific qualities.
- The use of agricultural crops in natural forests should be avoided since without a proper management, natural regeneration will be affected thereby seriously altering the ecosystem dynamics.
- It is necessary to strengthen local organizations and encourage their active participation in the initiatives. The communities themselves must identify the problem of degraded and unproductive areas and the need for rehabilitation. When this happens, their participation in the initiative is voluntary and disinterested, but very much committed to reverse the damage.

1.1.5 Links to national development goals, strategies, plans, policy and legislation, GEF/LDCF/SCCF and FAO's Strategic Objectives

a) Alignment with national development goals and policies

The project is consistent with the current policy framework of the Bolivarian Republic of Venezuela and the policies currently under development related to the sustainable use and conservation of biodiversity, sustainable forest management, and climate change mitigation due to changes in land use, deforestation and forest degradation (see section 1.1.c). The project is framed within the new forestry vision in Venezuela that recognizes forest ecosystems not only as producers of wood

¹⁵ Development of agroforestry systems in the communities. Engineer M. S.c. Ernesto Arends, Engineer Alberto Villareal. Engineer Domingo Sanchez, Dr Leonardo Lugo, Engineer Forestal M. Sc Americo Catalan

¹⁶ Development of strategies for comprehensive management of non timber products in the area of influence of the indigenous community Gavilán, Medium Basin of the Cataniapo River, State of Amazonas

products, but as forest ecosystems which structure and function provide multiple uses, producing other types of goods and services of clear environmental, socio-economic and cultural value, and with a strategic importance in the geopolitical structure of the country.

The project is consistent with the Historical Objective V of the Plan of the Nation 2013-2019, which refers to contributing to the preservation of life on the planet and the salvation of the human race. In particular the National Objective 5.1: "To build and promote the eco-socialist productive economic model, based on a harmonious relationship between man and nature that guarantees the rational, sustainable and optimal use of natural resources while preserving the processes and cycles of nature"; and its Strategic Objective 5.1.3: "To generate socio-productive alternatives and new economic, social and financial cooperation schemes for leveraging eco-socialism and the establishment of a fair trade, under the principles of complementarity, cooperation, sovereignty and solidarity". Likewise with the National Objective 5.2: "To protect and defend the permanent sovereignty of the State over the natural resources for the supreme benefit of its people, who shall always be its main guarantor"; and its Strategic Objective 5.2.1: "To promote actions at the national and international levels for the protection and preservation of strategic areas, among them: water sources and reservoirs (surface waters and ground waters), integrated management of watersheds, biodiversity, and sustainable management of seas, oceans, and forests

The project is consistent with the Forest Law and will support its implementation by promoting sustainable forest management, defined in the law as the set of actions and measures to ensure the sustainability of forest ecosystems and their components, giving prominence to the protection of forests, conservation of water resources and biodiversity, as well as to the recovery and increase of the forest cover in the national territory, the promotion of forest plantations of multiple use and agroforestry systems.

The project is aligned with the principles of the Forest Policy and will help to strengthen the policy by promoting an effective and efficient forest management model that conserves the forests and promotes the productive and sustainable forest development; promoting the generation of information on forest ecosystems to preserve and increase the global environmental benefits; promoting social inclusion, access and participation of local populations in the benefits of sustainable forest management; and developing incentives and innovative financial instruments for sustainable forest development.

b) Alignment with NAPA, NAPs, NBSAP, NIPs, NAMA

The project is consistent with the National Strategy for the Conservation of Biological Diversity 2010-2020 and its action plan, in particular with the Strategic Lines 1 and 3. Line 1: *Biodiversity Information Management* states the need to generate relevant information on biodiversity with emphasis on the threatened, endemic and potentially exploitable components, and establishing links to ensure the information flow between information generators, users and decision-makers. Line 3: *Strategic Areas for Conservation* establishes the need to develop, update and implement the Management Plans and Use Regulations of the strategic conservation areas, to develop a national diagnosis of the conditions of the areas of strategic importance for conservation, know the impact of potentially degrading activities on ecosystems,

identify legal gaps on biodiversity, establish programs for recovery of endangered species, review and design plans for restoration and rehabilitation of degraded ecosystems, create national companies for the sustainable use of key biodiversity components, prioritize the creation of new socially inclusive conservation models based on the local management by the people, strengthen and promote the economy from the ecological perspective, rescuing and systematizing the ancestral and traditional knowledge on biodiversity to ensure the sovereignty of the population, among others.

The current project proposal is consistent with the First National Communication on Climate Change submitted to the UNFCCC in 2005. It is specifically consistent with the section 6.6 “Opportunities for the Mitigation of GHG from the Forest Sector” which is based on the findings of section 2.6 Land-Use Change and Forestry (LULUCF) of the General GHG Inventory. This inventory shows the total emissions from all GHG sources in Venezuela wherein the LULUCF sector reaches 192 133 Gg of CO_{2eq} and with an absorption of 14 297 Gg of CO_{2eq}. Within LULUCF the sub-area of greater significance for the CO_{2eq} capture is the “change of biomass in forests and other kind of vegetation” that reaches -40 308 Gg of CO_{2eq}. This value reduces by 21% the sum of total GHG, versus the energy sector which has the greatest proportion of emissions with 143 668 Gg of CO_{2eq} - meaning 74.8% of total GHG.

Accordingly, the carbon in shrubs, forests and vegetation (40 308 Gg CO_{2eq}) reflects the greatest dynamic for CO₂ absorption in Venezuela occupying 82% of the national territory (75,117,666 ha). Due to this, the management of the existent forests including the Forest Reserves covering 11,678,267 ha constitutes an action with high GHG mitigation potentials, as per the National Communication on Climate Change. In the same document priority is given to the future implementation of the “Program of Soil and Water Conservation” and the “integration of principles of sustainable development in policies and programs of the country to revert the lost of natural resources”.

The project is also consistent with the National Action Plan to Combat Desertification (NAP) that aims to generate production alternatives under a scheme of sustainable use, and in particular with the Strategic Line 2.4.1 *Sustainable Development of the areas affected by the processes leading to desertification and by the effects of drought* that identifies among other actions, to halt the processes of desertification, and the recovery and restoration of degraded areas with special emphasis in the basins and sub-basins. The NFI is one of the supplementary programs for the coordinated implementation of the NAP. Meanwhile, the third national report to the United Nations Convention to Combat Desertification (UNCCD) has identified as key actions those focused on the restoration of forests for the generation of synergies with the conventions on biodiversity and climate change.

c) Alignment with GEF focal area strategies

The proposed project is a multifocal project that seeks social recognition of the multifunctional value that forests provide, not only in terms of wood and non-wood products, but mainly in terms of ecosystem services (forest carbon sequestration, biodiversity conservation, regulation of the water cycle and water quality, soil conservation). It is therefore consistent with the following GEF strategic objectives:

- Climate Change Focal Area - Objective 5 (CCM-5): *Promote conservation and*

enhancement of carbon stocks through sustainable management of land use, land-use change, and forestry;

- Focal Area Biodiversity - Objective 2 (BD-2): *Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors;*
- Focal area Land Degradation - Objective 2 (LD-2): *Generate sustainable flows of forest ecosystem services in drylands, including sustaining livelihoods of forest dependant people;*
- Focal Area Sustainable Forest Management/REDD+ - Objective 1 (SFM-1): *Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services* and Objective 2 (SFM-2): *Strengthen the enabling environment to reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities.*

In relation to the Objective CCM-5 project Component 1 will strengthen the capacity to generate accurate and reliable information for decision-making regarding land use planning and forestry management. The improved information will facilitate the increase in carbon benefits and provide enough precision in data to create national MRV standards for GHG reduction from projects reducing deforestation and forest degradation. Furthermore, the complemented NFI will provide improved data for the GHG inventory. Component 2 will strengthen the human operational and technical capacities to be able to implement forest planning and management instruments and SFM practices incrementing the carbon and other GHG benefits from forest ecosystems. To sustain the adoption of good practices of LULUCF and SFM, by adding value to forest products from forests under SFM, criteria and indicators for national SFM sustainability standards will be defined, including criteria and indicators in line with national standards for REDD and MRV (developed under component 1). Component 3 will invest in restoration and rehabilitation of forests, increasing carbon sequestration and avoiding forestry GHG emissions.

Under BD-2, Component 1 will improve the knowledge and valuation of biodiversity associated with forest ecosystems to sustain the integration of its conservation and sustainable use in SFM at management unit level. For this end the component will provide technical assistance for: the recollection of information and elaboration of lists and thematic maps of forest species and related flora and fauna (endemic, threatened, exotic) in pilot management units with the participation of local communities; preparation of guidelines for the study and definition of zoning in management units according to the state and needs of conservation of biodiversity and forest ecosystems; the establishment of a database of goods, services and products from biodiversity and forest ecosystems (including forest reserves) and their multiple use by local communities. Component 2 will strengthen the human operational and technical capacities to be able to implement forest planning and management instruments and SFM practices increasing the benefits of habitat for globally important species in forest ecosystems. To sustain the adoption of good SFM practices by adding value to forest products from forests under SFM, criteria and indicators for national SFM sustainability standards will be defined including criteria and indicators for conservation of biodiversity and forest eco-systemic services under pressure. Component 3 will invest in restoration and rehabilitation of forests with native species. This investment will increase the habitat for forest flora and fauna, which are currently under pressure due to deforestation and forest degradation

processes. This will result in stabilizing or increasing populations of critically threatened species.

Within LD-2, Component 1 will undertake forest ecosystem monitoring in arid/semi-arid forests of the country using the protocols and methodologies that mainstream GEBs. Component 2 of the proposed project will strengthen human operational and technical capacities to be able to implement forest planning and management instruments and SFM practices increasing the benefits of conservation of soil resources, rehabilitation of degraded lands, and a sustainable flow of forest ecosystem services.

Under SFM/REDD+ 1 and 2, Component 1 will strengthen the capacity to generate more accurate and reliable information for decision-making in land use planning and forest management. The improved information will facilitate the increase in carbon benefits and provide enough precision in data to create national MRV standards for GHG reduction benefits from projects reducing deforestation and forest degradation. Component 2 will strengthen the human operational and technical capacities to be able to implement forest planning and management instruments and SFM practices increasing the benefits of forest ecosystems (carbon stocks and other greenhouse gases, habitat for global important species, conservation of soil and water, and rehabilitation of degraded lands). To sustain the adoption of good LULUCF and SFM practices by adding value to forest products from forests under SFM, criteria and indicators for national SFM sustainability standards will be defined including criteria and indicators relevant for multiple benefits of CCM, BD and LD, as mentioned above, showing a reduced pressure on forest resources and generation of sustainable flows of forest ecosystem services. Component 3 will invest in restoration and rehabilitation of forests affected by land degradation, deforestation and forest degradation. This investment will reverse the degradation processes and increase the forest ecosystem services. Moreover, the management of degraded forests will reduce pressure on primary forests and is therefore expected to reduce deforestation and land degradation, and increase carbon sequestration during tree growth.

d) Alignment with FAO Strategic Framework and Objectives

The project is in line with the FAO Strategic Results Framework (2014-2019) and in particular with Strategic Objective 2 (SO2) *Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner* and its Outcomes 1 (OO1) *producers and natural resource managers adopt practices that increase and improve the provision of goods and services in agricultural sector production systems in a sustainable manner*; and 4 (OO4) *stakeholders make evidence-based decisions in the planning and management of the agricultural sectors and natural resources to support the transition to sustainable agricultural sector production systems through monitoring, statistics, assessment and analyses*.

Moreover, the project is coherent with FAO's Regional Priorities for Latin America and the Caribbean¹⁷ and is aligned with the priority area *Climate change and environmental sustainability*: “[provide assistance to governments for] strengthening

¹⁷ See *Areas of Priority Actions for Latin America and the Caribbean for the Following Biennium (2014–2015)*, taking into account the summary of recommendations of regional technical commissions, 32nd FAO Regional Conference for Latin America and the Caribbean. Buenos Aires, Argentina, 2012.
Fuente: <http://www.fao.org/docrep/meeting/024/md240e.pdf>

national programmes for the sustainable management of natural resources, agroclimatic risk reduction, mitigation of emissions and adaptation of the agriculture sector to climate change, in the new context of low-carbon development”¹⁸.

Finally, the project is in line with the FAO Country Priority Framework 2013-2016 in Venezuela. The project falls within the priority area C: *Adaptation to climate change, risk management and conservation of the environment*, and its Outcome 3: *management, monitoring and evaluation of environmental strategies aimed at sustainable forest management, adaptation to climate change and preservation of food security, enhanced and strengthened in key areas for the implementation of the environmental legal framework of the country*.

¹⁸ *Ibidem*

SECTION 2 – PROJECT FRAMEWORK AND EXPECTED RESULTS

2.1 PROJECT STRATEGY

As mentioned in the previous section, forest management in Venezuela has been traditionally based on the selective extraction of species with the greatest commercial value, disregarding the issue of sustainability of forest resources and the development of the forestry chain as an option to strengthen local or regional economies. In light of this experience and recognizing the environmental and socio-economic impacts of these interventions on the forest ecosystems of the country, the Government of Venezuela reoriented its Forest Policy to mainstream an eco-social approach, that is, a humanistic, comprehensive and participatory approach that recognizes the strategic role of forests in contributing to adaptation and mitigation of climate change, biodiversity conservation, food security, sustainable development and poverty eradication, and forest conservation through sustainable management and rehabilitation of forest lands.

Thus, the current national proposal is founded on an efficient, effective and equitable governance that includes participatory and transparent processes on the basis of respect for institutions, in accordance with the internationally accepted principles of sustainable forest management, taking into account the multiple use of forests, strengthening the development and promotion of public investment in the forestry sector, and community involvement in decision-making and resource management.

In this context, the project will contribute to remove the identified barriers developing the capacities for the sustainable production of goods and services from forest ecosystems, while preserving their values. The project will promote a natural resource management strategy where forests are managed taking into account the context of ecological, economic and social interactions within a defined area or region in the short and long terms. The management and use of forests and forest lands will be undertaken in a way and at a rate that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, in the present and in the future, relevant ecological, economic and social functions, at local, national and global levels, without causing damage to other ecosystems. In this context, the project will provide a unique opportunity to develop mechanisms foreseen by the Forest Law (e.g. forest monitoring, community involvement, incentives, sustainability standards), which are necessary for its adequate implementation but currently do not exist.

The project will strengthen the institutional capacities to improve the generation, availability and access to systematic and updated information on the state and value of biodiversity and forest ecosystem services, and stocks and flows of forest carbon generation and GHG emissions from deforestation and forest degradation with enough detail to establish MRV national standards. To this purpose it will implement the National Integrated Forest Information System of Venezuela (SINIB, from its Spanish abbreviation) as part of the process of strengthening the NFI. Capacities will be strengthened for national forest monitoring and evaluation complementing the NFI with geo-spatial and socio-economic information through the development of protocols for collection, analysis and processing of data, and involving local communities and stakeholders for participatory monitoring of the forest cover. This will contribute to the improvement in the planning and decision-making processes by the institutions responsible for the forestry sector.

The project will strengthen the operational and technical capacity to implement sustainable forest land use planning instruments with a high level of involvement of the community as well as national and local governments. Capacity building will also include strengthening the inter-institutional dialogue by promoting formal mechanisms for optimizing inter-institutional coordination among key stakeholders (national and local government institutions, and community organizations) of the forestry sector.

It will promote community level forest land use planning and forest management plans for SFM that mainstream the GEBs of the forest ecosystems in the IFR (conservation of forest biodiversity, carbon stocks and fluxes, soil conservation). Additionally, it will support the development of criteria and indicators for the environmental and social sustainability of SFM incorporating global environmental benefits such as REDD monitored by an MRV system, biodiversity conservation and forest eco-system services under pressure, and conservation of forest cover in areas sensitive to land degradation processes.

The project will promote the optimization of investments in restoration and rehabilitation of forests in areas with the greatest potential to generate GEBs through the development of strategic instruments and long-term financing for SFM / SLM. It will also undertake on-the-ground investments in the IFR in restoration and rehabilitation with community participation, including investments to secure production and supply of forest seeds, reforestation, analog forestry and establishment of agroforestry systems, which will serve to generate experiences and lessons to help maximize the eco-social benefits and GEBs.

Intervention Area

The intervention area is the IFR, selected for meeting the following criteria: a) significant area of forest ecosystems, covering 3,821,900 ha; b) high level of biodiversity and endemism; c) important carbon stocks; d) presence of fragile soils; e) presence of drivers of forest deforestation and land degradation as a result of economic activities (agriculture, silvicultural practices, illegal logging and gold mining) for which there is no detailed and updated information; and f) presence of vulnerable forest-dependent groups.

In the IFR, the ENF has been granted the concession over 599,400 ha, distributed in several management units. One of these units is Unit Imataca V (Unit V) where the ENF has been developing its core operations since 2012. Unit V has been selected as the project's priority site for demonstration interventions given that it is the management unit for which sufficient baseline information has been generated for the project to build upon. Unit V covers an area of 167,320 ha and is representative of the RFI; its natural wealth includes diverse ecosystems, natural and mineral resources and it has an important cultural value given the presence of indigenous peoples.

Unit V is located in the area of influence of the Sifontes municipality, which has a population of 70,000 inhabitants, of which 82% is urban. The population is mainly engaged in logging and mining activities. Three communities belonging to the Kariña indigenous peoples are located inside the unit: *La Esperanza* with 43 families, *Matupo I* with 43 families and *Botanamo* with 37 families, totaling 123 families and 582 people (251 women and 285 men). The economy of these communities is based on the *conuco* system, hunting and fishing for subsistence, the exchange of products

from the *conuco* and in a few cases their sale. Some members participate in mining activities.

Unit V has a Forest Land Use and Management Plan that divides it into zones: a) integral forestry production area (104,620 ha) for production of wood and non-wood goods and services and other feasible forest activities; b) areas for production of non-wood products (54,379 ha) for production of non-wood goods and services, and other activities that are viable with non-wood forest use; and c) forestry and mining area (8,320 ha) for forest harvesting with presence of alluvial gold mining. The unit is divided into harvesting units that have Forest Operational Plans.

Stakeholder participation and gender equity

The project will promote stakeholder participation at both institutional and community levels. At the institutional level, it will promote the creation of multi-stakeholder spaces for intersectoral dialogue on SFM / SLM. This includes the establishment of a platform for inter-institutional coordination and consultation for the governance of forest management in Venezuela and adjustment of the SINIB to ensure that the information needs and requirements at different levels (regional and local) are taken into account. This platform will comprise key stakeholders of the forestry sector, including for example the MPPEA and its affiliated entities, other ministries, local governments, universities and social organizations.

At the community level, the project will use a number of tools to promote buy-in and participation, namely: a) contacts with leaders or authorities of the local communities and indigenous peoples, b) sharing of information on the project (objectives, planned activities, progress and results); c) community meetings; d) participatory assessments; e) consultation and validation workshops; f) training; and g) participatory evaluations. These will help engage the communities in activities such as: a) identifying priority areas for SFM intervention; b) participatory monitoring of forest ecosystems; c) participatory monitoring of SFM sustainability standards; d) incorporating labor in SFM activities; e) development of social production enterprises for production and commercialization of wood and non-wood products; f) forest restoration through agroforestry, reforestation and analog forestry, g) community involvement in surveillance and control, through setting up monitoring brigades to work jointly with state institutions in protecting the IFR.

The project mainstreams gender issues throughout its entire cycle, based on the premise that besides ensuring participation of women (and their organizations) in the spaces generated by the project, it will contribute to their effective empowerment as social actors. Often men and women in rural areas have differing levels of knowledge about forest resources and different roles in the management of forests and trees. Women are in charge of traditional agroforestry production systems such as home gardens and harvesting and sale of products. They are primarily responsible for collecting firewood for domestic use and wild plants for food or medicine. Men, undertake activities such as logging and deforesting for commercialization of roundwoods.

In this context, the project will consider the ethno-cultural characteristics of the communities in the IFR, including the role of the family in production and income generation, socio-economic differences between men and women and the differences in knowledge related to the use of the environment by each. In the case of indigenous groups the incorporation of women in project interventions will depend on the

customs and traditions of each group, taking care not to promote actions that could generate resistance to the participation of community members. The project will respect traditional values and livelihoods to avoid influencing ethno- cultural changes.

The project will foster the empowerment of women through: a) creating income opportunities (e.g. through improved agroforestry systems with diversified production, marketing of non-wood products, and planning and implementation of SFM); b) promoting the participation of women in training activities as well as designing specific training for women according to their interests and demands in the context of SFM (with at least 30% participation of women in community trainings); c) participation in field monitoring with specific activities designed for women (at least 30% female participation); d) a special line for women within the investment fund to be designed under the project to support commercialization of non-wood products. (See Section 2.4 for a more detailed description of participation and gender issues at output level).

2.2 PROJECT OBJECTIVES

The **global environmental objective** is to mainstream biodiversity conservation, sustainable land management, and climate change mitigation in the forestry sector to achieve Sustainable Forest Management (SFM) based on an eco-social approach.

The **development objective** is to support government institutions and community organizations in applying innovations in information management, incentive schemes, participative governance, empowerment of forest-dependent peoples, and multiple mechanisms for restoration of areas under degradation processes in key representative forest ecosystems in Venezuela.

2.3 EXPECTED PROJECT OUTCOMES

Outcome 1.1: Improved capacity for national forest monitoring and evaluation within the framework of the National Forest Inventory (NFI). The target for this outcome is:

- 4,465,909 ha¹⁹ of forest ecosystems monitored and evaluated through protocols facilitating collection and analysis of high quality data, including generation of biodiversity thematic maps, assessment of GHG flows and stocks, identification of carbon hotspots and development of national MRV standards. (Baseline: 1,748 temporary plots (0.5 ha) have been designed at national level within the NFI; progress has been made over 8% of the plots. For the IFR biodiversity indices, species list and aboveground carbon have been prepared in a 10,000 ha area.

Outcome 1.2: Knowledge and valuation of forest related biodiversity and carbon hotspots integrated in an improved forest management at local forest management unit scale as a strategy to mainstream measures for forest biodiversity conservation in forest management plans. The target for this outcome is:

¹⁹ The target area includes the IFR with 3,821,900 ha and an additional surface area of 644,009 ha comprising 429,700 ha of arid/semi-arid forests and 214,309 ha of mangrove forests to be monitored.

- The Forest Land Use and Management Plan (POMF) of Unit V/IFR mainstreams data and information on forest coverage, land use changes, deforestation, degraded areas, carbon stocks and measures for conservation of forest biodiversity covering an area of 167,320 ha. (Baseline: POMFs are elaborated and implemented without considering the ecological characteristics of forests. The POMF of the IFR/Unit V was elaborated in 2004 and does not include global environmental benefits).

Outcome 2.1: Community stakeholders and national and local governments involved in sustainable forest management through new participatory management tools, covering at least 167.320 ha of forests of the IFR Unit V. Targets are:

- Stabilized populations of *algarrobo* (*Hymenaea courbaril*), yellow trumpet tree (*Handroanthus serratifolius*, *H. impetiginosus*), *zapatero* (*Peltogyne floribunda*) and *mureillo* (*Erismia uncinatum*) within Unit V monitored through: i) study on autoecology; ii) abundance and iii) diametric distribution of species (baseline and targets to be determined in year 1)
- Direct avoided emissions: 1,136,759 tCO_{2eq} in 5 years in 25,000 ha (227,351 tCO_{2eq}/year for 5,000 ha/year)

Indirect avoided emissions: 18,188,149 tCO_{2eq} in 5 years (3,637,629 CO_{2eq} /year in 80,000 ha)²⁰

(Baseline: Estimated loss of 453,135 tCO_{2eq}/year due to the use of conventional forest practices over an area of 5,000 ha under forest use)

Outcome 2.2: Development and initial implementation of a National Program for environmental and social sustainability standards for production of wood and non-wood products. The target for this outcome is:

- One (1) National Program for environmental and social sustainability standards for production of wood and non-wood forest products designed and implemented in Unit V covering 15.000 ha. (Baseline: No national standards for native forest management. The Forest Law foresees the development of sustainability standards as the basis for certification by the relevant body)

Outcome 2.3: Inter-sectoral dialogue on SFM strengthened. The target is:

- One (1) inter-institutional coordination and consultation platform for forest governance in Venezuela operating and effectively fulfilling its functions as per its work plan, and promoting the use of the SINIB (Baseline: Decree No. 2083 (2002) regulates institutional coordination but there are no formal coordination mechanisms in the forestry sector).

²⁰ See further details on carbon benefits estimation in Appendix 9.

Outcome 3.1: Technical and institutional capacities for restoration of forest and forest lands applying SFM/SLM practices strengthened. The targets for this outcome are:

- National manuals for restoration of tropical humid forests and forestlands elaborated, validated and disseminated. (Baseline: Currently no manuals for restoration of forests and forestlands)
- At least 200 representatives of government institutions, NGO, grassroots organizations and communities trained in SFM/SLM (at least 40% are women) (Baseline: No training program on restoration. The ENF is working since 2012 engaging and training communities living in Unit V in the Santa Maria I and II harvesting units)

Outcome 3.2: Restoration and regeneration 1,440 ha of forests through SFM/SLM strategies under an ecosystem approach prioritizing the multi-functionality of forests. The targets are:

- Populations of *algarrobo* (*Hymenaea courbaril*), yellow trumpet tree (*Handroanthus serratifolius*, *H. impetiginosus*), *zapatero* (*Peltogyne floribunda*) and *mureillo* (*Erisma uncinatum*) stabilized through reforestation, analogue forestry and agroforestry and monitored through structure, floristic and soil composition (Baseline and targets to be determined in year 1).
- 512,985 tCO_{2eq}²¹ sequestered in 1,440 ha through: i) reforestation (748 ha): 262,348 Ton/ha CO_{2eq} ii) analog forestry (342 ha): 122,976 Ton/ha CO_{2eq} and iii) agroforestry (350 ha): 127,660 Ton/ha CO_{2eq} (Baseline: Estimated loss of 453,135 tCO_{2eq}/year due to the use of conventional forest practices over an area of 5,000 ha under forest use)
- Land degradation processes reduced in 1,440 ha through reforestation, analogue forestry and agroforestry: 50% reduction in the degraded surface area (420 ha) compared to the baseline (Baseline: Deforestation rate in Unit V for 2000-2013 was 827 ha, with an average annual rate of 0.018%, mainly due to mining and road construction)

Outcome 4.1: Project implementation based on results-based management and facilitating the application of lessons learned and good practices in future operations. The target is:

- Project outcomes achieved and demonstrating sustainability

²¹ See further details on carbon benefits estimation in Appendix 9

2.4 PROJECT COMPONENTS AND OUTPUTS

Project overview

To achieve the objectives and expected outcomes indicated above, the project has been structured into four components with their respective outputs as presented in Table 2.1 and described in more detail below.

Table 2.1: Summary of components and outputs of the Project *Sustainable Forest Lands Management and Conservation under an Eco-social Approach*

<p>Component 1: Integrated National Forest Information System (SINIB)</p> <p>1.1.1: National Forest Information System (SINIB) functioning and providing updated and high quality information on forests</p> <p>1.1.2: Protocols for updating and processing geo-spatial information and multi-temporal analysis of forest cover at national level</p> <p>1.1.3: Protocol for field level information gathering on forest and socio-cultural-economic conditions</p> <p>1.1.4: Study of GEI and carbon stocks and fluxes in three types of forests</p> <p>1.1.5: Thematic maps of biodiversity</p> <p>1.1.6: Participatory mechanism for monitoring of the forest coverage and status, biodiversity and GHG</p> <p>1.2.1: Lists of forest flora and fauna species (endemic, threatened, exotics)</p> <p>1.2.2: Guidelines for the study and definition of zoning of management units based on SINIB information</p> <p>1.2.3: Database of biodiversity goods, products, and services of forest ecosystems</p> <p>Component 2: Building of capacities and innovative tools for SFM</p> <p>2.1.1: Program to strengthen technical-legal human resources</p> <p>2.1.2: Forest operational plans based on the information generated by the SINIB</p> <p>2.1.3: Pilot scheme for forest co-management with communes or other types of social organizations</p> <p>2.2.1: Criteria and indicators for environmental and social sustainability of SFM based on SINIB information</p> <p>2.2.2: Participatory monitoring mechanism of forests managed under environmental and social standards</p> <p>2.3.1: Training program of human talent and dialogues exchanging local knowledge</p> <p>2.3.2: Inter-institutional coordination agreements for forest management governance in Venezuela and adjustment of the SINIB</p> <p>Component 3: Forest restoration, conservation, and SFM/SLM in areas affected by degradation processes</p> <p>3.1.1: General standards and indicators for prioritizing areas for forest restoration based on SINIB information</p> <p>3.1.2: Strategy for restoration, rehabilitation and recovery of forest cover in the IFR</p> <p>3.1.3: National network of community providers of forest seeds</p> <p>3.2.1: Model for forest restoration through SFM/SLM on-the-ground</p> <p>3.2.2: Experiences and lessons learned on commercializing wood and non-wood products systemized</p> <p>3.2.3: Value chain and market analysis of the main forest products demanded and affecting the forest</p> <p>3.2.4: Community commercialization plans for wood and non-wood forest products</p> <p>3.2.5: Financing schemes to promote adoption of SFM/SLM, support commercialization of</p>
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non-wood products, and implementation of the National sustainability standards program for SFM established under outcome 2.2

Component 4: M&E and information dissemination

4.1.1: Project M&E system

4.1.2: Midterm and final evaluations

4.1.3: Project best practices and lessons

4.1.4: Webpage for information- sharing and exchange of experiences

Component 1: Integrated National Forest Information System (SINIB)

This component will ensure access to systematic and updated information about the forest, integrating data on the benefits and services provided (carbon stocks, habitat for biodiversity, wood and non-wood products and their values), environment (physical, natural, sociocultural and economic) and their status through knowledge of the threats, degree of conservation and monitoring their changes in coverage and use.

This will be done through the development of the Integrated National Forest Information System (SINIB), of new tools integrated into SINIB for collection, analysis and processing of data and generation of information products for user interest groups, and by incorporating community stakeholders in monitoring activities of forest ecosystems and ecosystem services. This will help understand aspects currently not evaluated, located nor quantified, such as: detailed coverage per use, use changes, forest types, deforested areas, degraded areas, carbon data, and biodiversity.

Thus, the generation of high quality information will be used to ensure that planning, management and decision making on policies, forestry regulations and priorities for the sustainable management of forests mainstream guidelines and technologies to comply with the commitments under the international agreements signed in regards to biodiversity, desertification and drought, and climate change to optimize the generation of global environmental benefits of forest ecosystems.

Component 1 comprises the following outputs and activities:

Output 1.1.1: Information system integrating data on carbon stocks and flows, biodiversity, physical-natural-sociocultural and economic environment, status and characterization of forest ecosystems and providing high quality information for decision-making.

Target: One (1) National Forest Information System (SINIB) functioning and providing updated and high quality information on forests, including carbon stocks and flows, biodiversity, physical-natural-sociocultural and economic environment, status and status and trends of forest ecosystems.

Activities

The project will support the implementation of the SINIB, which will be a modular, decentralized and multiscale system capable of integrating different types of forestry-related information, the role of forests, their characteristics and social aspects, to support the decisions on the sector:

- a) Modular for easy handling of different types of information. The information modules foreseen are: i) FOREST, ii) TREE, iii) OTHER BIOTYPES, iv)

SPECIES, v) PLOT, vi) PROJECT vii) BIBLIOGRAPHY, and viii) SOCIAL ASPECT. The modularity will also allow growth through the possibility of adding new modules to the extent required.

- b) Decentralized: The central level coordinates the agreed policies and priorities, methodologies, techniques and protocols used for the standardization of data and results; and the local level is responsible for field work and updating (monitoring) data.
- c) Multiscale handling the overall national data, and through windows, the detailed information of specific areas at different scales. Within the project the spatial scope of application will be the national level with local level windows for the ENF management units in the RFI.

The design of the SINIB will be undertaken in year 1 (PY1) including the methodologies and protocols for collecting field information, standardization of existing data and information such as the NFI and other systems (e.g. biodiversity, forest statistics) and the spatial aspect of the different variables to be handled.

The standardization protocols will describe all the standard procedures and codes needed to establish a common framework. For this an object-relational database management system will be used (PostgreSQL), which has a number of advantages; it is considered as the most advanced open source database, allows the storage and handling of vector geometric objects in databases, it is a spatial database that can be used in GIS, besides being interoperable with other systems.

The data integration model for interoperability with other systems will include the standardization of field data records so that they can be transformed into information; the level of standardization of forest data, codes, structures, relationships and restrictions, Web services definition, and language for information exchange and management (XML). This will include an information flow and exchange protocol between the SINIB and the National Biodiversity Information System enabling the SINIB access to the relevant data on biodiversity and incorporating the data into the SINIB for their interrelation and reprocessing.

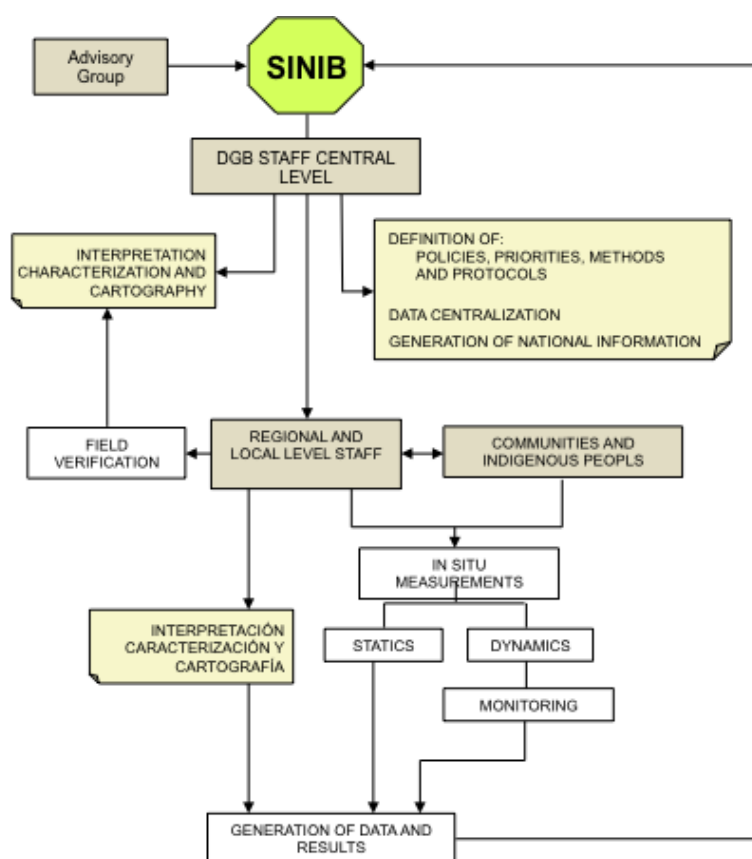
The spatial module via a web-mapping utility²² (MapServer) will enable the dissemination of SINIB geospatial products such as thematic maps. Through the web-mapping utility the user groups (e.g. decision makers on forest management and land use planning, universities) will have easy access to data and information generated.

The existing data within the MPPEA, DGB, ENF as well as basic maps and images of the IGSVB and ABAE will be uploaded to the SINIB. The SINIB will be operational in PY2 providing information to users and stakeholders. The new information generated through Outputs 1.1.2 (protocols for geospatial information and multi-temporal analysis) and 1.1.3 (field information) and 1.2.3 (database on biodiversity goods and services) as well as other information on biodiversity, carbón stocks, non-wood products and ecosystem services will be uploaded as they are generated.

Figure 2.1 below summarizes the SINIB's functional structure.

²²*Web mapping* is defined as the process of design, implementation, generation and delivery of maps in the Internet.

Figure 2.1 Functional structure of SINIB



Output 1.1.2: Protocols for updating and processing geo-spatial information for sustainable forest management (planning, monitoring, control and research) and multi-temporal analysis of forest cover at national level.

Targets: a) One (1) protocol for updating and processing geo-spatial information for sustainable forest management (planning, monitoring, control and research); and b) One (1) protocol for multi-temporal analysis of forest cover at national level.

Activities

The project will develop protocols for updating and processing geospatial information and for the multi-temporal analysis of forest cover. The first protocol will include from the requirements for image quality (cloudiness, spatial resolution, etc.) to the interpretation process *per se*, metadata information, and output formats, among others. The multi-temporal analysis protocol will guide and define the periodicity of analysis and methodologies to be used, including the legend, which must be in tune with international standardization efforts, such as the Land Cover Classification System (LCCS) and adapted to the requirements of the IPCC. This will contribute to the monitoring of forest cover generating a significant amount of information concerning various aspects, derived from land use changes and land use change patterns.

The protocols will be designed in PY1 through evaluating alternatives, reviewing the state of the art in terms of remote sensing, algorithms and indices, as well as standardization of results, legends (LCCS) and methodologies based on IPCC; Global Terrestrial Observing System (GTOS), Global Observation of Forest and Land Cover

Dynamics (GOFC-GOLD), Global Forest Observation Initiative (GFOI), Forest Resources Assessment (FRA), Forest Carbon Tracking Task (GEO), Global Biodiversity Outlook Informatics (GBIO). To develop the multi-temporal analysis protocol further evaluation of programs and systems for interpretation (e.g. CLASlite) will be undertaken. Additionally, 2 workshops for defining strategies and reviewing tasks will be undertaken during design.

The protocols will be developed and tested in PY2, and 1 training workshop will be undertaken to train technical staff of MPPEA, ABAE, IGSB, universities and other institutions working in remote sensing and the SINIB for conducting ex situ surveys ex through remote sensing. Training will include: a) cover, land use changes and monitoring of changes (interpretation of specific images and time series at different scales and resolutions, and calculation of surfaces per unit / stratum); b) key environmental variables (standardization of methodologies and legends); c) planning (stratification, sampling network design, detection of priority study areas); d) analysis and synthesis of information (integration of information from different variables / sources); e) field verification with products obtained through remote sensing.

Between PY3 and PY5 the protocols will be implemented and 1 workshop will be undertaken annually to revise the protocols and adjust the design as per the experiences acquired in the field. In PY4 a new technical training will take place (following the same aforementioned topics) based on the enhanced protocols.

Output 1.1.3: Protocol for field level information gathering on forest and socio-cultural-economic conditions of forest-dependent communities and indigenous peoples

Target: One (1) protocol for field level information gathering on forest and socio-cultural-economic conditions of forest-dependent communities and indigenous peoples

Activities

The project will develop a protocol to collect information on the communities living in the forests, including strategic information such as identifying leaders, existing organizational types, and other related information. The knowledge generated will contribute to design mechanisms to ensure the involvement of communities and indigenous peoples in the monitoring processes (Output 1.1.6 below) and eventually the management of forest units (Output 2.1.2 below) as well as planning training strategies and identifying gender-related roles and other cultural aspects. The protocol will serve to help and guide managers gather this information ensuring its standardization. The SINIB module to handle this information will be developed in parallel to the protocol.

In PY1 the Project will assess the information needs to be included in the protocol taking into account recommended standards or experiences in similar areas. A workshop will be undertaken to define strategies and reviewing tasks for protocol design, as well as designing the protocol and training personnel in collection of social, cultural and economic information in the field, managing interviews and carrying out surveys.

The protocol will be field tested in PY2 and the design will be adjusted as necessary. Between PY3 and PY5 field information will be collected through the protocol and improvements will be made according to the experience acquired. Additional training on the use of the protocol will be undertaken through 3 workshops in PY2, PY3 and PY5.

Output 1.1.4: Study of GEI and carbon stocks and fluxes in three types of forests, carbon hotspots identified, and national MRV standards established for the GEI benefits from reduction of deforestation and forest degradation (REDD)

Target: One (1) Study of GEI and carbon stocks and fluxes in three types of forests, carbon hotspots identified, and national MRV standards established for the GEI benefits from reduction of deforestation and forest degradation (REDD).

Activities

The project will undertake a specific study on GHG, and carbon stocks and fluxes in three different forest types, with the aim of identifying carbon hotspots to establish national standards for measurement, reporting and verification of forest carbon (MRV).

In PY1 the alternatives of adoption and / or adaptation of global and regional standards will be assessed, and the three forest types will be selected taking into account their differences in structure and physiographic location, and that they be representative of the IFR to ensure their extensive distribution. In this sense the existing forests in the area comprise high, medium and low evergreen forests over undulating peniplains and hills with varying degrees of escarpment. The protocols for establishing permanent plots (e.g number, size, shape), performing measurements (e.g species and life forms to be included, minimal diameters, parameters to include), revisiting periods and other necessary aspects will be defined.

Additionally, 5 workshops to train professional and technical personnel will be undertaken covering the following topics: a) estimation of biomass, carbon, leaf area index, fraction absorbed of photosynthetically active radiation, and primary productivity; b) location and layout of lines and surfaces - plots and transects); c) CO₂ inventory and fluxes (methodologies and protocols for measuring diameters of trees and other forms of life, estimating heights, collecting litter, total CO₂ flux from soil, measuring log respiration, root growth, dead wood, leaf indices, diametric growth, and wood density); and d) allometric research (detailed measurements and weighing of felled trees).

To design the MRV standards two types of monitoring will be conducted. One will be the overall monitoring of the IFR (through the protocols developed under the Output 1.1.2) and the other will be a regional level monitoring in 3,000 ha through participatory monitoring (Output 1.1.6). Monitoring will be based on two methods for estimating GHG emissions and removal of carbon stocks due to land use change: i) changes in stock and factors of removal and change in forest area; and ii) changes in stock based on direct measurements of carbon stocks in time through permanent plots.

During PY2 and PY3, 18 permanent plots (1 ha each) will be established covering the three forest types. The RAINFOR²³ protocol will be used to apply the allometric functions established for the region to estimate the national, regional and local carbon stocks. Training will continue during this period, following the above-mentioned topics (2 workshops). During PY4 and PY5 the permanent plots will be re-measured and the behavior of the forest mass will be assessed through the RAINFOR protocol in terms of increase in the national, regional and local carbon estimates defined in the Project. The MRV standards will be designed and applied in PY5.

Output 1.1.5: Thematic maps of biodiversity with information on distribution of plants species, their abundance, frequency, dominance, and fito-geographical relationships

Target: 75 thematic maps of biodiversity scale 1:250.000 covering the national territory and including information on distribution of plants species, their abundance, frequency, dominance, and fito-geographical relationships

Activities

The SPECIES module of the SINIB (see Output 1.2.3) will generate cartographic products of the distribution of species and groups of species, and will allow for cross-referencing of information within the different integrated information systems.

In PY1 the Project will assess the information needs to systematize the required information, processes to be carried out, collection of existing information from existing studies and will develop the protocols for calculating biodiversity indices, dasometric and other indices, collecting and digitizing the different vegetation classification systems used in the country, equivalence and standardization.

In PY2 the fito-geographical division of the country and its correlation with other environmental management divisions (basins), and other basic environmental variables will be adopted and developed.

Between PY1 and PY3, 3 training workshops on biodiversity inventories (methodologies and protocols, and botanical collections) will be undertaken. Between PY3 and PY5 the data will be collected, transcribed, adapted and processes and information will be generated, producing every year 15 maps scale 1: 250,000.

Output 1.1.6: Participatory mechanism for monitoring of the forest coverage and status, and related GHG flows in deforested and degraded forests

Target: One (1) participatory monitoring mechanism including: a) protocols for organization and participation of communities and indigenous peoples; b) training protocols; and c) training manuals and materials designed and tested in 3,000 ha (with participation of at least 30% women)

²³ Protocols for measuring and estimating above-ground biomass, above-ground biomass carbon and soil carbon have been used and tested in Venezuela. The RAINFOR protocol will allow reporting, verifying and comparing the four remaining carbon pools: below-ground biomass, deadwood, litter and soil organic matter. Further details on the field sampling and calculation protocols can be found in: http://www.rainfor.org/upload/ManualsSpanish/Honorio_Baker2010%20Manual%20carbono.pdf

Activities

The project will develop a participatory monitoring mechanism involving forest communities and indigenous peoples of the RFI. The design and implementation of the mechanism will be based on the information generated and systematized through the protocol for the collection of socio-cultural-economic information (Output 1.1.2).

This protocol will be the first strategy to approach the communities and indigenous peoples to promote buy-in and engage them in monitoring and evaluation of the forest cover, detection of land use changes, and estimation of carbon stocks and fluxes due to forest deforestation and degradation.

In PY1 a protocol for involvement and participation of communities in monitoring will be developed. The fundamental strategy to promote the involvement of these stakeholders will be promoting the benefits of sustainable forest use compared to the impacts of mining, especially the highly dangerous consequences of pollution from the indiscriminate use of mercury and deforestation and its consequences on soil, water and other resources.

A training plan including training manuals and materials will also be developed to train the community members in the protocols related to carbon stocks and GHG (Output 1.1.4) and forest cover (Output 1.1.2) to ensure a high quality of the data collected. The training methodology will be "learning by doing" for which a plot will be installed in the field to undertake intensive trainings on the different methodologies to measure the various parameters considered by the NFI, management monitoring, carbon and biodiversity.

The topics to be addressed in the plan include: a) location and layout of lines and surfaces - plots and transects); b) CO₂ inventory and fluxes (methodologies and protocols for measuring diameters of trees and other forms of life, estimating heights, collecting litter, total CO₂ flux from soil, measuring log respiration, root growth, dead wood, leaf indices, diametric growth, and wood density); c) gathering of allometric data (detailed measurements and weighing of felled trees); d) Ethnobotany (use of species); f) socio-cultural and economic aspects (surveys and interviews); and g) data recording, editing and maintenance.

Training will begin in PY1 and will be undertaken at least every month until PY5. Four extension technicians will be responsible for field work, visiting the communities to promote their participation, implementing trainings and accompanying monitoring activities in the field.

Monitoring will be implemented from PY1 until the end of the project in an area of 3,000 ha. The information generated in situ on carbon and biodiversity will be a key input for the SINIB and will serve to strengthen the mixed methods (in situ and remote sensing) applied through Outputs 1.1.1 and 1.1.2 by providing field data and verification of extrapolations made at a greater level of uncertainty.

Participation of both men and women in monitoring will be important given their general knowledge of the area, particularly in terms of common names of species in the case of men, and common names, uses, recipes and other aspects in the case of women. Monitoring will consider a labor division by gender, where women would be responsible for activities such as field data collection (recording) including making sketches, custody of the data (including its organization and filing by dates, location, variable) and transcription. Men will have the responsibility to: provide support for opening of paths to access the sites; provide support to the work of surveying the area

for layout and setting out the measuring plot and its subunits; taking measurements (e.g. diameters, heights); painting, marking and general maintenance of the plot. These aspects will be incorporated into the training plan.

Output 1.2.1: Lists of forest flora and fauna species (endemic, threatened, exotics) of the IFR associated to carbon hotspots in Unit V.

Targets: a) Protocol for evaluating species risks (e.g. IUCN Red List, CITES); b) SINIB incorporates the CONSERVATION STATUS attribute in its SPECIES module; and c) Updated list of forest flora and fauna species and their conservation status.

Activities

The Project will design in PY1 a protocol for species risk assessment (e.g. IUCN Red List index, CITES) which will serve to define and standardize threat and conservation status, endemism and other aspects related to the species. Likewise the CONSERVATION STATUS Attribute within the SINIB's SPECIES Module will be developed, where the information will be stored and accessed through the scientific name (taxonomy) of every tree included in the field data collection as well as other attributes such as use, autoecology and wood density, among others.

The protocol will be tested in PY2 and the design will be adjusted if necessary. From PY2 onward the protocol will be applied and information generated. In PY5 the Project will produce an updated list of forest fauna and flora species and their conservation status.

Output 1.2.2: Guidelines for the study and definition of zoning of management units taking into consideration the state and needs of biodiversity, carbon hotspots and forest ecosystem conservation based on information generated by SINIB.

Target: One (1) document containing guidelines for the study and definition of zoning of management units taking into consideration the state and needs of biodiversity, carbon hotspots and forest ecosystem conservation based on information generated by SINIB.

Activities

Based on the information generated by the SINIB the project will develop guidelines for the study and definition of zoning of the management units of the IFR that mainstream the needs for biodiversity and forest ecosystem conservation.

To do this, in PY1 the Project will assess the SFM policies, goals and objectives that incorporate non-timber products and other forest benefits and services, and the involvement of communities in monitoring, in other tasks and in forest management. Based on the results of the assessment, the guidelines will be designed through a participatory process.

From PY2 onward the guidelines will be mainstreamed into the Forest Operational Plans to be developed under Output 2.1.2 below. In PY5 the guidelines will be mainstreamed in the Unit V POMF.

Output 1.2.3: Database of biodiversity goods, products, and services of forest ecosystems (including the forest reserves), and considering wood and non-wood products and their multiple use by local communities.

Target: One (1) database of biodiversity goods, products, and services of forest ecosystems (including the forest reserves), and considering wood and non-wood products and their multiple use by local communities.

Activities

The project will develop a database, which will be part of SINIB and will include information on biodiversity and forest ecosystems goods and products under the modules FOREST and SPECIES.

The first module will include attributes related to the mechanical and physical properties of wood, other uses of the species and ethnobotanic aspects. The second module will include extensive information regarding the current use, potential use and socioeconomic aspects through data by forest type of the current uses by communities and indigenous peoples, commercialized products, management potential, and dependence of populations per type of forest, among others. The information generated under this output will contribute to Outputs 3.2.2 (experiences and lessons learned in commercialization of wood and non-wood products), 3.2.4 (community plans for commercialization of wood and non-wood products) and 3.2.5 (financing schemes).

The information needs to develop the database will be assessed in PY1 taking into account recommended standards or experiences in similar areas. Development of the modules will be complementary with the development of the modules under Output 1.2.2 and the SOCIAL ASPECT MODULE under Output 1.1.1. Collection, validation, transcription of information and generation of reports will be undertaken between PY2 and PY5.

Component 2: Building of capacities and innovative tools for SFM

This component will have several approaches. Firstly it will increase the operational and technical capacity of institutions to implement tools for planning of forest lands and sustainable forest management that mainstream global environmental benefits generated by forest ecosystems and the benefits of reversing land degradation processes, with a high level of participation of community stakeholders and national and local governments. Capacity building will seek to improve and / or update the knowledge of management and technical personnel of the DGB, ENF, CONARE, IFLA and universities in participatory forest management tools and innovative SFM techniques.

Secondly, the inter-sectoral dialogue will be encouraged to enhance the participation of community actors and national and local governments in forest governance and SFM. To this effect the project will help optimize the inter-institutional coordination among the sector stakeholders, as well as raise the awareness of local stakeholders on the importance of forest resources, local knowledge and participation in activities such as information gathering in the field, participatory monitoring of forest ecosystems and restoration of degraded areas.

Thirdly, the project will promote the development and implementation of standards for environmental and social sustainability of SFM to add value to the products and

services of forests ensuring that they mainstream criteria and indicators relevant to the generation of global environmental benefits global, e.g. REDD monitored by an MRV system, conservation of biodiversity and forest eco-system services under pressure, and conservation of forest cover in areas sensitive to land degradation processes.

Component 2 comprises the following outputs and activities:

Output 2.1.1: Program to strengthen technical-legal human resources to promote and sustain innovations in SFM utilizing the information generated by the SINIB.

Target: 100 staffs of MPPEA, ENF, CONARE, Tree Mission and universities trained in: participatory methods, forest planning and innovative tools for SFM (at least 40% are women)

Activities

The project will strengthen the technical and operational capacities of managerial and technical personnel of MPPEA, ENF, CONARE, Tree Mission Tree and universities on tools and methodologies for planning of forest land management and sustainable forest management.

The Project will elaborate a training plan, which will focus in the development of teaching-learning processes related with the roles and responsibilities of the beneficiaries seeking to transfer and Exchange knowledge in order to improve their performance through updating of knowledge related to forest land use planning, participatory tools and SFM under an eco-social approach, based on information generated by the SINIB.

Trainings will be conducted annually. For each annual training cycle the project will undertake the development of training methodologies, contents and materials, selection of beneficiaries and will implement the training workshops. Four workshops per year will be realized during the project's five years (20 workshops in total) training each year 20 technical / managerial personnel thus totaling 100 staff. At the end of each training cycle the trained staff will make up teams to replicate the training within their institutions and disseminate the acquired knowledge.

The following table summarizes the training topics identified for each training level (managerial / technical).

Table 2.2: Training topics per training level

Level	Topics
Managerial personnel	<ul style="list-style-type: none"> • Legal framework • Participation and SFM • Environmental planning and land use planning with emphasis in forest lands • New approaches to planning, SFM and forestry • Climate change adaptation
Technical personnel (operational and field personnel)	<ul style="list-style-type: none"> • Legal framework • Participation and SFM • Environmental planning and land use planning with emphasis in forest lands • New approaches to planning, SFM and forestry • Climate change adaptation

	<ul style="list-style-type: none"> • Forest monitoring methods • Environmental impact assessment • Valuation of forest goods and services methodology • Methodological criteria for selection of natural and planted forests for carbon sequestration • Species' autoecology • Management of databases and information systems • <i>In situ</i> and <i>ex situ</i> conservation of forest germplasm • Formulation of participatory forest projects • Sustainable land management • Forest sustainability criteria and indicators
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Output 2.1.2: Forest Operational Plans based on the information generated by the SINIB for forest planning and management with an ecosystem and sustainable livelihood approach developed with local governments and community organizations

Target: 4 Forest Operational Plans in Unit V based on the information generated by the SINIB for forest planning and management with an ecosystem and sustainable livelihood approach developed with local governments and community organizations covering an area of 11,000 ha and benefiting 5 communities (based on the guidelines under Output 1.2.2)

Activities

Between PY2 and PY4 the project will promote the development of Forest Operational Plans corresponding to Unit V that mainstream information generated by the SINIB (biodiversity, carbon stocks) and a livelihoods approach. The plans will be developed with the active participation of indigenous and non-indigenous communities to ensure ownership by these stakeholders as well as the sustainability of actions.

The planned activities for the development of each plan include: a) selecting the intervention area according to SINIB generated information regarding habitats for biodiversity, carbon hotspots and land use dynamics; b) contact with the communities in the selected area to promote their buy-in and engagement throughout the formulation process; c) development of participatory assessments in communities to gather information on socioeconomic status, traditions and customs, problems and possible solutions; d) training of communities (this will be done under Output 2.3.1 below); e) undertaking a participatory census of tree species of interest; f) participatory inventory of non-wood forest products in order to analyze viable alternative uses that may generate economic benefits; g) planning of logging roads and log landings, taking into account the topography of the land and landscape elements; h) elaboration and validation of the same with the communities.

The operational plans will also seek the incorporation of local communities in monitoring and surveillance activities by setting up monitoring brigades that will work jointly with the authorities in the protection and safeguarding of the forests under sustainable management. They will also incorporate research lines based on identified needs for SFM, such as climate change adaptation and mitigation, flora in managed areas, creation of gene banks, non-wood products, agroforestry strategies for

recovery of degraded areas in *conucos* of the Kariña communities, and assessment of restoration results in logged forest areas.

The plans will be implemented until the end of the Project and a periodic assessment of the participation and management strategies will be undertaken to identify lessons and make adjustments that may be necessary to improve the plans.

Output 2.1.3: Pilot scheme for forest co-management with communes or other types of social organizations.

Target: One (1) Pilot scheme for forest co-management designed and implemented.

Activities

The project will establish and develop the capacities of productive organizations on issues related to organizational development and SFM, to enable these organizations to assume co-management responsibilities of the activities taking place in IFR in the medium and long term.

The Project will undertake in PY2 a census of the existing organizations in the intervention area focusing in gathering information on their current situation, opportunities, strengths and weaknesses as well as an assessment of the capacities that the organizations will need in order to assume co-management responsibilities. The scheme will be designed and validated with the participation of the organizations.

Beginning in PY3 the organizations will receive training to strengthen their organizational skills and SFM capacities. Organizational strengthening will be supported by partnerships with the Ministry of Communes and the Ministry of Indigenous Peoples. SFM training will be undertaken through Output 2.3.1 below. The trained organizations will be gradually incorporated in planning, administrative and field activities to enable them to assume their responsibilities under the co-management scheme.

Output 2.2.1: Criteria and indicators for environmental and social sustainability of SFM on the basis of information generated by the SINIB

Target: One (1) technical standard containing criteria and indicators for environmental and social sustainability of SFM based on SINIB information and applying a multi-criteria analysis, including: a) REDD and MRV (from output 1.1.4); b) conservation of biodiversity and forest ecosystem services under pressure; and c) conservation modalities of forest cover in areas sensitive to land degradation processes.

Activities

The project will support the design of criteria and indicators for environmental and social sustainability of SFM²⁴ to guarantee that the forest management practices are

²⁴ Article 112 of the Forest Law stipulates that the Ministry of Popular Power responsible for the environment may certify the production of wood and non-wood products from native forests or forest plantations that comply with environmental standards set forth by the relevant body. There are currently no standards that may serve as the basis for such certification.

environmentally responsible, generate social benefits and ensure a certain economic viability. The MPPEA (DGB and ENF), the University of the Andes and the Guayana Experimental University will be involved in developing the standards.

The development of criteria and indicators will be based on information generated by the SINIB and applying a multi-criteria analysis to establish approaches, models and methods of forest management in Venezuela. Furthermore, the analysis will strengthen decision making, and will allow describing, evaluating, organizing, prioritizing, selecting or rejecting elements or actions involved in SFM in order to set the bases for the definition of the criteria and indicators.

During the project's lifetime SFM practices will be undertaken in Unit V, which will serve to generate baseline information as inputs to the process of formulating the sustainability criteria and indicators. A workshop will be undertaken in PY1 to identify the SFM stakeholders, diagnose and assess the situation of forest management in Venezuela. A second workshop in PY2 to agree the theoretical framework including principles, criteria, indicators and means of verification, as well as criteria, indicators and tools for SFM. The proposal for a technical standard containing the sustainability criteria will be designed and validated in PY3. In PY4 the technical standard will be incorporated into the national program design and will be field-tested in PY5 within the framework of the initial implementation of the national program in 15,000 ha of Unit V.

Development of the technical standard will allow setting the foundation for a future national SFM certification program by the MPPEA as foreseen by the Forest Law.

Output 2.2.2: Participatory monitoring mechanism of forests managed under environmental and social standards for multiple use of forests in balance with the provision of forest ecosystem goods and services.

Target: One (1) Participatory monitoring mechanism of forests managed under environmental and social standards for multiple use and piloted in 15,000 ha of Unit V (with at least 20% participation of women).

Activities

The project will design a monitoring mechanism of forests managed under the environmental and social standards as a tool to aid in learning, adapting and improving SFM that will be implemented with the involvement of the local communities. As in the previous output the SFM practices in Unit V will provide inputs for the development of the monitoring mechanism.

Between PY1 and PY3 workshops and meetings with institutions relevant to SFM will be undertaken to assess and agree the technical bases for the monitoring mechanism. This will include the development of protocols for organizing and engaging the communities, and training strategies, manuals and materials.

The monitoring mechanism will be designed in PY4 and will be tested within the framework of the pilot implementation of the sustainability standards in 15,000 ha.

Output 2.3.1: Training program of human talent and dialogues exchanging local knowledge related to the utilization of information generated by the SINIB for improved forest planning and management and SFM practices.

Target: 100 representatives of 35 community councils of at least 1 commune trained in: SFM, environmental awareness, forest management, organizational strengthening (at least 30% are women).

Activities

The project will strengthen the capacities of indigenous and non-indigenous communities through a training and dialogue program on traditional knowledge in SFM. The program will be designed in PY1 and will have the objectives of raising community awareness and promoting buy-in and involvement in project activities. The scope of the training program will include the importance of the forest and its conservation and sustainable use, organizational strengthening, forest management and livelihood alternatives. It will include a number of topics summarized in Table 2.3 below.

Trainings will be conducted annually. For each annual training cycle the project will undertake the development of training methodologies, contents and materials, selection of beneficiaries and will implement the training workshops. Five workshops per year will be carried out during the project's five years (25 workshops in total) training each year 20 leaders and community members thus totaling 100 people.

Table 2.3: Community training topics

Training topics
<ul style="list-style-type: none"> • Awareness raising on the importance of the forests, legal issues associated with illegal logging, and impacts. • Rescue of traditional knowledge and customs related to the use of non-wood products • Training of local resource persons in botanical characteristics of species, tree nurseries, cubication and compass bearing. • Establishment of forest brigades for surveillance. • Establishment of phenological brigades for collection, selection, and processing of forest seeds. • Eco-tourism guides. • Good practices in <i>conucos</i> (agroforestry and agro-ecological systems) • Basic and advanced carpentry • Beekeeping

Output 2.3.2: Inter-institutional coordination agreements for forest management governance in Venezuela and adjustment of the SINIB.

Target: 10 inter-institutional coordination agreements for forest management governance in Venezuela and adjustment of the SINIB.

Activities

The project will support the MPPEA for the establishment of 10 inter-institutional agreements aimed at optimizing coordination and articulation between the several actors that are charged with responsibilities in the forestry sector (Ministries of

Planning, Trade, Indigenous Peoples, Agriculture and Lands, Defense, Health, Housing, Energy, Food and Education, universities, state governments and municipalities) to build institutional and social networks to develop an enabling environment for promoting SFM, forest governance, forest restoration, and effective and efficient information sharing as well as for adjusting the SINIB to adequately respond to the information needs of these stakeholders. The Project will provide support through workshops and meetings to reach consensus over the contents of the agreements, the establishment through such agreements of an inter-institutional coordination platform and the development of an action plan for the platform comprising activities and targets to aid in strengthening inter-institutional coordination capacities.

Component 3: Forest restoration, conservation, and SFM/SLM in areas under degradation processes

This component will contribute to the restoration, conservation and SFM / SLM in areas subject to forest and soil degradation processes that have the greatest potential to generate global environmental benefits, and will implement interventions at two levels, national and regional / local.

The project will develop the capacities of national institutions and government agencies to design and manage SFM and SLM policies and regulatory frameworks at local, regional and national levels in accordance with forest specificities and the needs of the target groups to pursue their conservation, management and restoration.

At the regional / local level the Project will develop sustainable use schemes based on the restoration and regeneration of forests and soils undergoing degradation processes to halt and reverse the current degradation trends of forest ecosystems. This will be done through investing in good management practices, promoting awareness raising and knowledge improvement on land degradation and management, and increasing stakeholder capacities.

To sustain these investments, the project will promote a better understanding of how market demands of wood and non-wood products, and market supply are affecting the forest to define recommendations for commercialization strategies and market adjustments for reducing the pressures on forests. In addition the investments will also be complemented by the development of a financing scheme for SFM / SLM, support of non-wood products commercialization and application of the national program for environmental and social sustainability standards for SFM (this last one developed under Component 2).

Component 3 comprises the following outputs and activities:

Output 3.1.1: General standards and indicators for prioritizing areas for forest restoration applying information generated by SINIB.

Target: One (1) technical document with general standards and indicators for prioritizing areas for forest restoration applying information generated by SINIB for technical staff and communities.

Activities

The project will develop general standards and indicators to prioritize areas for

restoration as a tool to identify areas where ecological restoration is urgent, as well as priority sites that may serve as reference models for setting goals and objectives of restoration projects and selecting sites based on a technical prioritization that takes into account community needs, global conservation strategies and / or institutional policies.

The standards and indicators will be designed in PY1 through participatory workshops and meetings with restoration experts with knowledge and experience on the subject. The agreed standards and indicators will be subsequently validated in the field through documentary information (operational plans and reports), open interviews with stakeholders, and field visits to observe ongoing initiatives that will aid in making adjustments that may be required on the basis of ecological, economic and socio-cultural factors.

Between PY1 and PY5, 10 training workshops will be held to train field technicians and communities in the use of the standards and indicators within the framework of the activities to restore degraded areas (Output 3.2.1). In addition the standards will provide the basis for preparing the restoration strategy under Output 3.1.3.

Output 3.1.2: Strategy for restoration, rehabilitation and recovery of forest cover in the IFR based on an eco-social approach.

Targets: a) One (1) strategy for restoration, rehabilitation and recovery of forest cover in the IFR based on an eco-social approach designed and implemented; and b) SLM practices to reduce land degradation in areas of illegal mining identified and mainstreamed in the strategy

Activities

The project will support the design of a restoration and rehabilitation strategy of the IFR's forest cover. The strategy will be the basis for restoration and rehabilitation investments by the project providing the several institutional and community stakeholders with conceptual and technical elements to address the restoration processes of the degraded natural ecosystems in the IFR and replicable to other Forest Reserves in the country.

The strategy will include approaches to ecological restoration, rehabilitation and recovery of disturbed areas²⁵ and will incorporate the criteria and indicators for prioritization of restoration areas generated under Output 3.1.1. It will also include good practices for sustainable land management and restoration of areas where small-scale gold mining has modified the physico-chemical properties of the soils, consequently hindering the natural regeneration capacity of the forest in these areas and therefore requiring more intense restoration efforts.

The strategy will be developed in PY1 and will be implemented from PY2 (through Output 3.2.1) onward. Implementation of the strategy will generate experiences and

²⁵ *Ecological restoration* has the objective of initiating or accelerating in a degraded, damaged or destroyed area the processes related to its function, structure and composition. *Rehabilitation* has the objective of repairing the productivity and ecosystem services in regards to the functional or structural attributes. *Recovery* has the objective of returning the utility of the ecosystem to provide different services that are different of those provided by the original ecosystem and integrating them ecologically and in the landscape.

lessons that will aid in developing restoration strategies for other areas of the country, hence contributing to channeling resources and initiatives to reduce the vulnerability caused by land use dynamics, and reducing the risk posed by extreme natural events.

Output 3.1.3: National network of community providers of forest seeds established.

Targets: a) One (1) national network of community providers of forest seeds established and functioning, with a local component piloted in Unit V with the participation of 10 communities; b) One (1) guide for good community practices for forest seeds handling and selection of seed providing trees elaborated, validated and disseminated; and c) One (1) guide for certification of seeds designed and implemented

Activities

The project will support the design and implementation of a national network of community suppliers of forest seeds that will aim to produce, exchange and commercialize forest seeds and promoting local development based on the specific potential of community organizations. The network will help ensure a safe source of seeds in quantity and quality for restoration initiatives of degraded areas and reforestation with native species at national level, while at the same time generating income for indigenous and non-indigenous communities through the harvesting, handling and commercialization of seeds. It will also contribute to rescue the cultural and ancestral identity through identifying, organizing and researching traditional knowledge on forest species, and strengthen the social fabric by involving and empowering women as a key stakeholder given women's traditional role in seed production.

During the project design phase a preliminary design of the network was conceptualized. The network will comprise a National Coordination Center under the DGB, and in each state, a State Coordination responsible for storing the seeds provided by local Community Collection Centers. A National Registry of suppliers of seeds and improved seedlings of priority species for forest diversification will be established.

In PY1 the project will conduct the detailed design of the network including the participating institutions, their roles and responsibilities, and the operational procedures. Network members include MPPEA, Tree Mission, CONARE, ENF, National Institute for Agricultural Research (INIA), community councils, NGOs and universities. Based on the detailed design, MPPEA will sign agreements with the proposed participants to establish and operate the network from PY2 onward.

To support the implementation of the network the Project will design in PY1 a guide for good community practices for forest seeds handling and selection of seed providing trees and a guide for seed certification. These tools will contribute to establish the bases for a forest gene improvement program to address the rehabilitation of the forests' productive potential, establishing forest plantations and conserving germplasm. They will also help to ensure the standardization of methods for seed harvesting, production, commercialization and organization at community level. Both guides will be validated with field technicians and communities in Unit V.

Between PY2 and PY5 the project will support the implementation of a pilot community component of the network in the IFR with the participation of 10

communities. Technicians will be trained on the good practices and certification guidelines through 2 training workshops in management of community networks; 6 training workshops for design and implementation of tree nurseries and 10 workshops on selection of plus trees, seed stands and seed orchards. Community groups will be trained through 10 workshops covering the following topics: location and selection of seed sources (plus trees and seed stands), tree nurseries, selection of areas for establishment of arboreta and seed orchards, assessment of seed stands; as well as 8 exchange visits to share experiences among indigenous communities.

Based on the acquired knowledge, technicians and communities will form work groups to jointly select the most favorable forest areas, as well as the best species and individuals to obtain seeds from. Community collection centers will be established and the good practices for harvesting, handling and storing seeds will be applied. Seed certification will be promoted to create opportunities for the communities to legally sell the seeds and generate income, as well as exchange of seeds with other centers established within the national network in other areas of the state outside of the IFR or in other states. The seeds produced through the good practices will also be used for the forest restoration activities under Output 3.2.1 below.

Output 3.2.1: Model for forest restoration through SFM/SLM on-the-ground tested with the participation of local governments and communities.

Targets: a) 1,440 ha restored (350 ha through agroforestry, 342 ha through analog forestry; and 748 ha through reforestation)²⁶ with the participation of local and indigenous communities (within the Forest Operational Plans under Output 2.1.2); and b) 4 demonstration sites for SLM practices to reduce land degradation in areas under illegal mining designed and implemented.

Activities

The project will implement a forest restoration model covering a range of SFM and SLM practices (analog forestry, agroforestry, reforestation) with the participation of indigenous and local communities.

This model will seek to generate experiences and lessons regarding: i) diversification and increase of forest ecosystems in the IFR; ii) restoration of areas to increase connectivity between fragments relevant to the conservation of forest biodiversity; iii) conservation and restoration of the biodiversity of the sites selected for forest restoration, taking into account species, forest type formations or conservation issues; iv) restoration of areas with high conservation value to improve and enhance such areas; v) preservation of cultural traditions indigenous peoples and local communities by increasing the surface area for production of medicinal plants and other non-wood forest products; vi) protection of watercourses; and vii) soil stabilization to prevent erosion and promote the topsoil formation.

Practices already proven in the region as successful in preventing and / or reversing land degradation will be promoted. Design and implementation of the demonstration projects will mainstream conservation of biodiversity and carbon sequestration.

²⁶ An additional surface area of 1,560 ha will be established through cofinancing thus totalizing 3,000 ha restored.

Implementation of agroforestry systems will promote the association of traditional crops of the Kariña indigenous communities with native tree and palm species to achieve a diversified production and sustainable use of *conucos* and fallow land, thus ensuring food security of the communities involved. Species adapted to the ecological conditions of the area and accepted by the communities will be used, such as: mango (*Mangifera indica*), onoto (*Bixia orellana*), hog plum (*Spondias mombin*), monkey tamarin (*Inga sp*), guava (*Psidium guajava*), laurel (*Cordia alliodora*), prickly custard apple (*Annona muricata*), bulletwood (*Manilkara bidentata*), quina (*Angostura trifoliata*), avocado (*Persea americana*) tacamajaca (*Protium sp*), rose of the mountain (*Brownea sp*), cedar (*Cedrela odorata*), Brazilian copal (*Hymenaea courbaril*), Spanish lime (*Melicoccus bijugatus*), tampipio (*Couratari multiflora*), Malay apple (*Syzygium malaccense*), corozo (*Acrocomia aculeata*) and cashew (*Anacardium occidentale*), among others.

Analog forestry will seek to replicate the ecological relationships of the forest's natural state by using trees and plants similar in size, ecological function and structure to those in the natural forest, and that are at the same time useful to the communities. Selection of trees will rely on the local and traditional knowledge of communities.

Reforestation will pursue the establishment of species seek with the key functions to protect and preserve the soil, reduce the risk of landslides and floods, as well as contribute to the regulation of the hydrological cycle. Reforestation will be undertaken with the participation of the communities.

In PY1, the project will develop the criteria to prioritize restoration sites taking into account biodiversity, traditional uses and ecological potential (this will be done under Output 3.1.1); and a restoration plan containing the activities to be implemented, and the strategies for socialization and dissemination, and mechanisms for participation and evaluation of results. Restoration activities will be implemented and monitored from year 2 to Year 5. Throughout the process the experiences and lessons learned will be systematized to promote their dissemination and replication in other areas. The table below summarizes the restoration activities and surface areas to be covered by each.

Table 2.4: Restoration practices to be implemented and surface areas (hectares)

Practices/Year	Year 2	Year 3	Year 4	Year 5	Total
Agroforestry	87	87	87	89	350
Analog forestry	78	88	88	88	342
Reforestation	148	200	200	200	748

In addition, four demonstration sites will be established in areas where mining has degraded the soils. Best SLM practices and technologies to restore these areas will be identified and piloted to learn and generate experiences to define reference levels for future ecological restoration activities of areas affected by mining in the IFR. Traditional knowledge will be taken into account and incorporated in the practices. These sites will also be used for training in environmental education and community participation for recovery of degraded areas.

Carbon sequestration benefits provided by the restoration practices will be monitored through the Simplified Agroforestry Methodology (SAM)²⁷ and with community involvement. Community members will be trained through field visits to the forests, where they will receive training on methodologies to develop basic information, assess the potential emissions reductions and compile inventories of GHG emissions from forestry activities. This group of trained indigenous technicians will be able to replicate the training and provide monitoring services to other communities, territories and projects.

Between PY1 and PY3, 36 permanent plots of 0.1 ha will be established for monitoring purposes. In PY3 wood, leaves and soil samples from the plots will be analyzed and in PY5 the plots will be re-measured and the amount of sequestered carbon estimated.

Output 3.2.2: Experiences and lessons learned on commercializing wood and non-wood products systemized so they can be used to sustain SFM/SLM best practices

Targets: a) 4 analysis reports on experiences and lessons learned on commercializing wood and non-wood products based on SINIB generated information published; and b) 1 analysis document on the current and potential uses of non-wood products.

Activities

The project will produce technical reports with reliable and updated information on commercialization of wood and non-wood forest products. Between PY2 and PY4 four reports analyzing the experiences and lessons learned in commercialization of forest products (1 per year) will be produced. This will include gathering the currently dispersed information that exists in the different geographical areas of the country (Amazonas, Bolívar-Delta, East, Andes, Llanos, Center and West); consultations to databases of the environment and industry related ministries, universities and NGOs involved in environmental and productive initiatives, and forest industries; statistical analysis of the information and geo-referencing; preparation of technical reports; publication and dissemination in printed form and online through the MPPEA's website.

In PY5 the Project will produce a report analyzing the current and potential uses of non-wood products. To prepare this report the Project will undertake information gathering, including meetings and workshops with small producers and forest companies to share their experiences on the subject. The report will be published and disseminated to small producers and forest companies and uploaded in the MPPEA's website.

Output 3.2.3: Value chain and market analysis of the main forest products demanded and affecting the forest and recommendations for market adjustments and the design of commercialization strategies for reducing the pressures on forests.

Target: 2 analysis reports on value chain and market of 10 key forest products demanded and affecting the forest, with recommendations for market adjustments and

²⁷ The Simplified Agroforestry Method contains the calculation procedures to assess the changes in carbon stocks that may have occurred in the business-as-usual scenario, and the carbon sequestered by tree planting and soil improvement.

the design of commercialization strategies for reducing the pressures on forests.

Activities

The project will develop a detailed and updated analysis of the market and value chain for wood and non-wood forest products to make this information available to producers, industries and traders seeking to promote information access on markets and enable these stakeholders to undertake proper actions to enter and stay in the markets. The analysis will be performed in two stages, at the beginning of the project to establish the current situation and in the last year to identify trends and elaborate recommendations.

In PY1 the project will gather the currently disperse information that exists in the different geographical areas of the country (Amazonas, Bolivar-Delta, East, Andes, Llanos, Center and West); consult databases of the environment and industry related ministries, universities and NGOs involved in environmental and productive initiatives, and forest industries; undertake statistical analysis of the information and geo-referencing; and prepare the technical report; publish and disseminate it in printed form and online through the MPEEA's website.

In PY5 the second report will be prepared following the same procedure above and based on the information generated by the SINIB. This report will contain the analysis of the market trends and recommendations for market adjustments and strategies to reduce the pressure on forests.

Both reports will be made available to producers and buyers of forest products, especially the communities in the IFR and the communities involved in the development of community commercialization plans (Output 3.2.3 below).

Output 3.2.4: Community commercialization plans for wood and non-wood forest products in accordance with the principle of multiple uses.

Target: 4 commercialization plans for wood and non-wood forest products (2 plans for wood products and 2 plans for non-wood products) designed and implemented in accordance with the principle of multiple use (within the Forest Operational Plans under Output 2.1.2).

Activities

The project will develop four community plans for management, harvesting and commercialization of wood and non-wood products, to support the strengthening of the entire value chain of community forestry production. The plans will cover the management of forest resources, primary production, processing and commercialization of wood and non-wood forest products. They will aim at adding value through improved methods of production and commercialization as well as increasing the competitiveness of the community forest producers.

The plans will be designed through participatory planning; they will be based on community priorities, will ensure the financial and economic viability as well as the environmental sustainability and be adapted to the wide diversity of local situations. They will cover two production models. One model will refer to the use of wood, which will be undertaken together with the ENF. The ENF will train and involve the beneficiary communities in harvesting and processing operations. This production model will be included in the piloting of environmental and social sustainability

standards under Output 2.2.1 once the standards are developed and tested in the field. The second model will refer to non-wood products, where the communities will identify, harvest, manage and sell these products in the local and national market, and complying with MPPEA requirements on the subject.

In PY1 the project will design 2 plans (1 for wood products and 1 for non-wood products). This will entail gathering information on the IFR; consulting databases of the environment and industry and commerce related ministries, universities and NGOs involved in environmental and productive initiatives, and forest industries in the Bolivar State that use raw materials harvested in the IFR; undertaking statistical analysis of the information and geo-referencing; and preparing technical reports; design of the plans, consultation and involvement of the communities; agreements with institutions; requesting the necessary permits from the environment, industry and commerce, and health authorities (the latter in case of producing products for human consumption). From PY2 to PY5 the plans will be implemented and monitored.

Two new plans will be designed in PY3 (1 for wood products and 1 for non-wood products) following the afore-mentioned activities and incorporating the lessons learned from implementing the first two plans. These new plans will be implemented and monitored from PY4.

Output 3.2.5: Financing schemes to promote adoption of SFM/SLM, support commercialization of non-wood products, and implementation of the National sustainability standards program for SFM established under outcome 2.2.

Targets: a) One (1) fund for SFM/SLM and support to commercialization of non-wood products designed and implemented; and b) One (1) fund for implementation of environmental and social sustainability standards for SFM (developed under Outcome 2.2) designed and implemented.

Activities

During the project's preparation phase, a pre-feasibility study to establish Investment Funds²⁸ was undertaken. These funds will aim to provide funding to promote the participation of small and medium producers, through loans or other financial mechanisms to support: forest management (intervened forests or not); afforestation; reforestation; tree nurseries; agroforestry systems; recovery of areas with degraded soils; technological changes in harvesting, processing and commercialization of forest resources; payment of forest ecosystem services and other activities necessary to strengthen the development of SFM / SLM.

The funds will allow ensuring smooth, innovative and effective financial instruments to satisfy the needs and demands of institutions and organized communities that demonstrate interest in managing forests in accordance with environmental and social standards, restore and conserve forests as well as apply the technical principles of SFM and SLM in areas where forests and soils are under degradation processes.

²⁸ The legal basis for establishment of funds is the Forest Law (2013), which contains stipulations on incentives, namely Art.98: *"The National Executive Power, within the framework of programs to promote and foster the development of the forest industry, may establish public or mixed companies and implement other direct public investment mechanisms with the purpose of increasing and diversifying production and industrialization of forest products"*.

The final design of the funds will be undertaken in PY1 and will include the detailed design of the institutional arrangements. The detailed design will envisage: a) technical design; b) review and analysis of the international experience in operating funds for the promotion of forestry activities, recovery of degraded areas, environmental and social standards, and commercialization of non-wood products; c) further analysis of the national context (national experiences in implementing financial resources for commercialization of non-wood products, recovery of degraded areas and sustainable forest management); d) detailed review of the legal basis that allows the establishment and development of these funds; e) an international workshop to review the state of the art in the establishment and operation of investment funds for SFM / SLM; f) final technical design and drafting of a proposal for a Decree to establish the funds. The design of the institutional organization will include the organizational analysis to operate the fund and drafting of the funds' charter.

Inter-institutional agreements and partnerships between national institutions will be sought to establish the Board of Directors and ensure their commitment. The institutions identified as potential members in addition to the MPPEA are the Ministry of Popular Power for Agriculture and Lands, the Ministry of Popular Power for Community and Social Movements, and the Ministry of Popular Power for Economy and Finance.

Moreover, a number of potential funding sources have been identified, with which agreements and partnerships will be promoted to engage them and ensure their commitments. These include the Ministry of Popular Power for Electricity; Ministry of Popular Power for Trade; Ministry of Popular Power for Oil and Mining –PDVSA; Ministry of Popular Power for Industry; Ministry of Popular Power for Food; Ministry of Popular Power for Higher Education; Science and Technology; Ministry of Popular Power for Indigenous Peoples; States' Environment Secretariats; Municipalities' Environmental Directorates; and Community Organizations.

In PY2 the Project will procure equipment and furniture to support the start-up of the funds (3 desktop computers, 2 laptop computers, 2 external hard drives, 1 video beam, 1 flatbed scanner, 1 multi-purpose printer, 1 UPS 3KVA, chairs, tables, desks and filing cabinets). The funds will be operational from PY2 to PY5 and providing financing for activities identified and prioritized in accordance with the funding procedures.

Component 4: M&E and information dissemination

The objective of Component 4 is to monitor and evaluate the project progress and achievement of indicator targets, risk mitigation measures, identify new measures to address unforeseen risks, generate progress reports, mid-term and final evaluations, systematize lessons learned, and prepare information materials. Once systematized, lessons learnt (successes and failures) will be disseminated throughout the country and might be useful for projects to be implemented in the Amazon region. The outcomes of Component 4 comprise the following outputs and activities:

Output 4.1.1: Project M&E system operational, providing constant information on project progress in achieving outcomes and outputs

Target: Project results framework with outcome and output indicators, baseline and targets

Activities

Between PY1 and PY4, the Project Technical Coordinator will prepare six-monthly Project Progress Reports (PPRs). The PPRs include the project results framework with project outputs and outcomes indicators, baseline and six-monthly target indicators, the monitoring of the risk matrix, and identifies potential risks and mitigation measures to reduce those unexpected risks. At the end of each year, the Project Technical Chief will provide appropriate inputs to the Lead Technical Officer (LTO). The LTO-FAO will be responsible for preparing the yearly Project Implementation Review (PIR). The PIR includes the project results framework with project outputs and outcomes indicators, baseline and yearly target indicators, the monitoring of the risk matrix, and will identify potential risks and mitigation measures to reduce those unexpected risks.

Output 4.1.2: Midterm and final evaluations

Targets: 1 mid-term evaluation and 1 final evaluation

Activities

After 30 months of project implementation, a mid-term project evaluation will be conducted by an external consultant, who will work in consultation with the project team including the FAO Independent Evaluation Office (OED), the FAO-GEF Coordination Unit, the LTO, and other partners. Three months before the end of project implementation (month 57) a final project evaluation will be conducted by an international external consultant under the supervision of FAO OED, in consultation with the project team including the FAO-GEF Coordination Unit, the LTO, and other partners.

Output 4.1.3: Project best practices and lessons learned published

Target: At least 8 newsletters and 3 publications on best practices and lessons learned

Activities

Beginning in PY2 the Project will prepare 2 newsletters per year to inform on Project progress, results and achievements. The newsletters will be disseminated to institutional (including decision makers) and community stakeholders.

The Project will prepare 3 publications on best practices and lessons learned (1 in PY3 and 2 in PY5), including success stories and failures. The specific themes to be treated in these publications will be defined during the course of project implementation. All publications will be uploaded to the project website, and will be distributed through (limited) printed copies to local partners and government staff.

Output 4.1.4: Webpage for information sharing and exchange of experiences

Target: Webpage for information sharing and exchange of experiences

Activities

The project will have its own webpage in the MPPEA website with the objective of sharing permanent and updated information on project progress with various stakeholders and partners, as well as with the public in general.

2.5 GLOBAL ENVIRONMENTAL BENEFITS

The involved government institutions and their staff (MPPEA, ENF) and local indigenous and non-indigenous communities in the IFR will be supported to develop their capacities in sustainable forest and land management, and biodiversity conservation and sustainable use, to deliver GEBs as detailed below:

- The information to be collected and monitored through the new tools (protocols and methodologies) will provide an understanding of the integrity and stability of the forest ecosystems hence allowing to know aspects currently not evaluated or quantified, such as detailed coverage per type of use, changes in uses, forest types, deforested areas, degraded areas, carbon and biodiversity data. This will enable the use of this information to develop strategies within the new forest management context of eco-social approach.
- Improvement of capacities and methodologies to monitor forest deforestation and degradation, and changes in land use and its impacts on carbon stocks and habitat conditions for biodiversity, covering 4,465,909 ha of forests in the IFR, arid and semi-arid forests, and mangroves.
- The establishment of the SINIB will help decision makers and planners to perceive the value of forests as a whole, hence improving their understanding of the need to improve current policy and legal instruments as well as the need for new policies and instruments.
- SFM programs will have access to improved information to implement actions in LULUCF and REDD, and delivering local and global environmental benefits, including the conservation of habitats for endemic forest species and carbon hotspots.
- Measures for conservation of forest biodiversity will be mainstreamed in the IFR's Unit V management plan, covering 167,320 ha.
- Stakeholder participation (community and national and local governments) in sustainable forest management through new participatory management tools covering 167,320 ha will result in: a) Stabilized populations of algarrobo (*Hymenaea courbaril*), puy (*Tabebuia serratifolia*), zapatero (*Peltogyne pubescens*) and mureillo (*Erisma uncinatum*) in Unit V, monitored through autoecology, abundance and diametric distribution of the species; b) Direct avoided emissions: 1,136,759 tCO_{2eq} in 5 years in 25,000 ha (227,351 tCO_{2eq}/year for 5,000 ha/year) and indirect avoided emissions: 18,188,149 tCO_{2eq} in 5 years (3,637,629 CO_{2eq}/year in 80,000 ha)²⁹; and c) land degradation processes reduced in 1,440 ha.
- A national program for environmental and social sustainability standards for productions of wood and non-wood products piloted in 15,000 ha of Unit V.

²⁹ See further details on estimates in Appendix 9.

- Restoration and regeneration of 1,440 ha of forests through SFM / SLM strategies (reforestation, agroforestry systems, analog forestry) based on an ecosystem approach, prioritizing forest multi-functionality and resulting in: a) Stabilized populations of algarrobo (*Hymenaea courbaril*), puy (*Tabebuia serratifolia*), zapatero (*Peltogyne pubescens*) and mureillo (*Erismia uncinatum*) through reforestation and analog forestry, and monitored through autoecology, abundance and diametric distribution of species; b) sequestration of 135.000 tCO_{2eq}³⁰ and c) 50% reduction in the rate of degraded areas (420 ha) compared to the baseline.
- In the mid and long term the SINIB will contribute to improve the information on the forest ecosystems at national level (48.3 million ha).

The Project will contribute to the following Aichi targets:

Aichi Biodiversity Target	Related Project Outcomes	Project Indicators
Component 1: Integrated National Forest Information System (SINIB)		
Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	Outcome 1.1 Improved capacity for national forest monitoring and evaluation within the framework of the National Forest Inventory (NFI)	4,465,909 ha of forest ecosystems monitored and evaluated through protocols facilitating collection and analysis of high quality data, including generation of biodiversity thematic maps, assessment of GHG flows and stocks, identification of carbon hotspots and development of national MRV standards.
Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems	Outcome 1.2 Knowledge and valuation of forest related biodiversity and carbon hotspots integrated in an improved forest management at local forest management unit scale as a strategy to mainstream measures for forest biodiversity conservation in forest management plans	The POMF of Unit V of the IFR mainstreams data and information on forest coverage, land use changes, deforestation, degraded areas, carbon stocks and measures for conservation of forest biodiversity covering an area of 167,320 ha.
Component 2: Building of capacities and innovative tools for SFM		
Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity	Outcome 2.1 Community stakeholders and national and local governments involved in sustainable forest management through new participatory management tools, covering at least 167.320 ha of forests of the IFR Unit V.	a) Stabilized populations of algarrobo (<i>Hymenaea courbaril</i>), yellow trumpet tree (<i>Handroanthus serratifolius</i> , <i>H. impetiginosus</i>), zapatero (<i>Peltogyne floribunda</i>) and mureillo (<i>Erismia uncinatum</i>) within Unit V monitored through: i) study on autoecology; ii) abundance and iii) diametric distribution of species (target tbd in year 1) b) Direct avoided emissions: 1,136,759 tCO _{2eq} in 5 years in 25,000 ha (227,351 tCO _{2eq} /year for 5,000 ha/year) Indirect avoided emissions: 18,188,149 tCO _{2eq} in 5 years (3,637,629 CO _{2eq} /year in 80,000 ha)
Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or	Outcome 2.2 Development and initial implementation of a National Program for environmental and social sustainability standards	One (1) National Program for environmental and social sustainability standards for production of wood and non-wood forest products designed and implemented in Unit V covering 15.000

³⁰ See further details on estimates in Appendix 9

Aichi Biodiversity Target	Related Project Outcomes	Project Indicators
avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	for production of wood and non-wood products Outcome 2.3 Inter-sectoral dialogue on SFM strengthened.	ha. One (1) inter-institutional coordination and consultation platform for forest governance in Venezuela operating and effectively fulfilling its functions as per its work plan, and promoting the use of the SINIB
Component 3: Forest restoration, conservation, and SFM/SLM in areas under forest and soil degradation processes		
Target 14 - By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	Outcome 3.1 Technical and institutional capacities for restoration of forest and forest lands applying SFM/SLM practices strengthened.	a) National manuals for restoration of tropical humid forests and forestlands elaborated, validated and disseminated. b) At least 200 representatives of government institutions, NGO, grassroots organizations and communities trained in SFM/SLM (at least 40% are women)
Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	Outcome 3.2 Restoration and regeneration 1,440 ha of forests through SFM/SLM strategies under an ecosystem approach prioritizing the multi-functionality of forests	a) Populations of <i>algarrobo</i> (<i>Hymenaea courbaril</i>), yellow trumpet tree (<i>Handroanthus serratifolius</i> , <i>H. impetiginosus</i>), <i>zapatero</i> (<i>Peltogyne floribunda</i>) and <i>mureillo</i> (<i>Erisma uncinatum</i>) stabilized through reforestation, analogue forestry and agroforestry and monitored through structure, floristic and soil composition. b) 512,985 tCO _{2eq} ³¹ sequestered in 1,440 ha through: i) reforestation (748 ha): 262,348 Ton./ha CO _{2eq} ii) analogue forestry (342 ha): 122,976 Ton./ha CO _{2eq} and iii) agroforestry (350 ha): 127,660 Ton./ha CO _{2eq} c) Land degradation processes reduced in 1,440 ha through reforestation, analog forestry and agroforestry: 50% reduction in the degraded surface area (420 ha) compared to the baseline

2.6 COST EFFECTIVENESS

The three Project components have been designed to collectively confront the threats to the GEBs provided by the forest ecosystems of the IFR and to remove the identified threats, for which the following cost-effective strategies and methodologies have been identified and will be implemented within the framework of the Project:

- Development of institutional arrangements to optimize coordination, collaboration, support and participation of institutional and community stakeholders involved in forest ecosystem monitoring and SFM / SLM.

³¹ See further details on estimations in Appendix 9

- Development of a set of cost-effective protocols for data collection and analysis, and construction of forest ecosystem monitoring indicators, as well as innovative tools to implement in practice the new vision on forest land use planning and SFM based on an eco-social approach.
- Harmonization of existing data models and information systems through establishing an integrated information management system that includes user-friendly tools (e.g. webmapping) and products (e.g. thematic maps) that will improve information and facilitate its access and use by different user groups.
- Capacity development of managerial and technical government personnel to improve and/or update their knowledge in participatory tools for forest management as well as innovative SFM / SLM tools.
- Training and awareness raising of community stakeholders to promote an attitudinal shift toward sustainable management of forests, soil and water, and adoption of appropriate technologies.
- Stakeholder participation (government institutions and community organizations) in all stages of Project implementation will ensure that the decision-making mechanisms and implementation of activities is aligned with the project's objectives and development priorities.
- Promotion of appropriate technologies for forest and land restoration (reforestation, analog forestry, agroforestry) will generate lessons and experiences on generation of GEBs (habitats for forest biodiversity, carbon stocks and soil and water conservation) that will be replicable to other areas of the IFR and at national level.
- The development of an investment fund for SFM / SLM practices, commercialization of non-wood products and implementation of environmental and social SFM standards will ensure long term financing for conservation, restoration and application of SFM / SLM in forests and soils under degradation processes.
- Systematization of experiences and lessons learned will contribute to a cost-effective replication of project results at national level.

2.7 INNOVATIVENESS

This proposal is innovative in the SFM context in Venezuela in its eco-social model and will generate the experiences and lessons necessary for an adequate implementation of this new vision within the framework of the Forest Law and the Forest Policy, which seek the social recognition of the multi-purpose value of the forests, not only in terms of wood and non-wood products but mainly in terms of recognizing the ecosystem services provided (carbon sequestration, biodiversity conservation, water regulation and quality, and soil conservation). The project is also innovative in emphasizing community involvement and equitable sharing of benefits from the forest ecosystem services.

The tools to be developed by the project for data gathering, processing and analysis, together with the participatory forest ecosystem monitoring will allow to generate knowledge on aspects that have not yet been evaluated or quantified (e.g. detailed

coverage per use, changes in uses, forest types, deforested areas, degraded areas, carbon stocks and biodiversity). The establishment of an integrated information management system will improve the quality and coherence of the information on the forest ecosystems of Venezuela and its use for the development of SFM strategies.

The project will support the livelihoods of indigenous and non-indigenous communities through SFM, agroforestry, reforestation and analogue forestry, and wood and non-wood products' value chains thus improving incomes and developing economic alternatives to slash and burn agriculture and mining.

This will provide a diversity of examples and lessons to support upscaling of the experiences to all the regions of the country. In this manner, decision makers and other relevant stakeholders at national, regional and local levels will be capable of developing adequate policies and regulations as well as taking decisions and corrective measures to confront forest deforestation and degradation, loss of carbon stocks and habitats for globally significant biodiversity.

The project's results will serve to inform and share experiences with future programs, projects and initiatives at national and local level in regards to integrated management of natural resources and biodiversity conservation.

SECTION 3 – FEASIBILITY (FUNDAMENTAL DIMENSIONS FOR HIGH QUALITY DELIVERY)

3.1 ENVIRONMENTAL IMPACT ASSESSMENT

Following FAO's *Environmental Impact Assessment (EIA): Guidelines for FAO Field Projects*³², the proposed Project is classified under category B³³. The corresponding Environmental and Social Review Form³⁴ is attached in Appendix 8.

3.2 RISK MANAGEMENT

Project risks have been identified and analysed during the full project preparation and mitigation measures have been incorporated into the project design (see Risk Matrix in Appendix 4). With the support from and under the supervision of FAO, the Project Management Unit (PMU) will be responsible for the day-to-day management of these risks and the effective implementation of mitigation measures. The project's M&E system will serve to monitor project outcomes and outputs indicators, project risks and mitigation measures. The PMC will also be responsible for monitoring the effectiveness of mitigation measures and adjusting mitigation strategies as needed, and identify and manage any eventual new risks not foreseen during project development, in dialogue with other project partners.

The six-monthly Project Progress Report (see section 4.5.3) is the main tool for project risk monitoring and management. The reports include a section on systematic follow-up of risks and mitigation actions identified in previous reporting periods. The PPRs also include a section for identification of eventual new risks or risks that still need attention, their rating and mitigation actions, as well as the responsible for monitoring those actions and the expected timeline. FAO will monitor the project risk

³² See <http://www.fao.org/docrep/016/i2802e/i2802e.pdf>

³³ Category B projects should not entail significant (or potentially irreversible) negative environmental (and associated social) impacts, but may still have adverse effects which can be mitigated with suitable preventive actions. An indicative list of projects that would normally be assigned to Category B includes: i) Agro-industry projects of small and medium scale; ii) Water impoundment, irrigation and drainage schemes of small scale; iii) Small and medium-scale agricultural and animal husbandry production schemes which involve the use of "exogenous" technology and/or inputs (i.e. cultivation or animal husbandry techniques, agricultural or post-harvest machinery, disease and pest control, seeds, fertilizer, and tools that are not commonly used/traded in the project area); iv) Watershed management or rehabilitation, river basin management planning, international water management, and agreements for medium-size projects; v) Range and pasture management and livestock management, including waste control and livestock health aspects; vi) Small and medium-size aquaculture, including small and medium-scale industrial and artisanal fisheries; vii) Limited bioenergy projects; viii) Climate change adaptation projects; ix) Small and medium-size plantations for bioenergy or pulp or other agricultural use; x) Reforestation/afforestation; xi) Forest industry development including industrial and community uses; xii) Introduction of genetically modified organisms; xiii) Small and medium-size road construction, maintenance and rehabilitation; xiv) Significant changes in plant and animal gene pool; xv) Land use changes affecting biodiversity; xvi) Projects that may have potentially minor adverse impacts on physical cultural resources

³⁴ Ranking under Category B is to be certified by the FAO Lead Technical Officer (LTO) who can proceed to final design and implementation phases. The FAO LTO should carefully fill-in the FAO Environmental and Social Review Form – attached in Appendix 8.

management closely and follow up if needed by providing support for the adjustment and implementation of risk mitigation strategies. Reporting on risk monitoring and rating will also be part of the annual Project Implementation Review (PIR) prepared by FAO and submitted to the GEF Secretariat (see section 4.5.3).

3.2.1 Risks and mitigation measures

The table in Appendix 4 summarises the risks identified and analysed during the full project preparation, its probability of occurrence and proposed mitigation measures.

3.2.2 Fiduciary risk analysis and mitigation measures (only for NEX projects)

N/A

SECTION 4 – IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

4.1 INSTITUTIONAL ARRANGEMENTS

The main institutions involved in the project are: the Ministry of Popular Power for Eco-socialism and Water (MPPEA) and its ascribed entities the National Forest Company (ENF), National Reforestation Company (CONARE), Latin American Forest Institute (IFLA), the MPPEA's Tree Mission and FAO as the GEF Implementing Agency.

FAO will be the GEF Implementing Agency, and Project Executing Agency (see description in Section 4.2)

The MPPEA will be the project executing partner and will be responsible for project implementation as well as coordination and collaboration with the regional and local governments, local community organizations and other participating institutions. The MPPEA is the national environmental authority and is responsible for formulating and implementing the forest policy through environmental planning and land use planning instruments; it rules over forest ecosystem management and conservation, the recognition of the multiple forest uses and functions and their valuation as an important part of the national economy.

FAO, MPPEA and other participating institutions will collaborate with the GEF implementing agencies of other GEF-supported programs and projects to identify and facilitate synergies, as well as with other agencies that support projects financed by other donors. Collaboration will be undertaken through: (i) informal communications; and (ii) exchange of information. In order to guarantee an effective coordination and collaboration between different initiatives, specific coordination responsibilities have been assigned to the Project Management Unit (see below) and included in the terms of reference of the Project Technical Coordinator, which results shall be explicitly reflected in the Project Progress Reports (PPRs).

The project will coordinate actions with the following GEF projects, among others:

- 1) Project “Social Integral Development and its Interrelation with Climate Change in Watersheds in Lara and Falcon States (Venezuela)” (#3963) implemented by IFAD. The Project seeks sustainable and climate-smart rural development in the Lara and Falcon States through increasing the potential of carbon stocks and emissions reductions, while at the same time promoting sustainable production alternatives that are best suited to climate change and will help reduce poverty. This Project could contribute in promoting intervention models and instruments developed by the FAO-GEF Project in Forest Reserves located within its intervention areas.
- 2) Project “Strengthening the Financial Sustainability and Operational Effectiveness of the Venezuelan National Parks System” (#3609) implemented by UNDP. The objective of this Project is to develop the capacities and mechanisms to increase and diversify financing for the National Parks System in order to ensure efficient use of resources and promote local community participation in protected area management. The lessons learned by this Project in terms of protected area management could be useful to the FAO-GEF Project. In addition, synergies

could be established to strengthen the value chains and markets for non-wood products.

4.2 IMPLEMENTATION ARRANGEMENTS

The Government of Venezuela will be responsible for project execution in close collaboration with FAO as GEF Implementing Agency, under the direct execution modality (DEX), which will allow signing Letters of Agreement between FAO and the Government.

The project will be technically executed by the MPPEA with the participation of the ENF, CONARE, IFLA and Tree Mission. A **Project Steering Committee (PSC)** will be set up upon project start-up to provide oversight of and coordinate the planning of project implementation, and will comprise the Forests General Directorate (DGB) through the Project National Director (PND) designated on behalf of the MPPEA, MPPEA's Office for Management and International Cooperation, CONARE, IFLA, ENF, Tree Mission, the Ministry of Popular Power for Planning and Knowledge, representatives of the beneficiaries (2) designated in Popular Power Assembly, and FAO, besides other institutions that may be invited to attend the meetings (see 4.2.4).

FAO, under the direct execution modality (DEX) will be the GEF Agency responsible for supervision and provision of technical guidance during project implementation. In addition, FAO will act as financial and operational Executing Agency, and will be responsible for the financial and operational execution of the project. FAO will deliver procurement and contracting services to the project using FAO rules and procedures, as well as financial services to manage GEF resources.

The MPPEA will designate a **National Project Director (NPD)**. The NPD will be the Director of the Forests General Directorate (DGB) and will be responsible for supervising and guiding on the policies and priorities in which the project is framed; as well as coordinating the activities with all the bodies related to the different project components, as well as with the project partners. He/she will be also responsible for requesting FAO the timely disbursement of GEF resources that will allow the execution of project activities, in strict accordance with the Project Results-Based Budget and the approved AWP/B for the current project year.

A GEF-financed **Project Management Unit (PMU)** comprising a **Project Team (PT)** will be established. The main responsibility of the PT, under the supervision of the NPD is to ensure coordination and execution of the project through the rigorous and effective implementation of the AWP/B. In this context, a Project Technical Coordinator will be designated, who will be under the supervision and guidance of the NPD.

Under the supervision of the NPD, the **Project Technical Coordinator (PTC)** will lead the PT and will be in charge of project daily management and technical supervision including: i) coordinate and closely supervise the implementation of project activities; ii) day-to-day project management; iii) coordination with related initiatives; iv) ensuring collaboration between the participating national, state and local institutions and organizations; v) follow-up on project progress and ensure the timely delivery of inputs and outputs; vi) implement and manage the project M&E plan; vi) organize annual project workshops and meetings to monitor project progress and will prepare the Annual Work Plans and Budgets (AWP/B); vii) prepare the

Project Progress Reports (PPRs) together with the AWP/B to the PSC and FAO; viii) act as secretary to the PSC; ix) supporting the preparation of Project Implementation Reports (PIRs), mid-term and final evaluations.

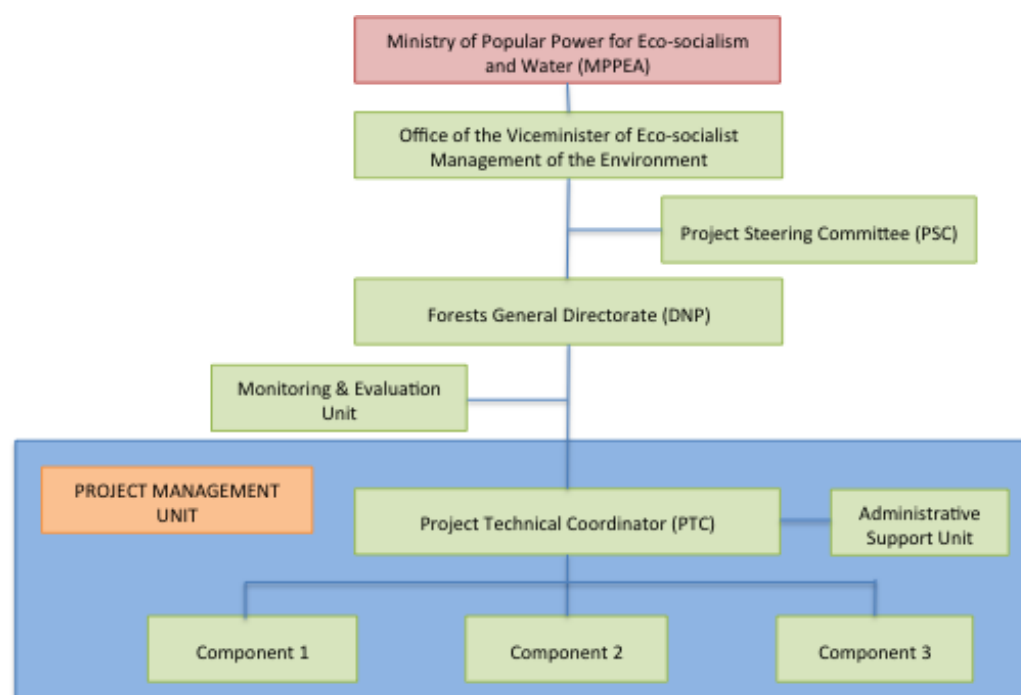
Moreover, following FAO rules and regulations and in accordance with the Project Document and the AWP/Bs, the PTC will assist the NPD in the identification of targeted expenditures and disbursements that should be requested to FAO for timely project execution. The PTC will supervise the work of, provide technical backstopping, and assess the reports and outputs produced by project national consultants (financed by GEF funds).

The PT will also be comprised by: i) **Technical Assistants** responsible for coordinating and leading the implementation of the activities foreseen under the project's three technical components; ii) an **Administrative Assistant** responsible for supporting the PTC in all aspects related to administrative and financial management; and iii) a **Secretary** who will provide secretarial support to the members of the PMU.

The **National Budget and Operations Officer** will be responsible for the day-to-day financial management and operation of the project including raising contracts and procure other needed inputs in accordance with the approved budget and annual work plans. The Budget and Operations Officer will work in close consultation with the NPD, PTC, Budget Holder (BH, see below), Lead Technical Officer (LTO, see below) and project executing partners, particularly with the FAO Representation in Venezuela (FAOVE), and will take the operational responsibility for timely delivery of needed inputs to produce project outputs³⁵.

Figure 4.1 below illustrates the institutional arrangements for project implementation

Figure 4.1: Institutional Arrangements for Project Implementation



³⁵ Detailed TORs in Appendix 6

Co-financed government staff

The following government staff will be assigned to the Project:

- National Project Director (NPD).

4.2.1 Roles and responsibilities of the GEF agency

As the GEF Agency FAO will supervise and provide technical guidance for the overall implementation process. Administration of the GEF grants will be in compliance with the rules and procedures of FAO, and in accordance with the agreement between FAO and the GEF Trustee. As the GEF agency for the project, FAO will:

- Administrate funds from GEF in accordance with the rules and procedures of FAO;
- Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers and the rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned;
- Carry out at least one supervision mission per year;
- Report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, on project progress and provide financial reports to the GEF Trustee.

Based on a request from the MPPEA, FAO will also be the financial and operational executer of the GEF resources including financial management, procurement of goods and contracting of services following FAO rules and procedures. As the financial executer, FAO will provide six-monthly financial reports including a statement of project expenditures to the NPD and the PSC.

In accordance with the present project document, progress in the financial execution of the project, and the Annual Work Plan and Budget approved by the PSC, FAO will prepare budget revisions to maintain the budget current in the financial management system of FAO. The budget revisions will be provided to the NPD and the PSC to facilitate project planning and execution. FAO will, in collaboration with EP, participate in the planning and execution of contracting and procurement processes.

The FAO Representative in Venezuela will be **the Budget Holder (BH)** and responsible for the management of the GEF resources. As a first step in project start-up, the FAO Representation in Venezuela will establish an interdisciplinary Project Task Force (PTF) within FAO to guide the implementation of the project. In consultation with the LTO (see below) the FAO Representative will be responsible for timely operational, administrative and financial management of the GEF project resources, including in particular: (1) contracting and procurement processes based on the request from NPD and in accordance with the approved Annual Work Plan and Budget; (2) process the payments corresponding to delivery of goods, services and technical products based on the prior clearance of the same by the NPD; (3) provide six-monthly financial reports including a statement of project expenditures to the

NPD and the PSC; and (4) at least one time per year or more frequent if required, prepare Budget Revisions for submission to TCI/GEF Coordination Unit for approval, making sure the budget in the FAO system is updated.

The FAO Representative will in consultation with the LTU and the FAO-GEF Coordination Unit give no-objection to the AWP/B submitted by the NPD as well as to the Project Progress reports, which should be approved by the LTO before they are submitted to the FAO-GEF Coordination Unit for final approval and upload in FPMIS.

The **FAO Lead Technical Unit (LTU)** will be the Forestry Department. The LTU will designate a Lead Technical Officer (LTO) for the project, with experience in sustainable forest management and integrated landscape management and will provide guidance.

Under the general technical oversight of the LTU, the **Lead Technical Officer (LTO)** will provide technical guidance to the project team to ensure delivery of quality technical outputs. The LTO will coordinate the provision of appropriate technical backstopping from all the concerned FAO units represented in the Project Task Force responding to requests from the NPD and the PSC. The Project Task Force is thus composed of technical officers from the participating FAO units and of operational officers and is chaired by the BH. The LTO, supported by the LTU when needed, will be responsible for:

- Review and give no-objection to TORs for consultancies and contracts to be performed under the project, and to CVs and technical proposals short-listed by the PSC for key project positions, goods, minor works, and services to be financed by GEF resources;
- With the previous clearance of the NPD, review and clear final technical products delivered by consultants and contract holders financed by GEF resources before the final payment can be processed by the FAO Representation in Venezuela;
- Review and approve project progress reports submitted by the PTC, in coordination with the BH;
- Support the FAO Representative in reviewing, revising and giving no-objection to AWP/B submitted by the PTC for approval by the Project Steering Committee;
- Prepare the annual Project Implementation Review report, with inputs from the NPD and supported by the PTC and the PT, which will be presented to the BH and the FAO-GEF Coordination Unit for approval, finalization and submittal to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The LTO must ensure that the NPD has provided information on co-financing provided during the course of the year for inclusion in the PIR;
- Undertake field annual (or as needed) supervision missions;
- Review the TORs for the mid-term evaluation, participate in the evaluation mission including the mid-term workshop with all key project stakeholders,

development of an eventual agreed adjustment plan in project execution approach, and supervise its implementation.

- Review the TORs for the final evaluation; participate in the mission including the final workshop with all key project stakeholders, development and follow-up to recommendations on how to insure sustainability of project outputs and results after the end of the project.

The **FAO-GEF Coordination Unit** will review and approve Project Progress Reports, project reviews, financial reports, and budget revisions based on the AWP/B. This FAO GEF Coordination Unit will review and clear the annual PIR and undertake supervision missions if considered necessary. The PIRs will be included in the FAO GEF Annual Monitoring Review submitted to GEF by the FAO GEF Coordination Unit. The FAO GEF Coordination Unit will also participate in the mid-term and final evaluations and the development of corrective actions in the project implementation strategy in the case needed to mitigate eventual risks affecting the timely and effective implementation of the project. The FAO GEF Coordination Unit will in collaboration with the FAO Finance Division request transfer of project funds from the GEF Trustee based on six-monthly projections of funds needed.

The **FAO Finance Division** will provide annual Financial Reports to the GEF Trustee and, in collaboration with the FAO-GEF Coordination Unit, request project funds on a six-monthly basis to the GEF Trustee.

4.2.2 Project decision-making mechanisms

The **Project Steering Committee (PSC)**, following the policy guidelines of the national government, will take decisions on the overall project management and will be in charge of ensuring the project strategic approach together with the NPD, for the operational tasks.

The PSC will be comprised by the: Forests General Directorate (DGB), through the National Project Director (NDP) designated on behalf of the MPPEA, who will chair the PSC; the MPPEA's Office for International Cooperation and Management, CONARE, ENF, IFLA, Tree Mission, representatives of the beneficiaries (2) designated in Popular Power Assembly, the Ministry of Popular Power for Planning and Knowledge and FAO as GEF Implementing Agency.

Additionally, the following institutions may be invited to attend the PSC meetings as necessary: Ministry of Popular Power for Finance (MPPF); Directorate General for Environmental Planning (DGPOA); Biological Diversity National Office (ONDB); Simon Bolivar Geographical Institute of Venezuela (IGVSB); Botanical Institute of Venezuela Foundation (FIBV); Ministry of Popular Power for Defence (MD); Ministry of Popular Power for Foreign Affairs and other national institutions relevant to the project.

The PSC will meet minimally twice a year and its responsibilities will include: (i) guidance and orientation to the NDP and PT, as may be needed, on specific actions for project implementation, as well as ensuring political viability, advice, inter-institutional coordination, consultation and planning to support project implementation; (ii) promote integration of the project in the Forest Policy of Venezuela to ensure its sustainability; iii) overall oversight of project progress and

achievement of planned results as per the project document; (iv) facilitate cooperation between the project participating partners and project support at the local level; (v) advise the NPD on other on-going and planned activities facilitating collaboration between the Project and other programs, projects and initiatives; (vi) facilitate that co-financing is provided in a timely and effective manner; and (vii) review and approve the six-monthly Project Progress Reports and the AWP/B.

4.3 FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is USD 33,979,316; of which USD 8,249,316 will be financed by the GEF grant, and USD 27,730,000 will be cofinanced by MPPEA, ENF, CONARE, IFLA, Tree Mission and FAO.

Table 4.2 includes the cost by component, output and co-financier and Table 4.3 includes the sources and types of confirmed co-financing. FAO as GEF implementing agency will be responsible for the execution of the GEF resources and FAO co-financing.

4.3.1 Financial plan (by component, outputs and co-financier)

Table 4.2. Project costs by component, outputs and co-financier

Component/output	MPPEA	ENF	CONARE	Tree Mission	IFLA	FAO	Total Co-financing	% Co-financing	GEF	% GEF	Total
Component 1: Integrated National Forest Information System (SINIB)	800.000	3.110.000	-	-	-	30.000	3.940.000	65%	2,203,668	35%	6.096.781
O.1.1.1: National Forest Information System (SINIB)	220.000	310.000	-	-	-	30.000	560.000	62%	337.339	38%	897.339
O.1.1.2: Geo-spatial information and multi-temporal analysis protocols	100.000	300.000	-	-	-	-	400.000	74%	137.039	26%	537.039
O.1.1.3: Socio-economic information collection protocol	70.000	280.000	-	-	-	-	350.000	74%	123.833	26%	473.833
O.1.1.4 Study on GHG stocks and fluxes / MRV standards	120.000	500.000	-	-	-	-	620.000	57%	469.770	43%	1.089.770
O.1.1.5: Biodiversity thematic maps	80.000	180.000	-	-	-	-	260.000	66%	136.420	34%	396.420
O.1.1.6: Participatory mechanism for forest monitoring	80.000	1.000.000	-	-	-	-	1.080.000	62%	670.520	38%	1.750.520
O.1.2.1: Forest species' list	60.000	300.000	-	-	-	-	360.000	78%	99.120	22%	459.120
O.1.2.2: Guidelines for zoning management units	40.000	120.000	-	-	-	-	160.000	61%	100.620	39%	260.620
O.1.2.3: Database on biodiversity goods and products	30.000	120.000	-	-	-	-	150.000	65%	82.120	35%	232.120
Component 2: Building of capacities and innovative tools for SFM	1.024.530	4.629.332	-	-	-	70.000	5.723.862	85%	1,036,101	15%	6.747.633
O.2.1.1: Human resources strengthening program	57.793	185.173	-	-	-	35.000	277.966	62%	168.781	38%	446.747
O.2.1.2: Forest operational plans based on SINIB information	-	324.053	-	-	-	-	324.053	76%	100.281	24%	424.334
O.2.1.3: Pilot co-management scheme	15.762	92.587	-	-	-	-	108.349	51%	105.781	49%	214.130
O.2.2.1: SFM environmental and social sustainability criteria and indicators	525.400	1.666.560	-	-	-	-	2.191.960	90%	247.982	10%	2.439.942
O.2.2.2: Participatory monitoring mechanism of managed forests	394.051	1.249.919	-	-	-	-	1.643.970	91%	162.282	9%	1.806.252

Component/output	MPPEA	ENF	CONARE	Tree Mission	IFLA	FAO	Total Co-financing	% Co-financing	GEF	% GEF	Total
O.2.3.1: Training and local knowledge exchange dialogues	15.762	185.173	-	-	-	35.000	235.935	58%	174.382	42%	410.317
O.2.3.2: Inter-institutional coordination and consultation agreements	15.762	925.867	-	-	-	-	941.629	94%	64.282	6%	1.005.911
Component 3: Forest restoration, conservation, and SFM/SLM in areas under forest and soil degradation processes	425.470	781.830	8.000.000	2.986.600	990.000	100.000	13.283.900	76%	4,178,748	24%	17.449.748
O.3.1.1: Standards and indicators to prioritize areas for restoration	-	-	-	37.100	-	-	37.100	17%	177.103	83%	214.203
O.3.1.2: Strategy for restoration, rehabilitation and recovery of forest cover	17.200	-	7.100	-	-	35.000	59.300	53%	52.403	47%	111.703
O.3.1.3: National network of forest seed providers	6.300	-	-	-	-	30.000	36.300	14%	231.283	86%	267.583
O.3.2.1: On the ground forest restoration model	-	-	7.992.900	2.949.500	-	-	10.942.400	80%	2.794.843	20%	13.737.243
O.3.2.2: Experiences and lessons in commercialization of non-wood products	180.000	-	-	-	207.570	-	387.570	70%	166.804	30%	554.374
O.3.2.3: Market and value chain analysis of wood products	-	269.400	-	-	270.000	-	539.400	72%	207.304	28%	746.704
O.3.2.4: Community plans for commercialization of forest products	-	512.430	-	-	512.430	35.000	1.059.860	75%	354.404	25%	1.414.264
O.3.2.5: Financing schemes	221.970	-	-	-	-	-	221.970	55%	181.704	45%	403.674
Component 4: Project M&E and dissemination of information	-	728.838	-	13.400	510.000	-	1.252.238		435.974	26%	1.688.212
O.4.1.1: Project M&E System	-	389.418	-	4.467	170.000	-	563.885	63%	337.674	37%	901.559
O.4.1.2: Mid-term and final evaluations	-	169.710	-	4.467	170.000	-	344.177	79%	90.300	21%	434.477
O.4.1.3: Best practices and lessons learned	-	169.710	-	4.466	170.000	-	344.176	98%	8.000	2%	352.176
Project Management	750.000	750.000	-	-	-	30.000	1.530.000	77%	392,825	23%	1.996.942
Project Total	3.000.000	10.000.000	8.000.000	3.000.000	1.500.000	230.000	25.730.000	76%	8.249.316	24%	33.979.316

Table 4.3. Confirmed sources of co-financing

Sources of Co-financing	Name of Co-financier (source)	Type of Co-financing	Co-financing Amount (\$)
National government	MPPEA	In-kind	3,000,000
National government	ENF	In-kind	10,000,000
National government	CONARE	In-kind	8,000,000
National government	Tree Mission	In-kind	3,000,000
National government	IFLA	In-kind	1,500,000
GEF Agency	FAO	Grant	200,000
GEF Agency	FAO	In-kind	30,000
Total Co-financing			25.730.000

4.3.2 GEF inputs

The requested GEF grant will be allocated mainly in support of institutional and stakeholder capacity building to implement the Integrated Forest Information System for national forest ecosystem monitoring and evaluation complementing the NFI with geo-spatial and socio-economic information, and developing tools to monitor carbon stocks and GHG emissions, and forest associated biodiversity, involving the local communities and stakeholders in participatory monitoring of the forest cover.

Moreover, GEF resources will be allocated to strengthening operational and technical capacities to implement the forest planning and land use instruments and SFM with a high level of participation by community stakeholders and national and state governments. The project will support the development of forest land use planning and operational plans for community SFM that mainstream GEBs; it will promote the development of environmental and social sustainability standards for SFM that incorporate criteria and indicators to deliver GEBs, such as REDD monitored by an MRV system, conservation of biodiversity and forest ecosystem services, and conservation of forest cover in areas sensitive to land degradation processes.

GEF resources will be also used to promote investments in forest restoration and rehabilitation in areas where there is greater potential to delivering GEBs, based on the information generated by the SINIB and in close coordination with local governments and communities, applying an ecosystem approach and prioritizing forest multi-functionality. GEF resources will also serve to leverage similar investments through cofinancing.

4.3.3 Government inputs

MPPEA, ENF, CONARE, IFLA and Tree Mission will provide cash and in-kind contributions. These contributions refer to actions that each institution implements within the framework of their respective plans, programs and projects. Cofinancing under Component 1 comprises professional and operational technical personnel (current and to be hired) for data processing, implementation of protocols, information gathering in the field and work with communities; existing and new equipment; procurement of medium to high resolution satellite images for monitoring.

Cofinancing under Component 2 includes personnel who will participate in the development of community training plans, undertaking participatory diagnoses; development of the forest co-management scheme and forest operational plans; implementing workshops; logistical support to organize meetings with stakeholders to develop agreements and their contents, including the development of an action plan with activities and targets to strengthen inter-institutional coordination.

Under Component 3 cofinancing will address gathering of data and statistical analysis of information on wood and non-wood forest products; undertaking workshops and meetings to reach agreements for the establishment of the investment funds for SFM / SLM, non-wood products commercialization and implementation of SFM standards; and restoration of 1,560 ha of forests through agroforestry, analogue forestry and reforestation.

4.3.4 FAO inputs

FAO will provide technical assistance, support, training and supervision of the implementation of the activities financed with GEF resources. The GEF project will be cofinanced through logistical support in organizing activities and studies (Component 1); training and/or technical assistance (Component 2); logistical support, studies, technical assistance (Component 3); and staff time of the FAO Representation in Venezuela for project follow-up (Project Management).

4.3.5 Other co-financiers inputs

N/A

4.3.6 Financial management of and reporting on GEF resources

Financial management and reporting in relation to the GEF resources will be carried out in accordance with FAO's rules and procedures, and in accordance with the agreement between FAO and the GEF Trustee. On the basis of the activities foreseen in the budget and the project, FAO will undertake all operations for disbursements, procurement and contracting for the total amount of GEF resources, as per the request of the NPD.

Financial Records. FAO shall maintain a separate account in United States dollars for the Project's GEF resources showing all income and expenditures. Expenditures incurred in a currency other than United States dollars shall be converted into United States dollars at the United Nations operational rate of exchange on the date of the transaction. FAO shall administer the Project in accordance with its regulations, rules and directives.

Financial Reports. The BH shall prepare six-monthly project expenditure accounts and final accounts for the project, showing amount budgeted for the year, amount expended since the beginning of the year, and separately, the un-liquidated obligations as follows:

1. Details of project expenditures on a component-by-component and output-by-output basis, reported in line with project budget codes as set out in the Project document, as at 30 June and 31 December each year.
2. Final accounts on completion of the Project on a component-by-component and output-by-output basis, reported in line with project budget codes as set out in the Project document.
3. A final statement of account in line with FAO Oracle Project budget codes, reflecting actual final expenditures under the Project, when all obligations have been liquidated.

Financial Statements, Within 30 working days of the end of each semester, i.e. on or before 31 July and 31 January, the FAO Representation in Venezuela shall submit six-monthly statements of expenditure of GEF resources to the Project Steering Committee, which will be included in the PPRs. The purpose of the financial statement is to list the expenditures incurred on the project on a six monthly basis compared to the budget, so as to monitor project progress and to reconcile outstanding advances during the six-month period. The financial statement shall contain information that will serve as the basis for a periodic revision of the budget.

The BH will submit the above financial reports for review and monitoring by the LTO and the FAO GEF Coordination Unit. Financial reports for submission to the donor (GEF) will be prepared in accordance with the provisions in the GEF Financial Procedures Agreement and submitted by the FAO Finance Division.

Responsibility for cost overruns. The BH shall utilize the GEF project funds in strict compliance with the project document. The BH shall be authorized to make variations not exceeding 20 per cent on any total output budget line or any cost category line of the project budget provided that the total allocated for the specific budgeted project component is not exceeded and the reallocation of funds does not impact the achievement of any project output as per the project Results Framework (Appendix 1). Any variations exceeding 20 per cent on any total output budget line or any cost category line, that may be necessary for the proper and successful implementation of the project, shall be subject to prior consultations with the LTO and the FAO-GEF Coordination Unit. In such a case, a revision to the FAO-GEF budget in FPMIS should be prepared by the BH and approved by the LTO and the FAO-GEF Coordination Unit. Cost overruns shall be the sole responsibility of the BH.

Audit

The Project shall be subject to the internal and external auditing procedures provided for in FAO financial regulations, rules and directives and in keeping with the Financial Procedures Agreement between the GEF Trustee and FAO.

The audit regime at FAO consists of an external audit provided by the Auditor-General (or persons exercising an equivalent function) of a member nation appointed by the Governing Bodies of the Organization and reporting directly to them, and an internal audit function headed by the FAO Inspector-General who reports directly to the Director-General. This function operates as an integral part of the Organization under policies established by senior management, and furthermore has a reporting line to the governing bodies. Both functions are required under the Basic Texts of FAO, which establish a framework for the terms of reference of each. Internal audits of imprest accounts, records, bank reconciliation and asset verification take place at FAO field and liaison offices on a cyclical basis.

4.4 PROCUREMENT

As per the request of the NPD and managed by the PTC, FAO will procure the equipment and services foreseen in the budget (Appendix 3) and the AWP/B, in accordance with FAO rules and procedures.

Careful procurement planning is necessary for securing goods, services and works in a timely manner, on a “Best Value for Money” basis, and in accordance with the Rules and Regulations of FAO. It requires analysis of needs and constraints, including forecast of the reasonable timeframe required to execute the procurement process. Procurement and delivery of inputs in technical cooperation projects follow FAO’s rules and regulations for the procurement of supplies, equipment and services (i.e. Manual Sections 502 and 507). *Manual Section 502*: “Procurement of Goods, Works and Services” establishes the principles and procedures that apply to procurement of all goods, works and services on behalf of the Organization, in all offices and in all locations, with the exception of the procurement actions described in Appendix A – Procurement Not Governed by Manual Section 502. *Manual Section 507* establishes the principles and rules that govern the use of Letters of Agreement (LoA) by FAO for the timely acquisition of services from eligible entities in a transparent and impartial manner, taking into consideration economy and efficiency to achieve an optimum combination of expected whole life costs and benefits (“Best Value for Money”).

As per the guidance in FAO’s Project Cycle Guide, the BH will draw up an annual procurement plan for major items, which will be the basis of requests for procurement actions during implementation. The plan will include a description of the goods, works, or services to be procured, estimated budget and source of funding, schedule of procurement activities and proposed method of procurement. In situations where exact information is not yet available, the procurement plan should at least contain reasonable projections that will be corrected as information becomes available.

Before commencing procurement, the PTC will update the project’s Procurement Plan (Appendix 5) for approval by the NPD. This plan will be reviewed during the inception workshop and will be approved by the FAO Representative in Venezuela. The PTC will update the Plan every six months, request the approval of the NPD and submit the plan to the FAO Representative in Venezuela for approval.

4.5 MONITORING AND REPORTING

Monitoring and evaluation of progress in achieving project results and objectives will be done based on the targets and indicators established in the Project Results Framework (Appendix 1 and described in section 2.3 and 2.4). The project Monitoring and Evaluation Plan has been budgeted at USD 412,800 (see Table 4.4). Monitoring and evaluation activities will follow FAO and GEF monitoring and evaluation policies and guidelines. The monitoring and evaluation system will also facilitate learning and replication of project results and lessons in relation to integrated management of natural resources.

4.5.1 Oversight and monitoring responsibilities

The monitoring and evaluation roles and responsibilities specifically described in the Monitoring and Evaluation Plan (see below) will be undertaken through: (i) day-to-day monitoring and project progress supervision missions (PTC and NPD); (ii) technical monitoring of indicators to measure compliance of outcome and output targets; (iii) mid-term and final evaluations (independent consultants and FAO Evaluation Office); and (iv) monitoring and supervision missions (FAO).

At the initiation of project implementation, the NPD and the PT will set up a project progress monitoring system. Participatory mechanisms and methodologies for systematic data collection and recording will be developed to support outcome and output indicator

monitoring and evaluation. During the inception workshop (see section 4.5.3 below), M&E related tasks to be addressed will include: (i) presentation and clarification (if needed) of the Project Results Framework with all project stakeholders; (ii) review of the M&E indicators and their baseline; (iii) drafting the required clauses to include in consultants' contracts to ensure they complete their M&E reporting functions (if relevant); and (iv) clarification of the respective M&E tasks among the Project different stakeholders. One of the main outputs of the workshop will be a detailed monitoring plan agreed to by all stakeholders based on the monitoring and evaluation plan summary presented in section 4.5.4 below.

The day-to-day monitoring of the Project implementation will be the responsibility of the NPD and the PTC and will be driven by the preparation and implementation of an AWP/B followed up through six-monthly PPRs. The preparation of the AWP/B and six-monthly PPRs will represent the product of a unified planning process between main project stakeholders. As tools for results-based-management (RBM), the AWP/B will identify the actions proposed for the coming project year and provide the necessary details on output targets to be achieved, and the PPRs will report on the monitoring of the implementation of actions and the achievement of output targets. Specific inputs to the AWP/B and the PPRs will be prepared based on participatory planning and progress review with all stakeholders and coordinated through the NPD and facilitated through project planning and progress review workshops. These contributions will be consolidated by the PTC in the AWP/B draft and the PPRs.

An annual project progress review and planning meeting should be held with the participation of the Project Steering Committee to finalize the AWP/B and the PPRs. Once finalized, the AWP/B and the PPRs will be submitted to the Project Steering Committee for approval (AWP/B) and revision (PPR) and to FAO for approval. The AWP/B will be developed in a manner consistent with the Project Results Framework to ensure adequate fulfillment and monitoring of project outputs and outcomes.

Following the approval of the Project, the PY1 AWP/B will be adjusted (either reduced or expanded in time) to synchronize it with the annual reporting calendar. In subsequent years, the AWP/Bs will follow an annual preparation and reporting cycle as specified in section 4.5.3 below.

4.5.2 Indicators and information sources

To monitor project outputs and outcomes including contributions to global environmental benefits, specific indicators have been established in the Project Results Framework (see Appendix 1). The Project Results Framework indicators and means of verification will be applied to monitor both project performance and impact. Following FAO monitoring procedures and progress reporting formats, data collected will be sufficiently detailed that can track specific outputs and outcomes, and flag project risks early on. Output target indicators will be monitored on a six-monthly basis, and outcome target indicators will be monitored on an annual basis, if possible, or as part of the mid-term and final evaluations.

The project output and outcome indicators have been designed to monitor biophysical and socio-economic impacts and progress in building and consolidating capacities.

Capacity building processes indicators will monitor:

Outcome 1.1: surface area of forest ecosystems monitored and evaluated incorporating GEBs.

Outcome 1.2: mainstreaming of biodiversity conservation measures associated with carbon hotspots in forest zoning and management plans.

Outcome 2.2: program for application of environmental and social sustainability standards of SFM.

Outcome 2.3: improved inter-institutional coordination for forest governance.

Outcome 3.1: number of representatives of government institutions, NGO, grassroots organizations and communities trained.

On-the-ground impact indicators will monitor:

Outcome 2.1: stabilization of forest species' populations of global significance and tons of direct and indirect avoided emissions of CO_{2eq}

Outcome 3.2: surface area of restored forest, including stabilization of forest species' populations, tons of sequestered carbon and percentage of reduction of forest degradation rate.

The main information sources to support the M&E plan include: i) MPPEA, ENF, CONARE, IFLA and Tree Mission monitoring systems; ii) participatory workshops with stakeholders and beneficiaries to review project progress; iii) on-the-ground monitoring of good practices for sustainable forest and land management; iv) progress reports prepared by the PTC with inputs from MPPEA, ENF, CONARE, IFLA, Tree Mission, project specialists and other stakeholders; v) consultants' reports; vi) training reports; viii) mid-term review and final evaluation; viii) financial reports and budget revisions; ix) Project Implementation Reviews prepared by the FAO LTO supported by the FAO Representation in Venezuela; and x) FAO supervision mission reports.

4.5.3 Reporting schedule

Specific reports that will be prepared under the monitoring and evaluation program are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) Annual Project Implementation Review (PIR); (v) Technical reports; (vi) Co-financing reports; and (vii) Terminal Report. In addition, assessment of the GEF BD, SFM, CC and LD Tracking Tools (TTs) against the baseline (completed during project preparation) will be required at mid-term and final project evaluation.

Project Inception Report. After FAO approval of the project an inception workshop will be held. Immediately after the workshop, the PTC will prepare a project inception report in consultation the FAO Representation in Venezuela and other project partners. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B, a detailed project monitoring plan based on the monitoring and evaluation plan summary presented in section 4.5.4 below. The draft inception report will be circulated to FAO and the Project Steering Committee for review and comments before its finalization, no later than three months after project start-up. The report will be cleared by the FAO BH, LTU and the FAO GEF Coordination Unit, and uploaded in FPMIS.

Annual Work Plan and Budget (AWP/B). The PTC, under the supervision of the NPD, will submit to the Project Steering Committee a draft AWP/B no later than 10 January of each year. The AWP/B should include detailed activities to be implemented by project outputs and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities

required during the year. The FAO Representation in Venezuela will circulate the draft AWP/B to the FAO interdisciplinary Project Task Force and will consolidate and submit the FAO comments to the PTC, who will incorporate the comments of the Project Steering Committee. The final AWP/B will be sent to the Project Steering Committee for approval and to the FAO for final no-objection and upload in FPMIS by FAO.

Project Progress Reports (PPR). The PTC, under the supervision of the NPD will prepare six-monthly PPRs and submit them to the Project Steering Committee and the FAO Representation in Venezuela no later than July 31 (covering the period January through June) and 31 January (covering the period July through December). The first semester six months report should be accompanied by the updated AWP/B, if needed, for review and no-objection by FAO. The PPR are used to identify constraints, problems or bottlenecks that impede timely implementation and take appropriate remedial action. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework (Appendix 1). Each semester, the FAO Representation in Venezuela will review the PPR, collect and consolidate eventual comments by the FAO (BH, LTO, FAO-GEF Coordination Unit) and provide these comments to the PTC. When comments have been duly incorporated the BH and the LTO will give final approval and upload in FPMIS.

Annual Project Implementation Review (PIR). The LTO supported by the FAO Representation in Venezuela and with inputs from the PTC, will prepare an annual Project Implementation Review covering the period July (the previous year) through June (current year) to be submitted to the BH and the FAO-GEF Coordination Unit for review and approval no later than 31 July. The FAO-GEF Coordination Unit will upload the final report on FPMIS and submit it to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The FAO-GEF Coordination Unit will provide the updated format when the first PIR is due.

Technical Reports. Technical reports will be prepared as part of project outputs and to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by the PTC to the NPD and the FAO Representation in Venezuela who will share it with the LTO for review and clearance and to the FAO-GEF Coordination Unit for information and eventual comments, prior to finalization and publication. Copies of the technical reports will be distributed to the Project Steering Committee and other project partners as appropriate. The final reports will be posted on the FAO FPMIS by FAO.

Co-financing Reports. The PTC will be responsible for collecting the required information and reporting on in-kind and cash co-financing provided by all the project cofinanciers and eventual other new partners not foreseen in the Project Document. Every year, the PTC will submit the report to the FAO Representation in Venezuela before 31 July covering the period July (the previous year) through June (current year).

GEF Tracking Tools. Following the GEF policies and procedures, the tracking tools for the BD, CC, SFM/REDD+ and LD focal areas will be submitted to the GEF Secretariat at three moments: (i) with the project document at CEO endorsement; (ii) at the project's mid-term evaluation; and (iii) with the project's terminal evaluation.

Terminal Report. Within two months before the end date of the project, the PTC will submit to the NPD and the FAO Representation in Venezuela a draft Terminal Report. The main purpose of the final report is to give guidance to authorities (ministerial or senior government level) on the policy decisions required for the follow-up of the Project, and to provide the donor with information on how the funds were utilized. The terminal report is accordingly a concise account of the main **products, results, conclusions and recommendations** of the Project, without unnecessary background, narrative or technical details. The target readership

consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for ensuring sustainability of project results. Work is assessed, lessons learned are summarized, and recommendations are expressed in terms of their application to the sustainable management of Forest Reserves in Venezuela in the context of the development priorities at national level, as well as in practical execution terms. This report will specifically include the findings of the final evaluation as described in section 4.6 below. A final project review meeting should be held to discuss the draft terminal report with the Project Steering Committee before it is finalized by the PTC and approved by the BH, LTO and the FAO-GEF Coordination Unit.

4.5.4 Monitoring and evaluation plan summary

Table 4.4 below provides a summary of the main monitoring and evaluation reports, responsible parties and timeframe:

Table 4.4. Summary of the main monitoring and evaluation activities

Type of M&E Activity	Responsible Parties	Time-frame	Budget
Inception Workshop	PTC, FAOVE (supported by LTO, BH, and the FAO GEF Coordination Unit)	Within two months of project start up	USD 40,000
Project Inception Report	PTC and FAOVE, cleared by LTO, BH, and the FAO GEF Coordination Unit	Immediately after the workshop	-
Field-based impact monitoring	PTC, project partners, local organizations	Continually	USD 235,400 (3% of PTC time; 20% of M&E Assistant time, cost of annual workshops for monitoring and follow-up)
Supervision visits and rating of progress in PPRs and PIRs	PTC and FAO (FAOVE, LTO and FAO GEF Coordination Unit)	Annual or as required	FAO visits will be financed through GEF agency fee. Project coordination visits will be financed by the project travel budget
Project Progress Reports (PPR)	PTC with inputs by project partners and other participating institutions	Six-monthly	USD 18,600 (2% of PTC time, 10% of M&E Assistant time)
Project Implementation Review report (PIR)	FAO (LTO and FAOVE) supported by the PTC. PIRs cleared and submitted by the FAO GEF Coordination Unit to the GEF Secretariat	Annual	Financed through GEF agency fee
Co-financing Reports	PTC with inputs from other co-financiers	Annual	USD 13,800 (1% of PTC time, 8% of M&E Assistant time)
Technical reports	PTC, and FAO (LTO, FAOVE)	As appropriate	

Type of M&E Activity	Responsible Parties	Time-frame	Budget
Mid-term Evaluation	External Consultant, FAO Office for Evaluation in consultation with the project team including the GCU and other partners	At mid-point of project implementation	USD 40,000 for independent consultants and associated costs. In addition the agency fee will pay for expenditures of FAO staff time and travel
Final evaluation	External Consultant, FAO independent Evaluation Office in consultation with the project team including the FAO GEF Coordination Unit, and other partners	At the end of project implementation	USD 40,000 for external, independent consultants and associated costs. In addition the agency fee will pay for expenditures of FAO staff time and travel
Terminal Report	PTC, FAO (FAOVE, LTO, TSCR Report Unit, FAO-GEF Coordination Unit)	At least two months before the end date of the GCP Agreement	
Total Budget			USD 412,800

4.6 PROVISION FOR EVALUATIONS

An independent Mid-Term Evaluation (MTE) will be undertaken at the end of the first 30 months of project implementation to review progress and effectiveness of implementation in terms of achieving project objective, outcomes and outputs. Findings and recommendations of this review will be instrumental for bringing improvement in the overall project design and execution strategy for the remaining period of the project's term if necessary. FAO (the Office of Evaluation) will arrange for the MTE in consultation with project management. The evaluation will, *inter alia*:

- a) Review the effectiveness, efficiency and timeliness of project implementation;
- b) Analyse effectiveness of partnership arrangements;
- c) Identify issues requiring decisions and remedial actions;
- d) Propose any mid-course corrections and/or adjustments to the implementation strategy as necessary; and
- e) Describe the technical achievements and lessons learned derived from project design, implementation and management.

An independent Final Evaluation (FE) will be carried out three months prior to the terminal review meeting. The FE will aim to identify the project impacts, sustainability of project results and the degree of achievement of long-term results. The FE will also have the purpose of indicating future actions needed to expand on the existing Project in subsequent phases, mainstream and up-scale its products and practices, and disseminate information to management authorities and institutions with responsibilities in food security, conservation and sustainable use of natural resources, small farmer agricultural production and ecosystem conservation to assure continuity of the processes initiated by the Project. Critical elements that both the MTR and FE will pay special attention to are the outcome indicators.

4.7 COMMUNICATION AND VISIBILITY

A number of project activities will have a high visibility and will include the mechanisms to ensure that communications in support of the project's messages are effective.

Capacity development activities under Component 1 will have an important visibility at the level of managerial and technical staff of the participating institutions. The workshops foreseen under this component will support training and awareness raising of stakeholders and dissemination of the information and results of the activities undertaken. Information and training materials will support communicating the key messages of the project under this component, including among others, forest land use planning, sustainable forest management and mainstreaming of GEBs. Preparation and dissemination of reports and thematic maps on forest ecosystems, species distribution, carbon stocks and land use changes supported by a geographical database and a web-based information system providing easy access to the information generated will contribute to project visibility at the level of authorities, decision makers and planners of the forestry sector, who will be the main users. Involvement of community stakeholders in project activities (field monitoring) will provide visibility through training and awareness raising on the value of the forests and their ecosystem services.

Promotion of intersectoral dialogue for SFM under Component 2 will provide important visibility at the level of the institutions that will participate in the coordination platform for forest governance and use of the SINIB (ministries, universities, NGO, community organizations, local governments). Training workshops for community stakeholders will serve to disseminate information and knowledge, as well as to communicate the key messages of the project regarding SFM with an eco-social approach. The contents of the training materials will be adapted to the characteristics of the target audience to facilitate communication. The development of environmental and social sustainability standards for SFM as the basis for a future national certification program will grant visibility at the level of the relevant bodies.

Under Component 3, the training workshops and materials will help transmit knowledge and raise awareness of the beneficiaries regarding the key project message for this component, which is the restoration and rehabilitation of forests. Activities such as the development of the restoration strategy will provide visibility at the level of authorities and managerial staff of the participating institutions (ministries and state governments). Restoration activities will give visibility in field at the level of communities in the IFR through raising awareness regarding the value of forests and the need to mainstream sustainability criteria in economic activities. Training materials adapted to the target audience will contribute to an adequate communication.

Component 4 will contribute to communication and visibility through the systematization of experiences and lessons learned. The project will prepare publications on such experiences and lessons. Moreover, the project will have its webpage where information on progress and results will be periodically uploaded for information sharing and exchange of experiences.

Furthermore, the project will ensure the mechanisms for maximum dissemination of the documents produced by the project, and particularly the Terminal Report, technical reports and the mid-term and final evaluation reports.

SECTION 5 – SUSTAINABILITY OF RESULTS

5.1 SOCIAL SUSTAINABILITY

The social sustainability of project results will be achieved through the project's eco-social approach, which by definition is a humanistic, holistic and participatory approach that recognizes the strategic role of forests in contributing to adaptation and mitigation of climate change, biodiversity conservation, food security, sustainable development and poverty eradication, ensuring forest conservation through sustainable management and rehabilitation of forest lands. The implementation of the project will include defining the following factors to ensure ownership and therefore its social sustainability.

- Information generation. Through its socio-cultural-economic protocol, the project will evaluate the role of men and women in the management of forest resources according to their age and social condition. The analysis of the data will provide information related to the use of resources and the description of the users; needs for hand labor; roles, responsibilities and vulnerabilities related to climate change and its consequences, with emphasis on vulnerability and adaptation options.
- Mainstreaming of gender and equity at institutional and community level. The project will foster the timely participation of women in all project activities such as: a) creating income opportunities (e.g. through improved agroforestry systems with diversified production, marketing of non-wood products, and planning and implementation of SFM); b) promoting the participation of women in training activities as well as designing specific training for women according to their interests and demands in the context of SFM (with at least 30% participation of women in community trainings); c) participation in field monitoring with specific activities designed for women (at least 30% female participation); d) a special line for women within the investment fund to be designed under the project to support commercialization of non-wood products. Data will be disaggregated by gender to facilitate monitoring of differentiated impacts by the project.
- Participation of stakeholders and beneficiaries. The project will promote the participation of social stakeholders through tools such as: a) contacts with leaders or authorities of the local communities and indigenous peoples, b) sharing of information on the project (objectives, planned activities, progress and results); c) community meetings; d) participatory assessments; e) consultation and validation workshops; f) training; and g) participatory evaluations. These will help engage the communities in activities such as: a) identifying priority areas for SFM intervention; b) participatory monitoring of forest ecosystems; c) participatory monitoring of SFM sustainability standards; d) incorporating labor in SFM activities; e) development of social production enterprises for production and commercialization of wood and non-wood products; f) forest restoration through agroforestry, reforestation and analog forestry, g) community involvement in surveillance and control, through setting up monitoring brigades to work jointly with state institutions in protecting the IFR.
- Food security. The project will promote agroforestry systems to improve the traditional *conucos* incorporating a greater diversification and therefore availability of food as well as ensuring the agricultural sustainability.
- Respect for ethno-cultural characteristics. The project will at all levels take into account the ethno-cultural characteristics of the communities in the IFR, including the role of the family in production and income generation, socio-economic differences between men and women and the differences in knowledge related to the use of the environment by each. In the case of indigenous groups the incorporation of women in project interventions will depend on the customs and traditions of each group, taking care not to promote actions that could generate resistance to the participation of community members. The project will respect traditional values and livelihoods to avoid influencing ethno- cultural

changes. During PY1 the project will undertake consultations with the communities and indigenous peoples following the procedures established in the regulations in force.

5.2 ENVIRONMENTAL SUSTAINABILITY

Project implementation will be based on the principles of sustainable forest and land management. It will build the capacities for the sustainable production of goods and services from forest ecosystems, while preserving their values. It will also promote a natural resource management strategy where forests are managed taking into account the context of ecological, economic and social interactions within a defined area or region in the short and long term. The management and use of forests and forest lands will be undertaken in a way and at a rate that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, in the present and in the future, relevant ecological, economic and social functions, at local, national and global levels, without causing damage to other ecosystems. In this sense, the project activities will directly or indirectly contribute to environmental sustainability through:

- Information generation for sustainable forest and land management: protocols, methodologies and studies to improve forest monitoring and the availability of information and knowledge on biodiversity and carbon stocks and fluxes, land uses and changes in land use.
- Development of management instruments that mainstream GEBs: forest operational plans and co-management schemes with communities; criteria and indicators for environmental sustainability of SFM; guidelines for zoning of management units; and standards to prioritize areas for restoration.
- Capacity development of institutional and community stakeholders (see 5.4 below).
- Dissemination of sustainable forest and land management practices: design and implementation of forest restoration models and recovery of degraded areas (e.g. agroforestry, analogue forestry, reforestation).

5.3 FINANCIAL AND ECONOMIC SUSTAINABILITY

The financial sustainability of the project is ensured through the public investments in SFM / SLM by the Government of Venezuela. The project will provide technical assistance for the design of mechanisms to support the financial and economic sustainability of the activities undertaken, including the design of investment funds to promote SFM, SLM, commercialization of non-wood products, and implementation of environmental and social standards for SFM. This will contribute to build the capacities to develop and implement the financial and economic incentives foreseen by the Forest Law to enable the allocation of public resources for long term financing of the afore-mentioned activities. The development of a national program for environmental and social standards for SFM may contribute to establish links with markets purchasing sustainable products while at the same time setting the bases for a future certification program as stipulated by the Forest Law, hence contributing to the sustainability of SFM.

Project activities will improve the livelihoods of the involved communities through the establishment of small enterprises for social production of wood and non-wood products within the framework of co-management schemes, seeking to add value to production and

improve incomes; agroforestry systems to diversify agricultural production that may generate surpluses for sale; and incorporation of community members in participatory monitoring and sustainable forest harvesting, among others.

5.4 SUSTAINABILITY OF CAPACITIES DEVELOPED

The project will address the three dimensions of capacity development (CD) identified in *FAO's Approach to Sustainability*³⁶: i) individuals; ii) institutions; and iii) forest policy. The interaction between community members and central, regional and local government institutions will be also addressed.

The project will strengthen the institutional capacities to improve national forest monitoring and the knowledge and valuation of the biodiversity associated to forests and carbon hotspots (Component 1). It will provide technical assistance for the development of methodological instruments and protocols for data gathering, analysis, construction of indicators related to forest ecosystem monitoring and evaluation, and information generation and dissemination. This will allow improving the knowledge and information on forests, knowledge that will contribute significantly to determine the synergic relations between climate change, deforestation, desertification and biodiversity conservation, hence improving decision making on land use and land use planning.

The project will increase the operational and technical capacity of the institutions to apply planning and forest land use planning instruments that mainstream GEBs delivered by forest ecosystems as well as the benefits of reverting land degradation processes (Component 2). Capacity development will seek to improve and/or update the knowledge of managerial and technical staff in participatory instruments for forest land use planning as well as innovative SFM practices. The project will promote the optimization of inter-institutional coordination, which, together with training and awareness raising of stakeholders will favour an enabling environment to improve forest management. Furthermore, the project will seek to raise awareness of local stakeholders on the importance of the forest resources, promote local knowledge and participation in activities such as field information gathering, participatory monitoring of forest ecosystems and restoration of degraded areas.

The project will improve knowledge on restoration, conservation and SFM / SLM in areas where forests and soils are under degradation processes (Component 3). It will develop criteria and indicators to prioritize areas for restoration, as well as a restoration strategy in accordance with forest specificities and the needs of the target groups. In addition it will promote the restoration of forests and rehabilitation of degraded forest lands with the active participation of the local and indigenous communities, increasing their capacities to prevent and revert the degradation processes.

5.5 APPROPRIATENESS OF TECHNOLOGY INTRODUCED

The technical feasibility is based on the experience of the participating institutions in - MPPEA, ENF, CONARE, Tree Mission and IFLA - in the implementation of activities within the forestry sector, both at institutional level and in the actual area covered by the project.

³⁶<http://www.fao.org/capacitydevelopment/the-three-dimensions-of-the-fao-capacity-development-framework/en/20>

CONARE has experience in reforestation of degraded areas, while the Tree Mission has generated experience in tree planting, community organization, and harvesting and storage of forest seeds. The ENF in turn operates in the IFR and is responsible for several management units, including Unit V, which is the priority site selected for the project's field interventions, and where the ENF has already been generating experience in forest management, inventory and field surveys, and community work.

The development of the SINIB will be based on computer technology already known and proven at international level (e.g. open source systems, web-mapping) and protocols that ensure interoperability and production of user-friendly information. Forest monitoring will be based on remote sensing technology and field methodologies also known and accepted (e.g. LCCS, permanent monitoring plots, RAINFOR protocol for measuring carbon benefits).

Interventions aimed at the restoration, rehabilitation and recovery of forest cover will be undertaken using known species of the IFR to help meet basic protection functions with special characteristics such as resistance to drought and ability to grow in soils with low availability of nutrients or for establishing multiple use plantations. The project will also take into account issues related to the rescue and dissemination of local knowledge on forest management and the ethno-cultural characteristics of the communities in the IFR will be respected.

5.6 REPLICABILITY AND SCALING UP

The potential for replication of the project is high given its complementarity with the Forest Law and the forest policy, and it will generate mechanisms for implementation of the law and the policy that will be replicable both in the IFR as well as in other areas of the country.

The development of instruments such as forest operational plans, guidelines for the study and definition of zoning for management units, criteria and indicators for environmental and social sustainability of SFM, restoration strategy, standards for prioritization of areas to be restored, and forest co-management schemes will be replicable to the other management units of the IFR and other forest reserves.

Implementation of the community network of forest seed providers within the framework of the national network of community forest seed providers to be established by the project will generate lessons that will be replicable at national level when the network is fully operational. Implementation of restoration, rehabilitation and recovery of forests will also generate experiences and lessons replicable to all the degraded areas of the IFR and other forest reserves.

Systematization of experiences and lessons learned will serve to promote the replication of project results at country level. The FAO Representation in Venezuela will share information on project lessons learned with the Regional Office for Latin America and the Caribbean (FAO RLC) to disseminate it to other countries with similar ecosystems and problems.

APPENDICES

APPENDIX 1: RESULTS MATRIX

Project outcomes and impacts:

Objective/Impact	Baseline	Outcome indicators	Assumptions
<p>Global Environmental Objective: To mainstream biodiversity conservation, sustainable land management, and climate change mitigation in the forestry sector to achieve Sustainable Forest Management (SFM) based on an eco-social approach</p> <p>Project Development Objective:³⁷ To support government institutions and community organizations in applying innovations in information management, incentive schemes, participative governance, empowerment of forest-dependent peoples, and multiple mechanisms for restoration of areas under degradation processes in key representative forest ecosystems in Venezuela.</p>	<p>Component 1:</p> <p>Outcome 1.1 <i>Indicator BD-2. II.1: Direct and indirect coverage</i> <i>Indicator SFM/REDD+ 2.1 Improved capacities for emissions reductions and increase in carbon stocks</i> 1,748 temporary plots (0.5 ha) have been designed at national level within the NFI; progress has been made over 8%. For the IFR biodiversity indices, species list and aboveground carbon have been prepared in a 10,000 ha area.</p> <p>Outcome 1.2 <i>Indicator BD-2. II.1: Direct and indirect coverage</i> <i>Indicator SFM/REDD+ 1.2. Good management practices applied in existing forests</i> <i>Indicator LD. I.5.2. Protected habitat</i> Forest Zoning and Management Plans (POMF) are elaborated and implemented without considering the ecological characteristics of forests. The POMF of the IFR/Unit V was elaborated in 2004 and does not include global environmental benefits</p>	<p>Component 1:</p> <p>Outcome 1.1 <i>Indicator BD-2. II.1: Direct and indirect coverage</i> <i>Indicator SFM/REDD+ 2.1 Improved capacities for emissions reductions and increase in carbon stocks</i> Improved capacity for national forest monitoring and evaluation within the framework of the National Forest Inventory (NFI) Target: 4,465,909 ha³⁸ of forest ecosystems monitored and evaluated through protocols facilitating collection and analysis of high quality data, including generation of biodiversity thematic maps, assessment of GHG flows and stocks, identification of carbon hotspots and development of national MRV standards.</p> <p>Outcome 1.2 <i>Indicator BD-2. II.1: Direct and indirect coverage</i> <i>Indicator SFM/REDD+ 1.2. Good management practices applied in existing forests</i> <i>Indicator LD. I.5.2. Protected habitat</i> Knowledge and valuation of forest related biodiversity and carbon hotspots integrated in an improved forest management at local forest management unit scale as a strategy to mainstream measures for forest biodiversity conservation in forest management plans Target: The POMF of Unit V of the IFR mainstreams data and information on forest coverage, land use changes, deforestation, degraded areas, carbon stocks and measures for conservation of forest biodiversity covering an area of 167,320 ha.</p>	<p>Component 1:</p> <p>Political will of the relevant institutions to support, coordinate and participate in the implementation of the SINIB, and use the information generated to improve planning, decision-making and monitoring of forest management.</p>

³⁷ In line with FAO SOs

³⁸ The target area includes the IFR with 3,821,900 ha and an additional surface area of 644,009 ha comprising 429,700 ha of arid/semi-arid forests and 214,309 ha of mangrove forests to be monitored.

Objective/Impact	Baseline	Outcome indicators	Assumptions
	<p>Component 2:</p> <p><u>Outcome 2.1</u> a) tbd in year 1</p> <p><i>Indicator SFM/REDD+. Direct and indirect lifetime emissions reductions</i> <i>Indicator CCM-5. LULUCF</i> b) Estimated loss of 453,135.81 tCO_{2eq}/year due to the use of conventional forest practices over an area of 5,000 ha under forest use</p> <p><u>Outcome 2.2</u> <i>Indicator BD-2. III.4. Management practices that mainstream biodiversity</i> No national standards for native forest management. The Forest Law foresees the development of sustainability standards as the basis for certification by the relevant body.</p> <p><u>Outcome 2.3</u> No formal coordination mechanisms in the forestry sector.</p>	<p>Component 2:</p> <p><u>Outcome 2.1</u> Community stakeholders and national and local governments involved in sustainable forest management through new participatory management tools, covering at least 167.320 ha of forests of the IFR Unit V</p> <p>Targets: a) Stabilized populations of <i>algarrobo</i> (<i>Hymenaea courbaril</i>), yellow trumpet tree (<i>Handroanthus serratifolius</i>, <i>H. impetiginosus</i>), zapatero (<i>Peltogyne floribunda</i>) and mureillo (<i>Erismia uncinatum</i>) within Unit V monitored through: i) study on autoecology; ii) abundance and iii) diametric distribution of species (target tbd in year 1)</p> <p><i>Indicator SFM/REDD+. Direct and indirect lifetime emissions reductions</i> <i>Indicator CCM-5. LULUCF</i> b) Direct avoided emissions: 1,136,759 tCO_{2eq} in 5 years in 25,000 ha (227,351 tCO_{2eq}/year for 5,000 ha/year) Indirect avoided emissions: 18,188,149 tCO_{2eq} in 5 years (3,637,629 CO_{2eq}/year in 80,000 ha)</p> <p><u>Outcome 2.2</u> <i>Indicator BD-2. III.4. Management practices that mainstream biodiversity</i> Development and initial implementation of a National Program for environmental and social sustainability standards for production of wood and non-wood products Target: One (1) National Program for environmental and social sustainability standards for production of wood and non-wood forest products designed and implemented in Unit V covering 15.000 ha.</p> <p><u>Outcome 2.3</u> Inter-sectoral dialogue on SFM strengthened. Target: One (1) inter-institutional coordination and</p>	<p>Component 2:</p> <p>Political will of the central and local government institutions to improve their capacities, coordinate and collaborate to achieve a SFM and forest governance mainstreaming global environmental benefits.</p> <p>Community stakeholders are aware of the environmental and social benefits of SFM and are willing to actively participate in Project activities and assume responsibilities in co-management of forests.</p>

Objective/Impact	Baseline	Outcome indicators	Assumptions
		consultation platform for forest governance in Venezuela operating and effectively fulfilling its functions as per its work plan, and promoting the use of the SINIB	
	<p>Component 3:</p> <p><u>Outcome 3.1</u> a) Currently no manuals for restoration of forests and forestlands</p> <p>b) No training program in restoration. The ENF is working since 2012 engaging and training communities living in Unit V (production units Santa Maria I and II)</p> <p><u>Outcome 3.2</u> a) tbd in year 1</p> <p><i>Indicator SFM/REDD+ 1.2. Good management practices applied in existing forests</i> <i>Indicator BD-2. III.4. Management practices that mainstream biodiversity</i> b) Estimated loss of 453,135.81 tCO_{2eq}/year due to the use of conventional forest practices over an area of 5,000 ha under forest use</p>	<p>Component 3:</p> <p><u>Outcome 3.1</u> Technical and institutional capacities for restoration of forest and forest lands applying SFM/SLM practices strengthened Targets: a) National manuals for restoration of tropical humid forests and forestlands elaborated, validated and disseminated. b) At least 200 representatives of government institutions, NGO, grassroots organizations and communities trained in SFM/SLM (at least 40% are women)</p> <p><u>Outcome 3.2</u> Restoration and regeneration 1,440 ha of forests through SFM/SLM strategies under an ecosystem approach prioritizing the multi-functionality of forests Targets: a) Populations of <i>algarrobo</i> (<i>Hymenaea courbaril</i>), yellow trumpet tree (<i>Handroanthus serratifolius</i>, <i>H. impetiginosus</i>), <i>zapatero</i> (<i>Peltogyne floribunda</i>) and <i>mureillo</i> (<i>Erismia uncinatum</i>) stabilized through reforestation, analogue forestry and agroforestry and monitored through structure, floristic and soil composition.</p> <p><i>Indicator SFM/REDD+ 1.2. Good management practices applied in existing forests</i> <i>Indicator BD-2. III.4. Management practices that mainstream biodiversity</i> b) 512,985 tCO_{2eq} sequestered in 1,440 ha through: i) reforestation (748 ha): 262,348 Ton./ha CO_{2eq} ii) analogue forestry (342 ha): 122,976 Ton./ha CO_{2eq} and iii) agroforestry (350 ha): 127,660 Ton./ha CO_{2eq}</p>	<p>Component 3:</p> <p>Political will of central and local government institutions to promote and implement restoration, rehabilitation and recovery of forest coverage.</p> <p>Community stakeholders are willing to actively participate in Project activities and carrying out the restoration, rehabilitation and recovery of forests to generate global environmental benefits.</p>

Objective/Impact	Baseline	Outcome indicators	Assumptions
	<p><i>Indicator LD.1.c.v. Reforestation, re-vegetation</i></p> <p>c) Deforestation rate in Unit V for 2000-2013 was 827 ha, with an average annual rate of 0.018%, mainly due to mining and road construction</p>	<p><i>Indicator LD.1.c.v. Reforestation, re-vegetation</i></p> <p>c) Land degradation processes reduced in 1,440 ha through reforestation, analogue forestry and agroforestry: 50% reduction in the degraded surface area (420 ha) compared to the baseline.</p>	
		<p>Component 4:</p> <p><u>Outcome 4.1</u> Project implementation based on results-based management and facilitating the application of lessons learned and good practices in future operations Target: Project outcomes achieved and demonstrating sustainability</p>	<p>Component 4:</p> <p>Project M&E system designed, including follow-up of activities, mechanisms to verify the achievement of outcome and product indicators, and M&E responsibilities, time periods and budgets.</p>

Project outputs and outcomes:

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
Component 1: Integrated National Forest Information System (SINIB)									
Outcome 1.1: Improved capacity for national forest monitoring and evaluation within the framework of the National Forest Inventory (NFI)	<i>Indicator BD-2.1.1: Direct and indirect coverage SFM/REDD+ 2.1 Improved capacities for emissions reductions and increase in carbon stocks</i> 1,748 temporary plots (0.5 ha) have been designed at national level within the NFI; progress has been made over 8%. For the IFR biodiversity indices, species list and aboveground carbon have been prepared in a 10,000 ha area	<i>Indicator BD-2.1.1: Direct and indirect coverage SFM/REDD+ 2.1 Improved capacities for emissions reductions and increase in carbon stocks</i> 4,465,909 ha of forest ecosystems monitored and evaluated through protocols facilitating collection and analysis of high quality data, including generation of biodiversity thematic maps, assessment of GHG flows and stocks, identification of carbon hotspots and development of national MRV standards					4,465,909 ha of forest ecosystems monitored and evaluated	SINIB reports Mid-term and final evaluations' reports Project Progress Report (PPR) Project Implementation Report (PIR)	Project Management Unit Directorate General for Forests (DGB)
Output 1.1.1: Information system integrating data on carbon stocks and flows,	There are several non-integrated information systems: National Forest	One (1) National Forest Information System (SINIB) functioning and providing updated		SINIB functioning and providing information to users and	SINIB functioning and providing information to users and	SINIB functioning and providing information to users and	SINIB functioning and providing information to users and	SINIB reports PPR PIR	Project Management Unit DGB

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
biodiversity, physical-natural-sociocultural and economic environment, status and characterization of forest ecosystems and providing high quality information for decision-making	Information System; National Forest Inventory System; Forest Goods Electronic Permits System; Venezuelan Information System on Biological Diversity	and high quality information on forests, including carbon stocks and flows, biodiversity, physical-natural-sociocultural and economic environment, status and status and trends of forest ecosystems		stakeholders	stakeholders	stakeholders	stakeholders		
Output 1.1.2 Protocols for updating and processing geo-spatial information for sustainable forest management (planning, monitoring, control and research) and multi-temporal analysis of forest cover at national level	a) Currently no protocol for geo-spatial information. Decisions are taken for each project as per its objectives and targets, and with the support of the Simon Bolivar Geographical Institute, universities and international organizations. b) No protocol for multi-temporal analysis. There is a methodology used for the 2000-2010 Deforestation Map (Pacheco et al., 2014) <i>Identification and</i>	a) One (1) protocol for updating and processing geo-spatial information for sustainable forest management (planning, monitoring, control and research) b) One (1) protocol for multi-temporal analysis of forest cover at national level.		2 protocols designed and tested. Adjustments and recommendations	2 protocols implemented. Improvements introduced in design	2 protocols implemented. Improvements introduced in design	2 protocols implemented. Improvements introduced in design	Protocols Test phase report Reports on use/results PPR PIR	Project Management Unit DGB

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
	<i>characterization of deforestation hot spots in Venezuela using MODIS satellite images.</i>								
Output 1.1.3 Protocol for field level information gathering on forest and socio-cultural-economic conditions of forest-dependent peoples	Socio-cultural and economic information is not collected within the NFI or other initiatives	One (1) protocol for field level information gathering on forest and socio-cultural-economic conditions of forest-dependent peoples		Protocol designed and tested. Adjustments and corrections. Protocol implemented	Protocol implemented and improvements introduced in design	Protocol implemented and improvements introduced in design	Protocol implemented and improvements introduced in design	Protocol Periodic reports on information gathering Gender disaggregated data PPR / PIR	Project Management Unit ENF in IFR NFI in other areas
Output 1.1.4 Study of GEI and carbon stocks and fluxes in three types of forests, carbon hotspots identified, and national MRV standards established for the GEI benefits from reduction of deforestation and forest degradation (REDD)	No national plan for estimating forest carbon. There are specific studies for different types of forests. Twelve permanent plots have been established and personnel trained in Imataca and other forests of Amazonas State with RAINFOR	One (1) Study of GEI and carbon stocks and fluxes in three types of forests, carbon hotspots identified, and national MRV standards established for the GEI benefits from reduction of deforestation and forest degradation (REDD)		9 permanent plots established through RAINFOR protocol	9 new permanent plots established through RAINFOR protocol	9 permanent plots re-measured. RAINFOR protocol applied for national, regional and local carbon estimations	9 permanent plots re-measured. RAINFOR protocol applied for national, regional and local carbon estimations Study of GEI and carbon stocks and fluxes and MRV standards defined	Field work reports Laboratory reports Study MRV standards PPR / PIR	Project Management Unit DGB ENF- RAINFOR
Output 1.1.5 Thematic maps of biodiversity with information on distribution of plants species, their abundance, frequency,	The Simon Bolivar Institute has protocols for presentation of cartographic products. There are protocols for the cadaster and	75 thematic maps of biodiversity scale 1:250.000 covering the national territory and including information on distribution of			25 thematic maps of biodiversity scale 1:250.000 elaborated	25 thematic maps of biodiversity scale 1:250.000 elaborated	25 thematic maps of biodiversity scale 1:250.000 elaborated	Protocols Progress reports on use/results Final report on fito-	Project Management Unit DGB ENF

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
dominance, and fito-geographical relationships	experiences in vegetation maps and atlases. Biodiversity indices exist in old information systems developed by the former Ministry of Environment and Natural Resources.	plants species, their abundance, frequency, dominance, and fito-geographical relationships						geographical division Thematic maps PPR / PIR	Tree Mission
Output 1.1.6 Participatory mechanism for monitoring of the forest coverage and status, and related GEI flows in deforested and degraded forests	Tree Mission has experience in collection of seeds, phenological data, tree production and plantation. There is no experience in community monitoring of dasometric measurements, carbon and other variables	One (1) participatory monitoring mechanism including: a) protocols for organization and participation of communities and indigenous peoples; b) training protocols; and c) training manuals and materials designed and tested in 3,000 ha (with participation of at least 30% women)	Protocols, manuals and support materials designed Monitoring implemented with participation of communities and indigenous peoples in 600 ha	Monitoring implemented with participation of communities and indigenous peoples in 600 ha	Monitoring implemented with participation of communities and indigenous peoples in 600 ha Mechanism evaluated, adjusted and adapted	Monitoring implemented with participation of communities and indigenous peoples in 600 ha	Monitoring implemented with participation of communities and indigenous peoples in 600 ha	Protocols for organization and participation Training protocols Training manuals and materials Gender disaggregated data Progress reports on information gathering PPR / PIR	Project Management Unit DGB ENF Tree Mission
Outcome 1.2 Knowledge and valuation of forest related biodiversity and carbon hotspots	<i>Indicator BD-2. II.1: Direct and indirect coverage</i> <i>Indicator SFM/REDD+ 1.2. Good</i>	<i>Indicator BD-2. II.1: Direct and indirect coverage</i> <i>Indicator SFM/REDD+ 1.2. Good management</i>					POMF of Unit V of the IFR mainstreams data and information on forest coverage, land	POMF Mid-term and final evaluations' reports	Project Management Unit DGB

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
integrated in an improved forest management at local forest management unit scale as a strategy to mainstream measures for forest biodiversity conservation in forest management plans	<p><i>management practices applied in existing forests</i> Indicator LD. 1.5.2. Protected habitat</p> <p>Forest Zoning and Management Plans (POMF) are elaborated and implemented without considering the ecological characteristics of forests. The POMF of the IFR/Unit V was elaborated in 2004 and does not include global environmental benefits</p>	<p><i>practices applied in existing forests</i> Indicator LD. 1.5.2. Protected habitat</p> <p>One (1) POMF of Unit V of the IFR mainstreams data and information on forest coverage, land use changes, deforestation, degraded areas, carbon stocks and measures for conservation of forest biodiversity and community participation in decision making covering an area of 167,320 ha.</p>					use changes, deforestation, degraded areas, carbon stocks and measures for conservation of forest biodiversity and community participation in decision making covering an area of 167,320 ha.	PPR / PIR	ENF
<p>Output 1.2.1 Lists of forest flora and fauna species (endemic, threatened, exotics) of the IFR associated to carbon hotspots in Unit V</p>	<p>There is taxonomic information of species in forest inventories and botanical and fauna surveys; and threatened and endangered species but the information is not cross-referenced or is very general. There are maps of coverage, mapping of</p>	<p>a) Protocol for evaluating species risks (ie. IUCN Red List, CITES)</p> <p>b) SINIB incorporates the CONSERVATION STATUS attribute in its SPECIES module.</p> <p>c) Updated list of forest flora and fauna species and their conservation</p>	<p>a) Protocols designed and tested</p> <p>b) CONSERVATION STATUS attribute developed</p>	<p>a) Protocols applied and information generated, uploaded in the database and disseminated</p>	<p>a) Protocols applied and information generated, uploaded in the database and disseminated</p>	<p>a) Protocols applied and information generated, uploaded in the database and disseminated</p>	<p>a) Protocols applied and information generated, uploaded in the database and disseminated</p> <p>c) Updated list of forest flora and fauna species and their conservation status</p>	<p>Protocols</p> <p>Reports on threatened species</p> <p>Reports of analyzed areas</p> <p>Reports on units included in the analyses</p> <p>PPR / PIR</p>	<p>Project Management Unit</p> <p>DGB</p> <p>ENF</p> <p>Tree Mission</p> <p>National Office for Biological Diversity (ONDB)</p>

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
	mining concessions but no quantification of affected surfaces, estimation of carbon and biodiversity losses due to deforestation and degradation	status							
Output 1.2.2 Guidelines for the study and definition of zoning of management units taking into consideration the state and needs of biodiversity, carbon hotspots and forest ecosystem conservation based on information generated by SINIB	There are experiences in land zoning, management plans in protected and non-protected areas; watershed management plans (Caroni watershed plan near the IFR)	One (1) document containing guidelines for the study and definition of zoning of management units taking into consideration the state and needs of biodiversity, carbon hotspots and forest ecosystem conservation based on information generated by SINIB	1 document containing guidelines for the study and definition of zoning of management units elaborated	Guidelines mainstreamed in forest operational plans (Output 2.1.2)	Guidelines mainstreamed in forest operational plans (Output 2.1.2)	Guidelines mainstreamed in forest operational plans (Output 2.1.2)	Guidelines mainstreamed in the POMF of Unit V	Guidelines. Unit V POMF PPR / PIR	Project Management Unit DGB
Output 1.2.3 Database of biodiversity goods, products, and services of forest ecosystems (including the forest reserves), and considering wood and non-wood products	There is: i) disperse information on species use and ethnobotany; ii) classification systems that consider the forest as producer of goods and services; iii)	One (1) database of biodiversity goods, products, and services of forest ecosystems (including the forest reserves), and considering wood and non-wood products and their multiple use	Database designed (integrated into the SINIB)	Database operating (information collected, validated, transcribed and disseminated)	Database operating (information collected, validated, transcribed and disseminated)	Database operating (information collected, validated, transcribed and disseminated)	Database operating (information collected, validated, transcribed and disseminated)	Report on structure and contents of the database and links with SINIB modules Reports generated by the database	Project Management Unit DGB ENF Tree Mission ONDB

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
and their multiple use by local communities	economic valuation techniques of forest services. There is no: i) consensus on classification of products, goods and services; ii) systematized database on these aspects	by local communities						PPR / PIR	
Component 2: Building of capacities and innovative tools for SFM									
Outcome 2.1. Community stakeholders and national and local governments involved in sustainable forest management through new participatory management tools, covering at least 167.320 ha of forests of the IFR Unit V	a) Tbd in year 1 <i>Indicator SFM/REDD+. Direct and indirect lifetime emissions reductions</i> b) Estimated loss of 453,135.81 tCO _{2eq} /year due to the use of conventional forest practices over an area of 5,000 ha under forest use	Stabilized populations of <i>algarrobo</i> (<i>Hymenaea courbaril</i>), yellow trumpet tree (<i>Handroanthus serratifolius</i> , <i>H. impetiginosus</i>), <i>zapatero</i> (<i>Peltogyne floribunda</i>) and <i>mureillo</i> (<i>Erismia uncinatum</i>) within Unit V monitored through: i) study on autoecology; ii) abundance and iii) diametric distribution of species (target tbd in year 1) <i>Indicator SFM/REDD+. Direct and indirect lifetime emissions</i>	a) Baseline and targets defined (study on auto-ecology, abundance, diametric distribution in 1 ha plots)				a) Stabilized populations of <i>algarrobo</i> (<i>Hymenaea courbaril</i>), yellow trumpet tree (<i>Handroanthus serratifolius</i> , <i>H. impetiginosus</i>), <i>zapatero</i> (<i>Peltogyne floribunda</i>) and <i>mureillo</i> (<i>Erismia uncinatum</i>) b) Direct avoided emissions: 1.136.759,35 tCO _{2eq} Indirect avoided emissions: 18.188.149,06 tCO _{2eq}	Monitoring plots Mid-term and final evaluations' reports PPR / PIR	Project Management Unit DGB ENF-RAINFOR ONDB

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
		<i>reductions</i> b) Direct avoided emissions: 1,136,759 tCO _{2eq} in 5 years in 25,000 ha (227,351 tCO _{2eq} /year for 5.000 ha/year) Indirect avoided emissions: 18,188,149 tCO _{2eq} in 5 years (3,637,629 CO _{2eq} /year in 80,000 ha)							
Output 2.1.1 Program to strengthen technical-legal human resources to promote and sustain innovations in SFM utilizing the information generated by the SINIB	DGB and ENF have 25 and 15 professional and technical level staffs respectively, trained in SFM themes	100 staffs of MPPEA, ENF, CONARE, Tree Mission and universities trained in: participatory methods, forest planning and innovative tools for SFM (at least 40% are women)	Training program designed 20 staffs trained	20 new staffs trained	20 new staffs trained	20 new staffs trained	20 new staffs trained	Training program Training reports Participants' list Gender disaggregated data PPR / PIR	Project Management Unit DGB ENF
Output 2.1.2 Forest operational plans based on the information generated by the SINIB for forest planning and management with an ecosystem and sustainable livelihood approach	ENF elaborated operational plans for the Santa Maria I (2013-2014) and Santa Maria II (2014-2015) production units. Plans do not include a livelihood approach.	4 Forest operational plans in Unit V based on the information generated by the SINIB for forest planning and management with an ecosystem and sustainable livelihood approach		1 forest operational plan elaborated and implemented	1 new forest operational plan elaborated 2 forest operational plans implemented	1 new forest operational plan elaborated 3 forest operational plans implemented	1 new forest operational plan elaborated 4 forest operational plans implemented	Forest operational plans Operational plan implementation report PPR / PIR	Project Management Unit DGB ENF

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
developed with local governments and community organizations		developed with local governments and community organizations covering an area of 11,000 ha and benefiting 5 communities (based on the guidelines under Output 1.2.2)							
Output 2.1.3 Pilot scheme for forest co-management with communes or other types of social organizations	Currently no co-management schemes. The legal basis for a co-management scheme is the Law for Transfer of Responsibilities (<i>Ley de Transferencia de Competencias</i>) which allows to transfer responsibilities to communes or social organizations	One (1) Pilot scheme for forest co-management designed and implemented		One (1) Pilot scheme designed and validated	One (1) Pilot scheme implemented. Feedback and adjustments in design	One (1) Pilot scheme implemented. Feedback and adjustments in design	One (1) Pilot scheme implemented. Feedback and adjustments in design	Proposal for the scheme Agreements with communes or organizations PPR / PIR	Project Management Unit DGB ENF
Outcome 2.2 Development and initial implementation of a National Program for environmental and social sustainability standards for production of wood and non-	<i>Indicator BD-2. III.4. Management practices that mainstream biodiversity</i> There are no standards for native forest management. The Forest Law	<i>Indicator BD-2. III.4. Management practices that mainstream biodiversity</i> One (1) National Program for environmental and social sustainability standards for				National Program for environmental and social sustainability standards for production of wood and non-wood products designed	National Program for environmental and social sustainability standards pilot implementation started in 15.000 ha	National program document Mid-term and final evaluations' reports PPR / PIR	Project Management Unit DGB ENF

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
wood products	foresees the development of sustainability standards for certification by the relevant body (art. 112). Current management instruments are the Zoning and Management Plan and the Forest Operational Plan	production of wood and non-wood products designed and piloted in a demonstration area of the Unit V covering 15,000 ha.							
Output 2.2.1 Criteria and indicators for environmental and social sustainability of SFM on the basis of information generated by the SINIB	No criteria and indicators developed. There are the Forest Law, Zoning and Management Plans and Forest Operational Plans	One (1) technical standard containing criteria and indicators for environmental and social sustainability of SFM based on SINIB information and applying a multi-criteria analysis, including: a) REDD and MRV (from output 1.1.4); b) conservation of biodiversity and forest ecosystem services under pressure; and c) conservation modalities of forest cover in areas sensitive to land degradation processes.			Technical standard criteria with and indicators designed	Technical standard incorporated into the National Program		Technical standard PPR / PIR	Project Management Unit DGB ENF IFLA FONDONORMA
Output 2.2.2	No monitoring	One (1)			Technical bases	Participatory	Participatory	Monitoring	Project

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
Participatory monitoring of mechanism of forests managed under environmental and social standards for multiple use of forests in balance with the provision of forest ecosystem goods and services	addressing the sustainability of native forest management	Participatory monitoring of mechanism of forests managed under environmental and social standards for multiple use and piloted in 15,000 ha of Unit V (with at least 20% participation of women)			for participatory monitoring agreed	monitoring mechanism designed and piloted	monitoring mechanism designed and piloted	protocol Training plan Training materials Gender disaggregated data PPR / PIR	Management Unit DGB ENF IFLA
Outcome 2.3 Intersectoral dialogue on SFM strengthened.	Decree No. 2083 (2002) regulates institutional coordination but there are no formal coordination mechanisms in the forestry sector	One (1) inter-institutional coordination and consultation platform for forest governance in Venezuela operating and effectively fulfilling its functions as per its work plan, and promoting the use of the SINIB	Platform established through inter-institutional agreements	Platform work plan agreed	Platform functioning and fulfilling 80% of work plan activities	Platform functioning and fulfilling 80% of work plan activities	Platform functioning and fulfilling 80% of work plan activities	Framework agreements to establish the platform Work plans Minutes of meetings PPR / PIR	Project Management Unit DGB
Output 2.3.1 Training program of human talent and dialogues exchanging local knowledge related to the utilization of information generated by the SINIB for improved forest	ENF undertakes training to communities in Unit V	100 representatives of 35 community councils of at least 1 commune trained in: SFM, environmental awareness, forest management, organizational strengthening (at least 30% are	20 representatives of community councils trained	20 new representatives of community councils trained	20 new representatives of community councils trained	20 new representatives of community councils trained	20 new representatives of community councils trained	Training program Training reports Participants' lists Gender disaggregated	Project Management Unit DGB ENF

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
planning and management and SFM practices		women)						data PPR / PIR	
Output 2.3.2 Inter-institutional coordination agreements for forest management governance in Venezuela and adjustment of the SINIB	No formal mechanism for coordination and consultation	10 inter-institutional coordination agreements for forest management governance in Venezuela and adjustment of the SINIB	2 inter-institutional coordination agreements signed and implemented	2 new inter-institutional coordination agreements signed 4 agreements under implementation	3 new inter-institutional coordination agreements signed 7 agreements under implementation	3 new inter-institutional coordination agreements signed. 10 agreements under implementation	10 agreements under implementation	Inter-institutional agreements Progress and follow-up reports PPR / PIR	Project Management Unit DGB ENF
Component 3: Forest restoration, conservation, and SFM/SLM in areas under forest and soil degradation processes									
Outcome 3.1 Technical and institutional capacities for restoration of forest and forest lands applying SFM/SLM practices strengthened	a) No manuals for restoration of forests and forest lands b) No training program in restoration. The ENF is working since 2012 engaging and training communities living in Unit V (production units Santa Maria I and II)	a) National manuals for restoration of tropical humid forests and forestlands elaborated, validated and disseminated b) At least 200 representatives of government institutions, NGO, grassroots organizations and communities trained in SFM/SLM (at least 40% are women)	a) National manuals for restoration of tropical humid forests and forestlands elaborated and validated	a) National manuals disseminated b) 50 persons trained	a) National manuals disseminated b) 50 persons trained	a) National manuals disseminated b) 50 persons trained	a) National manuals disseminated b) 50 persons trained	Manuals Technical documents and reports Mid-term and final evaluations' reports PPR / PIR	Project Management Unit DGB ENF CONARE Tree Mission
Output 3.1.1 General standards and indicators for prioritizing areas	No standards	a) One (1) technical document with general standards and	Standards and indicators designed and validated	Standards implemented	Standards implemented	Standards implemented	Standards implemented Standards	Standards and indicators PPR / PIR	Project Management Unit

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
for forest restoration applying information generated by SINIB		indicators for prioritizing areas for forest restoration applying information generated by SINIB for technical staff and communities					reviewed and updated according to SINIB generated information		DGB ENF CONARE Tree Mission
Output 3.1.2 Strategy for restoration, rehabilitation and recovery of forest cover in the IFR base don an eco-social approach	The Forest Law establishes the basis for a strategy for restoration and recovery of the forest coverage with an eco-social approach	a) One (1) strategy for restoration, rehabilitation and recovery of forest cover in the IFR base don an eco-social approach designed and implemented b) SLM practices to reduce land degradation in areas of illegal mining identified and mainstreamed in the strategy	Strategy for restoration, rehabilitation and recovery of forest cover designed	Strategy implemented (through Output 3.2.1)	Strategy implemented (through Output 3.2.1)	Strategy implemented (through Output 3.2.1)	Strategy implemented (through Output 3.2.1)	Strategy document PPR / PIR	Project Management Unit DGB ENF CONARE Tree Mission
Output 3.1.3 National network of community providers of forest seeds established	No national network. The Tree Mission Works in seed collection and storage, and establishment of tree nurseries. CONARE and other institutions participate in seed collection	a) One (1) national network of community providers of forest seeds established and functioning, with a local component piloted in Unit V with the participation of 10 communities b) One (1) Guide	a) National network established b) Guide elaborated and validated c) Guidelines for certification of seeds elaborated	a) National network functioning. Local component operating in Unit V with 2 communities b) Guide disseminated and being used c) Certification	a) National network functioning. Local component operating in Unit V with 2 new communities b) Guide disseminated and being used c) Certification	a) National network functioning. Local component operating in Unit V with 3 new communities b) Guide disseminated and being used c) Certification	a) National network functioning. Local component operating in Unit V with 3 new communities b) Guide disseminated and being used c) Certification of	Network documents and reports Guide for good practices Training materials Records of seeds collected, stored and	Project Management Unit DGB ENF Tree Mission CONARE

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
		for good community practices for forest seeds handling and selection of seed providing trees elaborated, validated and disseminated c) Guidelines for certification of seeds designed and implemented		of seeds implemented	of seeds implemented	of seeds implemented	seeds implemented	exchanged PPR / PIR	
Outcome 3.2 Restoration and regeneration 1,440 ha ³⁹ of forests through SFM/SLM strategies under an ecosystem approach prioritizing the multi-functionality of forests	a) tbd in year 1 <i>Indicator SFM/REDD+ 1.2. Good management practices applied in existing forests Indicator BD-2. III.4. Management practices that mainstream biodiversity</i> b) Estimated loss of 453,135.81 tCO _{2eq} /year due to the use of conventional forest practices over an area of 5,000 ha under forest use	a) Populations of <i>algarrobo</i> (<i>Hymenaea courbaril</i>), yellow trumpet tree (<i>Handroanthus serratifolius</i> , <i>H. impetiginosus</i>), zapatero (<i>Peltogyne floribunda</i>) and mureillo (<i>Erisma uncinatum</i>) stabilized through reforestation, analogue forestry and agroforestry and monitored through structure, floristic and soil composition. <i>Indicator SFM/REDD+ 1.2.</i>	a) Baseline and targets defined (study on auto-ecology, abundance, diametric distribution in 1 ha plots b) 12 permanent plots (0.1 ha) established using the Simplified Agroforestry Methodology (SAM) protocol	b) 12 new permanent plots (0.1 ha) established using the SAM protocol	a) Follow-up of plot measurements b) 12 new permanent plots (0.1 ha) established using the SAM protocol		a) Populations of forest species stabilized b) 36 plots re-measured and local carbon estimated. 512.985 tCO _{2eq} sequestered c) 50% reduction	Monitoring plots Monitoring reports Mid-term and final evaluations' reports PPR / PIR	Project Management Unit DGB ENF

³⁹ An additional area of 1,560 ha will be achieved through co-financing.

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
	<p><i>Indicator LD.1.c.v. Reforestation, re-vegetation</i></p> <p>c) Deforestation rate in Unit V for 2000-2013 was 827 ha, with an average annual rate of 0.018%, mainly due to mining and road construction</p>	<p><i>Good management practices applied in existing forests</i></p> <p><i>Indicator BD-2. III.4. Management practices that mainstream biodiversity</i></p> <p>b) 512,985 tCO_{2eq} sequestered in 1,440 ha through⁴⁰:</p> <p>i) Reforestation (748 ha): 262,348 Ton/ha CO_{2eq}</p> <p>ii) Analogue forestry (342 ha): 122,976 Ton/ha CO_{2eq} and</p> <p>iii) Agroforestry (350 ha): 127,660 Ton/ha CO_{2eq}</p> <p><i>Indicator LD.1.c.v. Reforestation, re-vegetation</i></p> <p>c) Land degradation processes reduced in 1,440 ha through reforestation, analogue forestry and agroforestry: 50% reduction in the degraded surface area (420 ha) compared to the baseline.</p>					in the rate of degraded areas (420 ha) compared to the baseline		

⁴⁰ Carbon sequestration through the additional 1,560 ha to be restored through co-financing is estimated at 1,182,764 Ton/ha CO_{2eq}

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
Output 3.2.1 Model for forest restoration through SFM/SLM on-the-ground tested with the participation of local governments and communities.	8,100 ha of intensive plantations were undertaken in 1994 in the area of influence of IFR including 1,026 ha of multiple use plantations (agroforestry, forest reserves in farms, communes, state and municipal levels)	a) 1.440 ha restored (350 ha through agroforestry, 342 ha through analogue forestry; and 748 ha through reforestation) with the participation of local and indigenous communities (within the Forest Operational Plans under Output 2.1.2) b) 4 demonstration sites for SLM practices to reduce land degradation in areas under illegal mining designed and implemented	Restoration plan designed (base don criteria elaborated under Output 3.1.1 and the strategy under Output 3.1.2)	Agroforestry: 87 ha Analogue forestry: 78 ha Reforestation: 148 ha 2 demonstration sites for SLM practices designed and implemented	Agroforestry: 87 ha Analogue forestry: 88 has Reforestation: 200 has 2 new demonstration sites for SLM practices designed and implemented	Agroforestry: 87 ha Analogue forestry: 88 has Reforestation: 200has 4 demonstration sites for SLM practices implemented	Agroforestry: 87 ha Analogue forestry: 88 has Reforestation: 200 has 4 demonstration sites for SLM practices implemented	Restoration plan Training materials Monitoring reports of plantations Gender disaggregated data PPR / PIR	Project Management Unit DGB ENF CONARE Tree Mission
Output 3.2.2 Experiences and lessons learned on commercializing wood and non-wood products systemized so they can be used to sustain SFM/SLM best practices	Statistics on wood products are published annually but there are is no experience in systematic analysis of trends derived from this information that is accessible to producers and consumers. Information on non-wood products is	a) 4 analysis reports on experiences and lessons learned on commercializing wood and non-wood products base don SINIB generated information published b) 1 analysis report on the current and potential uses of		a) 1 report published and uploaded to the MPPEA webpage	a) 1 new report published and uploaded to the MPPEA webpage	a) 1 new report published and uploaded to the MPPEA webpage	a) 1 new report published and uploaded to the MPPEA webpage a) 1 report on current and potential uses of non-wood products	Publications MPPEA webpage PPR / PIR	Project Management Unit DGB ENF IFLA

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
	gathered but there is no analysis of the information and it is not made available to producers and consumers	non-wood products							
Output 3.2.3 Value chain and market analysis of the main forest products demanded and affecting the forest and recommendations for market adjustments and the design of commercialization strategies for reducing the pressures on forests.	Information on domestic consumption is incomplete. Forest industries use moderate technology and need to be developed and modernized to make their production more efficient and competitive	2 analysis reports on value chain and market of 10 key forest products demanded and affecting the forest, with recommendations for market adjustments and the design of commercialization strategies for reducing the pressures on forests	1 baseline report on value chain and market published and uploaded to the MPPEA webpage				1 report with trends and recommendations published and uploaded to the MPPEA webpage	Publications MPPEA webpage PPR / PIR	Project Management Unit DGB ENF IFLA
Output 3.2.4 Community commercialization plans for wood and non-wood forest products in accordance with the principle of multiple use	There is little experience in commercialization of wood and non-wood products at community level	4 commercialization plans for wood and non-wood forest products (2 plans for wood products and 2 plans for non-wood products) designed and implemented in accordance with the principle of multiple use (within the Forest Operational Plans under Output	2 community plans designed (1 plan for wood products and 1 plan for non-wood products)	2 community plans implemented	2 new community plans designed (1 plan for wood products and 1 plan for non-wood products) 2 community plans implemented	4 community plans implemented	4 community plans implemented	Community plans PPR / PIR	Project Management Unit DGB ENF IFLA

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
		2.1.2)							
Output 3.2.5 Financing schemes to promote adoption of SFM/SLM, support commercialization of non-wood products, and implementation of the National sustainability standards program for SFM established under outcome 2.2	The government's Environmentally Sustainable Community Program provides incentives to promote soil and water conservation practices but financing is continuously decreasing due to priorities in other sectors. There is no specific funding for SFM, SLM, and commercialization of non-wood products and implementation of SFM standards.	a) One (1) fund for SFM/SLM and support to commercialization of non-wood products designed and implemented b) One (1) fund for implementation of environmental and social sustainability standards for SFM (developed under Outcome 2.2) designed and implemented	Funds designed	Funds established through inter-institutional agreements and operational	Funds operational	Funds operational	Funds operational and monitored	Technical documents and reports Inter-institutional agreements PPR / PIR	Project Management Unit DGB
Component 4: M&E and information dissemination									
Outcome 4.1 Project implementation based on RBM and facilitating application of lessons learned and good practices in future interventions		Project implementation based on RBM and demonstrating sustainability	25% progress in achievement of outcomes	43% progress in achievement of outcomes	62% progress in achievement of outcomes	80% progress in achievement of outcomes	Project outcomes achieved and demonstrating sustainability	PIR PPRs Mid-term and final evaluations	Project Management Unit DGB FAO
Output 4.1.1: Project M&E system operational, providing		Project results framework with outcome and output indicators, baseline and	2 six-monthly reports (1 PPR y 1 PIR)	2 six-monthly reports (1 PPR y 1 PIR)	2 six-monthly reports (1 PPR y 1 PIR)	2 six-monthly reports (1 PPR y 1 PIR)	2 six-monthly reports (1 PPR y 1 PIR)	PPR PIR	Project Management Unit DGB

Indicators	Baseline (2015)	Target	Milestones towards achieving output and outcome targets					Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Means of verification	Responsible for Data Collection
constant information on project progress in achieving outcomes and outputs		targets							FAO
Output 4.1.2: Midterm and final evaluations		1 mid-term evaluation and 1 final evaluation			Mid-term evaluation report		Final evaluation report	Mid-term and final evaluation reports	Project Management Unit External evaluators DGB FAO
Output 4.1.3: Project best practices and lessons learned published		At least 8 newsletters and 3 publications on best practices and lessons learned		2 newsletters elaborated and disseminated	2 newsletters elaborated and disseminated 1 publication on best practices and lessons learned	2 newsletters elaborated and disseminated	2 newsletters elaborated and disseminated 2 publications on best practices and lessons learned	Publications IPP, IRAEP	Project Management Unit DGB FAO
Output 4.1.4: Webpage for information-sharing and exchange of experiences		Webpage for information sharing and exchange of experiences	Project web page in MPPEA web site	Web updated page	Web updated page	Web updated page	Web page updated	Webpage	Project Management Unit DGB

APPENDIX 2: WORK PLAN (RESULTS BASED)

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q ₃	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1: Integrated National Forest Information System (SINIB)																						
Output 1.1.1: Information system integrating data on carbon stocks and flows, biodiversity, physical-natural-sociocultural and economic environment, status and characterization of forest ecosystems and providing high quality information for decision-making	Design of standardization and data management protocols	Project Coordinator Technical Assistant DGB																				
	Data integration model	Project Coordinator Technical Assistant DGB																				
	Web-mapping module	Project Coordinator Technical Assistant DGB																				
	Functioning of SINIB and supply of information to users and stakeholders	Project Coordinator Technical Assistant DGB																				
Output 1.1.2 Protocols for updating and processing geo-spatial information for sustainable forest management (planning, monitoring, control and research) and multi-temporal analysis of forest cover at national level	Assessment of alternatives, review of the state of the art, standardization of results, legends and methodologies	Project Coordinator Technical Assistant DGB																				
	Assessment of interpretation programs / systems	Project Coordinator Technical Assistant DGB																				
	Workshops to define strategies and work plans	Project Coordinator Technical Assistant DGB																				
	Protocol development and testing	Project Coordinator Technical Assistant DGB																				
	Training workshops for technical staff	Project Coordinator Technical Assistant DGB																				
	Implementation of protocols	Project Coordinator Technical Assistant DGB																				
	Annual workshops for review	Project Coordinator																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	and adjustment	Technical Assistant DGB																				
Output 1.1.3 Protocol for field level information gathering on forest and socio-cultural-economic conditions of forest-dependent peoples	Assessment of information to include in protocol	Project Coordinator Technical Assistant DGB																				
	Training workshops	Project Coordinator Technical Assistant DGB																				
	Protocol testing and adjustment	Project Coordinator Technical Assistant DGB																				
	Information gathering in the field	Project Coordinator Technical Assistant DGB																				
Output 1.1.4 Study of GEI and carbon stocks and fluxes in three types of forests, carbon hotspots identified, and national MRV standards established for the GEI benefits from reduction of deforestation and forest degradation (REDD)	Assessment of alternatives / standards and selection of forest types	Project Coordinator Technical Assistant DGB																				
	Definition of protocols to establish plots	Project Coordinator Technical Assistant DGB																				
	Training workshops	Project Coordinator Technical Assistant DGB																				
	Establishment of permanent plots and carbon estimation	Project Coordinator Technical Assistant DGB																				
	Re-measurement of plots and carbon estimation	Project Coordinator Technical Assistant DGB																				
	Definition of MRV standards	Project Coordinator Technical Assistant DGB																				
Output 1.1.5 Thematic maps of biodiversity with information on distribution of plants species, their abundance, frequency, dominance, and fito-	Definition of orientations to systematize and compile information	Project Coordinator Technical Assistant DGB ONDB																				
	Adoption and development of country's fito-geographic	Project Coordinator Technical Assistant																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
geographical relationships	division	DGB ONDB																				
	Training workshop	Project Coordinator Technical Assistant DGB ONBD																				
	Information gathering, transcription, processing and production of maps	Project Coordinator Technical Assistant DGB ONBD																				
Output 1.1.6 Participatory mechanism for monitoring of the forest coverage and status, and related GEI flows in deforested and degraded forests	Design of protocol for community involvement	Project Coordinator Technical Assistant DGB																				
	Community training workshops	Project Coordinator Technical Assistant DGB																				
	Participatory monitoring in the field	Project Coordinator Technical Assistant DGB																				
Output 1.2.1 Lists of forest flora and fauna species (endemic, threatened, exotics) of the IFR associated to carbon hotspots in Unit V	Design of protocol to assess species risks	Project Coordinator Technical Assistant DGB ONDB																				
	Protocol testing and adjustment	Project Coordinator Technical Assistant DGB ONDB																				
	Information generation	Project Coordinator Technical Assistant DGB ONDB																				
	Elaboration of updated species list	Project Coordinator Technical Assistant DGB ONBD																				
Output 1.2.2 Guidelines for the study and definition of zoning of management units taking into	Assessment of SFM policies, objectives and goals	Project Coordinator Technical Assistant DGB ENF																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
consideration the state and needs of biodiversity, carbon hotspots and forest ecosystem conservation based on information generated by SINIB	Design of protocols for land use planning and zoning	Project Coordinator Technical Assistant DGB ENF																				
	Mainstreaming of guidelines in forest operational plans	Project Coordinator Technical Assistant DGB ENF																				
	Mainstreaming of guidelines in Unit V POMF	Project Coordinator Technical Assistant DGB ENF																				
Output 1.2.3 Database of biodiversity goods, products, and services of forest ecosystems (including the forest reserves), and considering wood and non-wood products and their multiple use by local communities	Assessment of information for database development	Project Coordinator Technical Assistant DGB ONBD																				
	Information gathering, validation, transcription and production of reports	Project Coordinator Technical Assistant DGB ONBD																				
Component 2: Building of capacities and innovative tools for SFM																						
Output 2.1.1 Program to strengthen technical-legal human resources to promote and sustain innovations in SFM utilizing the information generated by the SINIB	Design of training program	Project Coordinator Technical Assistant DGB																				
	Training workshops	Project Coordinator Technical Assistant DGB																				
Output 2.1.2 Forest operational plans based on the information generated by the SINIB for forest planning and management with an ecosystem and sustainable livelihood approach developed with local	Elaboration of plans	Project Coordinator Technical Assistant DGB ENF																				
	Implementation and monitoring	Project Coordinator Technical Assistant DGB ENF																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
governments and community organizations																						
Output 2.1.3 Pilot scheme for forest co-management with communes or other types of social organizations	Design of scheme	Project Coordinator Technical Assistant DGB ENF																				
	Implementation and monitoring	Project Coordinator Technical Assistant DGB ENF																				
Output 2.2.1 Criteria and indicators for environmental and social sustainability of SFM on the basis of information generated by the SINIB	SFM diagnosis and assessment workshop	Project Coordinator Technical Assistant DGB ENF																				
	Workshop to define theoretical framework, criteria and indicators	Project Coordinator Technical Assistant DGB ENF																				
	Design and validation of criteria and indicators proposal	Project Coordinator Technical Assistant DGB ENF																				
	Elaboration of technical standard and mainstreaming into national program	Project Coordinator Technical Assistant DGB ENF																				
	Piloting of criteria and indicators	Project Coordinator Technical Assistant DGB ENF																				
Output 2.2.2 Participatory monitoring mechanism of forests managed under environmental and social standards for multiple use of forests in balance with the provision of	Design of community involvement protocol	Project Coordinator Technical Assistant DGB ENF																				
	Community training workshops	Project Coordinator Technical Assistant DGB																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
forest ecosystem goods and services		ENF																				
	Design of participatory monitoring mechanism and pilot start-up	Project Coordinator Technical Assistant DGB ENF																				
	Piloting of monitoring mechanism	Project Coordinator Technical Assistant DGB ENF																				
Output 2.3.1 Training program of human talent and dialogues exchanging local knowledge related to the utilization of information generated by the SINIB for improved forest planning and management and SFM practices	Program design	Project Coordinator Technical Assistant DGB ENF																				
	Training workshop	Project Coordinator Technical Assistant DGB ENF																				
Output 2.3.2 Inter-institutional coordination agreements for forest management governance in Venezuela and adjustment of the SINIB	Negotiation and signing of agreements	Project Coordinator Technical Assistant DGB ENF																				
Component 3: Forest restoration, conservation, and SFM/SLM in areas under forest and soil degradation processes																						
Output 3.1.1 General standards and indicators for prioritizing areas for forest restoration applying information generated by SINIB	Design and validation of standards and indicators	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
	Training workshops to implement standards and indicators	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 3.1.2 Strategy for restoration, rehabilitation and recovery of forest cover in the IFR base don an eco-social approach	Strategy design and validation	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
	Implementation (through output 3.2.1)	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
Output 3.1.3 National network of community providers of forest seeds established	Detailed design of the network	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
	Inter-institutional agreements to establish network	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
	Design of good practice guide	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
	Design of seed certification guidelines	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
	Network operation	Project Coordinator Technical Assistant DGB																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		ENF CONARE Tree Mission																				
	Training workshops to implement guides	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
	Implementation of local network component in Unit V	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
Output 3.2.1 Model for forest restoration through SFM/SLM on-the-ground tested with the participation of local governments and communities.	Elaboration of restoration plan	Project Coordinator Technical Assistant DGB CONARE Tree Mission ENF																				
	Implementation of reforestation, agroforestry and analogue forestry	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
	Carbon sequestration monitoring in areas under restoration	Project Coordinator Technical Assistant DGB ENF CONARE Tree Mission																				
Output 3.2.2 Experiences and lessons learned on commercializing wood and non-wood products systemized so they can be	Information gathering, database consultation, statistical analysis, preparation of reports	Project Coordinator Technical Assistant DGB ENF IFLA																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
used to sustain SFM/SLM best practices	Publication and dissemination of reports	Project Coordinator Technical Assistant DGB ENF IFLA																				
	Elaboration of report on current and potential uses of non-wood products	Project Coordinator Technical Assistant DGB ENF IFLA																				
Output 3.2.3 Value chain and market analysis of the main forest products demanded and affecting the forest and recommendations for market adjustments and the design of commercialization strategies for reducing the pressures on forests.	Information gathering, database consultation, statistical analysis, preparation of reports	Project Coordinator Technical Assistant DGB ENF IFLA																				
	Elaboration of baseline assessment report	Project Coordinator Technical Assistant DGB ENF IFLA																				
	Elaboration of report with trends and recommendations	Project Coordinator Technical Assistant DGB ENF IFLA																				
Output 3.2.4 Community commercialization plans for wood and non-wood forest products in accordance with the principle of multiple use	Design of 1 plan for wood products and 1 plan for non-wood products	Project Coordinator Technical Assistant DGB ENF IFLA																				
	Implementation of plans	Project Coordinator Technical Assistant DGB ENF IFLA																				
	Design of 1 plan for wood products and 1 plan for non-wood products	Project Coordinator Technical Assistant DGB ENF																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		IFLA																				
	Implementation of plans	Project Coordinator Technical Assistant DGB ENF IFLA																				
Output 3.2.5 Financing schemes to promote adoption of SFM/SLM, support commercialization of non-wood products, and implementation of the National sustainability standards program for SFM established under outcome 2.2	Final design of funds	Project Coordinator Technical Assistant DGB																				
	Inter-institutional agreements to establish the funds	Project Coordinator Technical Assistant DGB																				
	Functioning of the funds	Project Coordinator Technical Assistant DGB																				
Component 4: M&E and information dissemination																						
Output 4.1.1: Project M&E system operational, providing constant information on project progress in achieving outcomes and outputs	Inception workshop	Project Coordinator NDP																				
	Preparation and validation of AWP/B	Project Coordinator NDP																				
	Preparation and validation of M&E plan	Project Coordinator NDP																				
	Monitoring of outcome and output indicators and targets	Project Coordinator M&E Assistant																				
	Preparation of PPRs	Project Coordinator NDP																				
	Preparation of PIRs	LTU Project Coordinator NDP																				
Output 4.1.2: Midterm and final evaluations	Mid-term review	External Consultant FAO Project Coordinator																				
	Final evaluation	External Consultant FAO Project Coordinator																				
Output 4.1.3:	Six-monthly newsletters on good practices and results	Project Coordinator FAO																				

Output	Activities	Responsible	Year 1				Year 2				Year 3				Year 4				Year 5			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Project best practices and lessons learned published	Preparation of technical reports on good practices and lessons	Project Coordinator FAO																				
Project Management	Contracting of PMU staff	FAO																				
	PSC meetings	PSC Chair NDP Project Coordinator																				
	External audits	FAO																				

APPENDIX 3: RESULTS BUDGET

Component 1: Integrated National Forest Information System (SINIB)	Component 2: Building of capacities and innovative tools for SFM	Component 3: Forest restoration, conservation, and SFM/SLM in areas under forest and soil degradation processes	Component 4: Project M&E and dissemination of information
<p>O.1.1.1: National Forest Information System (SINIB)</p> <p>O.1.1.2: Geo-spatial information and multi-temporal analysis protocols</p> <p>O.1.1.3: Socio-economic information collection protocol</p> <p>O.1.1.4 Study on GHG stocks and fluxes / MRV standards</p> <p>O.1.1.5: Biodiversity thematic maps</p> <p>O.1.1.6: Participatory mechanism for forest monitoring</p> <p>O.1.2.1: Forest species' list</p> <p>O.1.2.2: Guidelines for zoning management units</p> <p>O.1.2.3: Database on biodiversity goods and products</p>	<p>O.2.1.1: Human resources strengthening program</p> <p>O.2.1.2: Forest operational plans based on SINIB information</p> <p>O.2.1.3: Pilot co-management scheme</p> <p>O.2.2.1: SFM environmental and social sustainability criteria and indicators</p> <p>O.2.2.2: Participatory monitoring mechanism of managed forests</p> <p>O.2.3.1: Training and local knowledge exchange dialogues</p> <p>O.2.3.2: Inter-institutional coordination and consultation agreements</p>	<p>O.3.1.1: Standards and indicators to prioritize areas for restoration</p> <p>O.3.1.2: Strategy for restoration, rehabilitation and recovery of forest cover</p> <p>O.3.1.3: National network of forest seed providers</p> <p>O.3.2.1: On the ground forest restoration model</p> <p>O.3.2.2: Experiences and lessons in commercialization of non-wood products</p> <p>O.3.2.3: Market and value chain analysis of wood products</p> <p>O.3.2.4: Community plans for commercialization of forest products</p> <p>O.3.2.5: Financing schemes</p>	<p>O.4.1.1: Project M&E System</p> <p>O.4.1.2: Mid-term and final evaluations</p> <p>O.4.1.3: Best practices and lessons learned</p>

Oracle code and description	Comp.1:	Comp. 2:	Comp.3:	Comp.4:	PM	GEF	Year 1	Year 2	Year 3	Year 4	Year 5
	Total	Total	Total	Total							
5300 Salaries professionals											
Operations and Finance Officer					392,825	392,825	78,565	78,565	78,565	78,565	78,565
5300 Sub-total salaries professionals	0	0	0	0	392,825	392,825	78,565	78,565	78,565	78,565	78,565
5570 International Consultants											
Digital processing of images	9.000					9.000	6.000		3.000		
Assessment of social and cultural aspects of communities and ethnic groups	6.000					6.000	3.000		3.000		
Carbon monitoring in tropical forests	6.000					6.000	6.000				
Biomass coefficients; allometric equations	6.000					6.000	6.000				
Field data for soil carbon study	6.000					6.000	6.000				
Destructive and non-destructive methods for biomass estimation	6.000					6.000	6.000				
Vegetation monitoring and cartography, use of LCCS	4.000					4.000	4.000				
Assessment of C/IP, social organization and inclusion/participation strategies	9.000					9.000	6.000			3.000	
Assessment of BD and essential variables	9.000					9.000	3.000		3.000		3.000
SFM and forest land use planning	4.500					4.500	4.500				
Land use planning	4.500					4.500	4.500				
Non-wood forest products	4.500					4.500	4.500				
Ethnobotany	4.500					4.500	4.500				
Restoration			27.000			27.000	13.500	13.500			
Restored forest landscapes			9.000			9.000	4.500	4.500			
Rehabilitation of disturbed areas			18.000			18.000	9.000	9.000			
SFM sustainability criteria and indicators		30.000				30.000	6.000	6.000	6.000	6.000	6.000
Participatory monitoring of SFM sustainability criteria and indicators		7.500				7.500	1.500	1.500	1.500	1.500	1.500
Seed trees selection methodology		0	3.000			3.000	3.000				
Sub-total international Consultants	79.000	37.500	57.000	0	0	173.500	101.500	34.500	16.500	10.500	10.500

Oracle code and description	Comp.1:	Comp. 2:	Comp.3:	Comp.4:	PM	GEF	Year 1	Year 2	Year 3	Year 4	Year 5
	Total	Total	Total	Total							
National consultants											
Project Technical Coordinator	63.900	49.700	56.800	9.600		180.000	36.000	36.000	36.000	36.000	36.000
Technical Assistant Component 1	150.000					150.000	30.000	30.000	30.000	30.000	30.000
Technical Assistant Component 2		150.000				150.000	30.000	30.000	30.000	30.000	30.000
Technical Assistant Component 3			150.000			150.000	30.000	30.000	30.000	30.000	30.000
Administrative Assistante	43.425	33.775	38.600	4.200		120.000	24.000	24.000	24.000	24.000	24.000
Secretary	22.500	17.500	20.000			60.000	12.000	12.000	12.000	12.000	12.000
M&E Assistant	34.686	26.978	30.836	57.500		150.000	30.000	30.000	30.000	30.000	30.000
Digital processing of images	12.800					12.800	9.600	1.600		1.600	
Vegetation cartography, classification, legends	12.800					12.800	9.600	1.600		1.600	
Assessment of communities / IP	9.600					9.600	3.200	1.600	1.600	1.600	1.600
Socio-cultural and economic information gathering techniques	9.600					9.600	3.200	1.600	1.600	1.600	1.600
Census information gathering	9.600					9.600	3.200	1.600	1.600	1.600	1.600
Carbon estimation and monitoring	16.000					16.000	9.600	1.600	1.600	1.600	1.600
Vascular plants taxonomy and systematics	12.800					12.800	9.600	1.600	1.600		
Plant ecology, classification, cover and land use cartography	14.400					14.400	9.600	1.600	1.600	1.600	
Programas e imágenes para el sistema de monitoreo de carbono	16.000					16.000	9.600	1.600	1.600	1.600	1.600
Forest inventories, techniques, permanent plots	14.400					14.400	9.600	1.600	1.600	1.600	
Plant ecology, classification, cover and land use cartography	16.000					16.000	9.600	1.600	1.600	1.600	1.600
Biogeography, fitogeography, ecorregions, natural regions	16.000					16.000	9.600	1.600	1.600	1.600	1.600
Cartography and GIS	16.000					16.000	9.600	1.600	1.600	1.600	1.600
Assessment of communities / IP	16.000					16.000	9.600	1.600	1.600	1.600	1.600
Training and extensionism	16.000					16.000	9.600	1.600	1.600	1.600	1.600
Marketing	16.000					16.000	9.600	1.600	1.600	1.600	1.600
(4) Extension technicians for forest monitoring	225.000					225.000	25.000	50.000	50.000	50.000	50.000

Oracle code and description	Comp.1:	Comp. 2:	Comp.3:	Comp.4:	PM	GEF	Year 1	Year 2	Year 3	Year 4	Year 5
	Total	Total	Total	Total							
Plant ecology, classification, cover and land use cartography	6.400					6.400	3.200		1.600		1.600
Forest and carbon inventories	6.400					6.400	3.200		1.600		1.600
Biodiversity and extinction risk assessment	6.400					6.400	3.200		1.600		1.600
Forest management	9.600					9.600	4.800		2.400		2.400
Tropical forest land use planning and silviculture	7.200					7.200	2.400		2.400		2.400
Forest inventories and sample design	9.600					9.600	4.800		2.400		2.400
Forest and ecosystem valuation	2.400					2.400	2.400				
Botany, ethnobotany	2.400					2.400	2.400				
Social organization and participation strategies		38.400				38.400	9.600	7.200	7.200	7.200	7.200
Forest land use planning and SFM		16.000				16.000	6.400	2.400	2.400	2.400	2.400
Plant succession			9.600			9.600	4.800	4.800			
Conservation, use and rehabilitation of forest ecosystems			9.600			9.600	4.800	4.800			
Community participation		8.000				8.000	8.000				
SFM sustainability standards		64.000				64.000	12.800	12.800	12.800	12.800	12.800
Legal framework and SFM		16.000				16.000	3.200	3.200	3.200	3.200	3.200
Restoration strategies			1.600			1.600	1.600				
Degraded areas			4.800			4.800	2.400	2.400			
Agroforestry systems and non-wood products			4.800			4.800	2.400	2.400			
Indicators of soil recovery and reversion of LD			8.000			8.000	4.800	3.200			
Design of financial schemes and funds			38.400			38.400	38.400				
Legal framework for financial schemes/funds			9.600			9.600	9.600				
Assessment of SFM criteria and indicators		43.200				43.200	7.200	7.200	8.000	10.400	10.400
Commercialization of wood and non-wood products			38.400			38.400	38.400				
Commercialization reports support and advice			19.200			19.200		4.800	4.800	4.800	4.800
Forest products markets and value chains			89.600			89.600	44.800				44.800
Community commercialization plans			147.200			147.200	51.200	19.200	38.400	19.200	19.200
Forest seeds good practice guide			800			800	800				

Oracle code and description	Comp.1:	Comp. 2:	Comp.3:	Comp.4:	PM	GEF	Year 1	Year 2	Year 3	Year 4	Year 5
	Total	Total	Total	Total							
Forest seed providers network			9.600			9.600	4.800	4.800			
Sub-total national Consultants	813.911	463.553	687.436	71.300	0	2.036.200	633.800	346.800	353.200	326.000	376.400
5570 Sub-total consultants	892.911	501.053	744.436	71.300	0	2.209.700	735.300	381.300	369.700	336.500	386.900
5650 Contracts											
Carbon monitoring in permanent plots	248.750		131.750			380.500	78.500	63.500	93.500	45.500	99.500
SINIB development	300.000					300.000	300.000				
Information gathering on commercialization / marktes of forest products			157.000			157.000	72.000	14.000	25.000	14.000	32.000
Annual audits				25.000		25.000	5.000	5.000	5.000	5.000	5.000
Mid-term review				40.000		40.000			40.000		
Final evaluation				40.000		40.000					40.000
5650 Sub-total Contracts	548.750	0	288.750	105.000	0	942.500	455.500	82.500	163.500	64.500	176.500
5900 Travel											
International consultants	88,000	50,000	70,098			208,098	103,810	26,060	25,750	25,750	25,670
Local consultants	95,487	27,030	174,380			296,897	111,400	28,280	42,670	26,480	61,950
Project Management Unit	87,200	76,300	43,600	13,900		221,000	40,000	40,000	40,000	40,000	40,000
5900 Sub-total travel	248.800	141.000	275.178	11.900	0	676.878	255.210	94.340	108.420	92.230	126.678
5023 Training and workshops											
Workshops with consultants to define strategies and review tasks	18.000					18.000	9.000		2.000	1.000	6.000
Training in new protocols	84.000					84.000	32.000	20.000	16.000	8.000	8.000
Community training for forest monitoring	216.000					216.000	24.000	48.000	48.000	48.000	48.000
Trainings for managerial/technical staff		40.000				40.000	8.000	8.000	8.000	8.000	8.000
Trainings for field technicians		40.000				40.000	8.000	8.000	8.000	8.000	8.000
Exchange of local knowledge		40.000				40.000	8.000	8.000	8.000	8.000	8.000
Community training on local knowledge		60.000				60.000	12.000	12.000	12.000	12.000	12.000
Training of field technicians (prioritization of areas for restoration)			40.000			40.000	8.000	8.000	8.000	8.000	8.000
Community training for forest operational plans		12.000				12.000		4.000	4.000	4.000	
Training for public institutions (forest operational plans)		12.000				12.000		4.000	4.000	4.000	

Oracle code and description	Comp.1:	Comp. 2:	Comp.3:	Comp.4:	PM	GEF	Year 1	Year 2	Year 3	Year 4	Year 5
	Total	Total	Total	Total							
IP training (forest operational plans)		12.000				12.000		4.000	4.000	4.000	
Training of ENF staff		12.000				12.000	4.000	4.000	4.000		
Community training for co-management scheme		36.000				36.000			12.000	12.000	12.000
SFM criteria and indicators		40.000				40.000	8.000	8.000	8.000	8.000	8.000
Participatory monitoring of SFM		27.000				27.000	9.000	9.000	9.000		
Design of national SFM standards program		20.000				20.000	4.000	4.000	4.000	4.000	4.000
Establishment of coordination platform and inter-institutional agreements		12.000				12.000	12.000				
Training of field technicians in restoration			64.000			64.000	16.000	16.000	16.000	8.000	8.000
International workshop to design investment funds			56.000			56.000	56.000				
Design of investment funds (with financiers)			8.000			8.000	8.000				
Training of field technicians in seed management			8.000			8.000	8.000				
Training for tree nurseries			24.000			24.000	12.000	12.000			
Selection of seed trees, seed stands and seed orchards			80.000			80.000	16.000	16.000	16.000	16.000	16.000
Exchange of experiences in seed management			32.000			32.000	8.000	8.000	8.000	8.000	
Inception workshop				40.000		40.000	40.000				
Annual project review / planning				200.000		200.000	40.000	40.000	40.000	40.000	40.000
5023 Sub-total training	318.000	363.000	312.000	240.000	0	1.233.000	350.000	241.000	239.000	209.000	194.000
6000 Expendable procurement											
Office supplies and materials	2.400	2.100	2.400	900		7.800	1.560	1.560	1.560	1.560	1.560
Establishment of agroforestry systems, reforestation and analogue forestry			2.494.092			2.494.092		537.687	652.135	652.135	652.135
Design and publication of technical reports, maps, protocols	13.500					13.500	6.500	500	2.500	500	3.500
Publication of best practices and lessons				4.500		4.500			1.500		3.000
6000 Sub-total expendable procurement	15.900	2.100	2.496.492	5.400	0	2.519.892	8.060	539.747	657.695	654.195	660.195
6100 Non-expendable procurement											
Satellite images	15.000					15.000	3.000	3.000	3.000	3.000	3.000

Oracle code and description	Comp.1: Total	Comp. 2: Total	Comp.3: Total	Comp.4: Total	PM	GEF	Year 1	Year 2	Year 3	Year 4	Year 5
Equipment for biodiversity maps (server, PC, scanner, plotter)	11.000					11.000	11.000				
Software especializado	10.000					10.000	10.000				
4x4 vehicles	100.000					100.000	100.000				
PMU furniture (7 desks, 7 chairs, 7 filing cabinets)	7.686	5.978	6.832	854		21.350	21.350				
PMU equipment (7 PCs, calculators)	10.440	8.120	9.280	1.160		29.000	29.000				
Equipment / furnitur for investment fund (5 PC, 2 external hard drives, 1 video beam, 1 scanner, 1 printer, 1 UPS3kva, chairs, tables, desks, cabinets)			30.000			30.000		30.000			
6100 Sub-total non-expendable procurement	129.126	14.098	46.112	2.014	0	191.350	149.350	33.000	3.000	3.000	3.000
6300 GOE budget											
PMU general operation expenses	3.294	2.520	2.880	360		9.054	1.854	1.800	1.800	1.800	1.800
Miscellaneous including contingencies											
6300 Sub-total GOE budget	3.294	2.520	2.880	360	0	9.054	1.854	1.800	1.800	1.800	1.800
TOTAL	2,203,668	1,036,101	4,178,748	392,825	392,825	8.249.316	2.048.662	1.467.075	1.636.503	1.454.613	1.642.461

SUBTOTAL Comp 1	2,203,668	26.7%
SUBTOTAL Comp 2	1,036,101	12.6%
SUBTOTAL Comp 3	4,178,748	50.7%
SUBTOTAL Comp 4	437,974	5.3%
SUBTOTAL Project Management	392,825	4.8%
TOTAL GEF	8.249.316	100,0%



Budget final.xlsx

APPENDIX 4: RISK MATRIX

Description of risk	Impact	Probability	Mitigation measures
Political and institutional risk: Biodiversity conservation and sustainable management of forests and lands are no prioritized at regional level	Trends in land use change in the IFR will continue thereby increasing pressures on the forests	Low	The project will contribute to promote and strengthen the forest policy at national, regional and local level. Component 1 will generate updated information on forest ecosystems, biodiversity, carbon stocks and socio-economic and cultural aspects. The availability of more and better information and knowledge will contribute to raise awareness of authorities and civil society so that greater value is granted to the conservation of biodiversity and the need for sustainable management of forests and land. Capacity building of both technical staff and communities (Components 1 and 2) will help develop instruments and tools for SFM / SLM (e.g. Forest operational plans, standards to prioritize areas for restoration and co-management schemes) that mainstream GEBs; with these tools stakeholders will be able to know, assess and prioritize these issues. The involvement of community stakeholders in project activities (Components 2 and 3) will promote ownership, thus contributing to the sustainability of ongoing interventions and prioritizing the conservation of biodiversity, SFM / SLM based on a bottom-up approach.
Political and institutional risk: Political and institutional consensus to establish the financial schemes for SFM / SLM, commercialization of non-wood products and SFM sustainability standards is not reached.	Progress in promoting SFM / SLM at national level will be slow or none if sustained financing is not guaranteed	Medium	The project will undertake the detailed design of the investment funds to confirm their technical and financial feasibility (Component 3). Meetings with high-level authorities of ministries will serve to raise awareness and inform key stakeholders on the need to guarantee sustained funding for the development of SFM and SLM, seeking to generate the necessary political support to achieve agreements to establish the funds and ensure allocation of financial resources in a context where institutional budgets for management of forest resources and recovery of degraded areas are decreasing.
Administrative risk: Low Project management capacity	Low level of achievement of outcomes and outputs. Lack of coordination for Project interventions and low impact. Duplication of activities	Medium	The Project Steering Committee will include among its functions to support the timely implementation of the project, promoting political dialogue, coordination and collaboration between the participating institutions, and the timely provision of co-financing. The project will help develop the technical, operational and community capacities to lay the foundations for the timely implementation of institutional activities, especially at field level. The annual workshops to review the implementation and plan activities for the next year will serve to evaluate the status of the project at the end of each year and undertake a proper and realistic planning based on the implementation capacities of the participating institutions. The M&E system will provide timely information on the progress of activities, outputs and outcomes, in addition to the continuous risk analysis and mitigation measures.
Socio-economic risk: Communities and stakeholders of the forestry sector are reluctant to adopt sustainable forest and land management practices	Forest deforestation and degradation due to agriculture, mining and logging continues. Communities do not improve their livelihoods through SFM. Loss of ecosystem services.	Low	Local communities may be unwilling to engage in the project given the economic benefits provided by other activities such as mining. The project will foster awareness raising, capacity building and involvement of community stakeholders through promoting the benefits of forest management compared to the current activities (mining, agriculture, mining and logging) that cause forest degradation and their impacts on human health, forests, soil, water and other resources. The project will use various tools to promote participation, namely: a) contacts with community leaders; b) socialization of information about the project (objectives, planned activities), c) community meetings, d) participatory

Description of risk	Impact	Probability	Mitigation measures
			diagnoses, e) consultation and validation workshops, f) training, and g) participatory evaluations. The project will develop several tools to engage and empower community stakeholders, including a co-management scheme to enable them to assume management responsibilities in SFM, the creation of small production companies for adding value to forest products and improving their income, and agroforestry systems to diversify agricultural production.
Environmental risk: Impact of climate change on key ecosystems of the IFR and their ecosystem services	Decrease in forest ecosystem resilience in intervened areas, especially where mining is undertaken	Low	Component 1 will develop protocols to update socio-economic and land use information that will allow compiling data on land uses, changes in land use and drivers, and will generate information that will contribute to estimate possible impacts. Monitoring of forest ecosystems will provide updated information on changes, allowing taking corrective measures before impacts occur. Component 2 will promote SFM and the development of instruments (e.g. SFM environmental sustainability standards) that will contribute to implement sustainable harvesting and use with minimum impacts, hence contributing to reduce possible effects of climate variability. Restoration activities under Component 3 will contribute to rehabilitation of ecosystems and better adaptation to climate variability. Trainings will include climate change among the themes covered.

APPENDIX 5: PROCUREMENT PLAN

Referencia	Descripción del elemento	Unidad	Cantidad estimada	Coste estimado	Precio unitario	Método de requerimiento ⁴¹	Método de compra ⁴²	Comprador ⁴³	Fecha prevista de lanzamiento de la licitación	Fecha prevista del contrato	Fecha prevista de entrega	Destino final y términos de la entrega	Estado ⁴⁴	Otras limitaciones o consideraciones

⁴¹ Petición de presupuesto, petición de propuestas, invitación a ofertar.

⁴² Compra directa, reutilización de resultados de licitaciones, marco de Naciones Unidas, etc.

⁴³ CSAP, Fuera de la sede, Misión de compras.

⁴⁴ Esta columna se actualizará en las fases de implementación y seguimiento.

APPENDIX 6: TERMS OF REFERENCE (TORS)

Nº1: DRAFT TERMS OF REFERENCE: PROJECT TECHNICAL COORDINATOR

Under the overall supervision of the National Project Director and the FAO Representative in Venezuela and the technical guidance of the Lead Technical Officer (LTO), the Project Technical Coordinator will act as head of the Project Management Unit (PMU) and as Secretary to the Project Steering Committee (PSC). He/she will be responsible overall planning, daily management, technical supervision and coordination of all project activities, carrying out the following tasks:

- Participate in the inception workshop, annual project progress review and planning workshops with local stakeholders and Project Executing Partners to prepare the Annual Work Plan and Budget (AWP/B).
- Provide technical supervision and guidance to the Project Executing Partners in implementing project activities.
- Conduct regular field supervision visits and provide on-site guidance to technical staff from Project Executing Partners;
- Day-to-day coordination and communication with the Project Executing Partners staff.
- Monitor project risks according to the risk matrix (see Appendix 4) and ensure that mitigation measures are being applied or alternative mitigation measures are in place.
- Ensure that the eco-social approach is followed during project implementation;
- Prepare six-monthly Project Progress Reports (PPRs) in coordination with the Project specialists.
- Support the LTO in preparation of the annual Project Implementation Review (PIR);
- Support the MPPEA in reporting in-kind and cash co-financing provided by co-financers and eventual other partners not foreseen in the Project Document;
- In consultation with the PSC, the FAO Evaluation Office, the LTO and the FAO-GEF Coordination Unit, support the organization of the mid-term and final evaluations;
- Coordinate and conduct M&E related activities including: i) conducting regularly field M&E visits to project sites; ii) monthly monitoring progress in achieving all project outputs and outcome indicators; iii) providing technical and operational guidance to the staff of participating institutions; and iv) proposing eventual shifts in project implementation strategies if the project is not performing as planned;
- Draft with the support of the Technical Assistants, Terms of Reference and technical specifications for contracting of services and/ or signing of Letters of Agreement for implementation of project activities.
- Coordinate the work of the other specialists hired for project implementation;
- Schedule, organize and participate in the PSC meetings, acting as Secretary;
- Undertake the necessary actions to facilitate, through inter-institutional agreements and partnerships the development of the project and achievement of targets.
- Complete the GEF Tracking Tools (BD, CCM, LD and SFM/REDD+) at mid-term and end of project.

Minimum Requirements

- University degree in natural resources, environmental sciences or related fields such as: Forestry Engineer, Natural Resources Engineer, Agronomist or Geographer;
- At least 10 years of experience in sustainable forest management and/or management of international cooperation projects;
- Knowledge and experience in results based management, budget design, and execution, preparation of technical and financial reports, and M&E;
- Proven capacity to work with technical and managerial staff of governmental and non-governmental institutions;

- Proven capacity as team leader and team builder in developing countries;
- Excellent oral and written communication skills;
- Experience in project management is desirable. Experience in implementation and evaluation of FAO projects is desirable;

Duration: 60 months

Location: Caracas and Bolivar State

Languages: Spanish and Basic English (non-exclusive)

N°2: DRAFT TERMS OF REFERENCE: TECHNICAL ASSISTANT COMPONENT 1

Under the overall supervision of the National Project Director and the FAO Representative in Venezuela and the direct supervision of the Project Technical Coordinator, the Technical Assistant will be responsible for providing technical assistance, coordination, supervision, monitoring and evaluation for the adequate implementation of Component 1, and will carry out the following tasks:

- Prepare the annual work plan and budget for the activities that fall under his/her responsibility and contribute to preparation of the project's Annual Work Plan and Budget (AWP/B);
- Prepare periodic reports of the activities developed and contribute to the preparation of the Project Progress Report (PPR) including capturing good practices and lessons learned;
- Support and facilitate periodic Monitoring & Evaluation of the project, collecting information related to progress in achieving outcome and output indicators, means of verification and identifying lessons learned;
- Support drafting of Terms of Reference and technical specifications for contracting of consultant services, services and/or signing of letters of agreement for implementation of project activities, e.g. development of the National Integrated Forest Information System (SINIB), protocols for data and information collection, study of greenhouse gas stocks and fluxes, design of a participatory forest monitoring system, and preparation of guidelines for zoning of management units. Supervise the execution of the contracts and/or letters of agreement.
- Conduct regular field supervision visits and provide on-site guidance to technical staff from Project Executing Partners;
- Provide technical inputs on possible risks during project implementation and propose mitigation measures that may be necessary to reduce the impacts of such risks.
- Support the Technical Assistants of Components 2 and 3 providing advice on cross-cutting issues related to his expertise and duties.
- Support the Project Technical Coordinator in organization and realization of the mid-term review and final evaluation, and completion of the GEF Tracking Tools (BD, CCM, LD, SFM-REDD+) at mid-term and end of project.

Minimum Requirements:

- University degree in natural resources, environmental sciences or related fields such as: Forestry Engineer, Natural Resources Engineer, Agronomist or Geographer;
- At least 5 years experience in sustainable forest management;
- Knowledge and experience in Project management, development of information systems, forest biodiversity and monitoring of forests and forest carbon, and preparation of technical and financial reports;
- Proven capacity to conduct fieldwork and ability to work in teams and establish working relationships central and local government institutions and civil society organizations.
- Preferably with working experience in Tropical Moist Forests in the Bolivar State.
- Excellent oral and written communication skills.

Duration: 60 months

Location: Bolivar State

Languages: Spanish

N°3: DRAFT TERMS OF REFERENCE: TECHNICAL ASSISTANT COMPONENT 2

Under the overall supervision of the National Project Director and the FAO Representative in Venezuela and the direct supervision of the Project Technical Coordinator, the Technical Assistant will be responsible for providing technical assistance, coordination, supervision, monitoring and evaluation for the adequate implementation of Component 2, and will carry out the following tasks:

- Prepare the annual work plan and budget for the activities that fall under his/her responsibility and contribute to preparation of the project's Annual Work Plan and Budget (AWP/B);
- Prepare periodic reports of the activities developed and contribute to the preparation of the Project Progress Report (PPR) including capturing good practices and lessons learned;
- Support and facilitate periodic Monitoring & Evaluation of the project, collecting information related to progress in achieving outcome and output indicators, means of verification and identifying lessons learned;
- Support drafting of Terms of Reference and technical specifications for contracting of consultant services, services and/or signing of letters of agreement for implementation of project activities, e.g. development of forest operational plans with community participation, forest co-management scheme, criteria and indicators for SFM environmental and social sustainability standards, and participatory monitoring mechanism for managed forests. Supervise the execution of the contracts and/or letters of agreement.
- Participate in the elaboration of training plans for institutional managerial and technical staff and for communities. Supervise the implementation of the plans.
- Conduct regular field supervision visits and provide on-site guidance to technical staff from Project Executing Partners;
- Provide technical inputs on possible risks during project implementation and propose mitigation measures that may be necessary to reduce the impacts of such risks.
- Support the Technical Assistants of Components 1 and 3 providing advice on cross-cutting issues related to his expertise and duties.
- Support the Project Technical Coordinator in organization and realization of the mid-term review and final evaluation, and completion of the GEF Tracking Tools (BD, CCM, LD, SFM-REDD+) at mid-term and end of project.

Minimum Requirements:

- University degree in natural resources, environmental sciences or related fields such as: Forestry Engineer, Natural Resources Engineer, Agronomist or Geographer;
- At least 5 years experience in sustainable forest management;
- Knowledge and experience in Project management, preparation of technical and financial reports, sustainable forest management, community participation and sustainability criteria and indicators;
- Proven capacity to conduct fieldwork and ability to work in teams and establish working relationships central and local government institutions and civil society organizations.
- Experience in participatory processes and training of local stakeholders;
- Preferably with working experience in Tropical Moist Forest in the Bolivar State.
- Excellent oral and written communication skills.

Duration: 60 months

Location: Bolivar State

Languages: Spanish

N°4: DRAFT TERMS OF REFERENCE: TECHNICAL ASSISTANT COMPONENT 3

Under the overall supervision of the National Project Director and the FAO Representative in Venezuela and the direct supervision of the Project Technical Coordinator, the Technical Assistant will be responsible for providing technical assistance, coordination, supervision, monitoring and evaluation for the adequate implementation of Component 3, and will carry out the following tasks:

- Prepare the annual work plan and budget for the activities that fall under his/her responsibility and contribute to preparation of the project's Annual Work Plan and Budget (AWP/B);
- Prepare periodic reports of the activities developed and contribute to the preparation of the Project Progress Report (PPR) including capturing good practices and lessons learned;
- Support and facilitate periodic Monitoring & Evaluation of the project, collecting information related to progress in achieving outcome and output indicators, means of verification and identifying lessons learned;
- Support drafting of Terms of Reference and technical specifications for contracting of consultant services, services and/or signing of letters of agreement for implementation of project activities, e.g. development of standards to prioritize areas for forest restoration, restoration strategy, establishment of a national network of community forest seed providers, on the ground investments in agroforestry, analogue forestry and reforestation, studies on commercialization and value chains of wood and non-wood products, and development of financial schemes to support sustainable forest and land management. Supervise the execution of the contracts and/or letters of agreement.
- Participate in the elaboration of training plans for institutional managerial and technical staff and for communities. Supervise the implementation of the plans.
- Conduct regular field supervision visits and provide on-site guidance to technical staff from Project Executing Partners;
- Provide technical inputs on possible risks during project implementation and propose mitigation measures that may be necessary to reduce the impacts of such risks.
- Support the Technical Assistants of Components 1 and 2 providing advice on cross-cutting issues related to his expertise and duties.
- Support the Project Technical Coordinator in organization and realization of the mid-term review and final evaluation, and completion of the GEF Tracking Tools (BD, CCM, LD, SFM-REDD+) at mid-term and end of project.

Minimum Requirements:

- University degree in natural resources, environmental sciences or related fields such as: Forestry Engineer, Natural Resources Engineer, Agronomist or Geographer;
- At least 5 years experience in sustainable forest management;
- Knowledge and experience in Project management, preparation of technical and financial reports, native forest management, restoration and rehabilitation, and commercialization of wood and non-wood products;
- Proven capacity to conduct fieldwork and ability to work in teams and establish working relationships central and local government institutions and civil society organizations;
- Experience in participatory processes and training of local stakeholders;
- Preferably with working experience in Tropical Moist Forests in the Bolivar State.
- Excellent oral and written communication skills.

Duration: 60 months

Location: Bolivar State

Languages: Spanish

N°5: DRAFT TERMS OF REFERENCE: MONITORING & EVALUATION ASSISTANT

Under the overall supervision of the National Project Director and the FAO Representative in Venezuela and the direct supervision of the Project Technical Coordinator, the Monitoring & Evaluation Assistant will be responsible for designing and implementing the project's M&E System. The M&E System will be used by the Monitoring & Evaluation Assistant to coordinate and undertake M&E activities, including: i) periodic visits to the project's intervention areas; ii) monthly M&E of progress in achievement of outcome and output indicators; iii) providing technical and operational support to the staff of the institutions participating in the project; iv) proposing eventual changes in the project's implementation strategy if necessary. The M&E Assistant will carry out the following activities:

- Design the M&E System in consultation with the participating institutions and key stakeholders;
- Lead the definition of outcome and impact indicators, maintaining coherence and feasibility with the Results Framework, the Annual Work Plan and Budget (AWP/B) and the project targets;
- Lead the definition on indicators for each project component, maintaining consistency among them. The indicators shall cover economic, social and environmental issues;
- Ensure monitoring of impacts in terms of gender equity, including gender oriented indicators;
- Define the methodology for information collection, delivery and processing as needed to feed the indicators;
- Define tools for systematization and processing of information obtained from project implementation;
- Support the Project Technical Coordinator in organization and realization of the mid-term review and final evaluation, and completion of the GEF Tracking Tools (BD, CCM, LD, SFM-REDD+) at mid-term and end of project.

Minimum Requirements:

- University degree in natural resources, environmental sciences or related fields such as: Forestry Engineer, Natural Resources Engineer or Agronomist. Specialization in M&E is desirable;
- At least 5 years experience in M&E of forest and natural resources management programs/projects;
- Excellent oral and written communication skills.
- Capacity for initiative and working with a minimum of supervision;
- Experience in monitoring gender impacts is desirable;
- Working experience with international cooperation projects.

Duration: 60 months

Location: Caracas

Languages: Spanish

N°6: DRAFT TERMS OF REFERENCE: ADMINISTRATIVE ASSISTANT

Under the overall supervision of the National Project Director and the FAO Representative in Venezuela and the direct supervision of the Project Technical Coordinator, the Administrative Assistant will support the Project Technical Coordinator in the administrative and financial management of the project. He/she will coordinate with the Technical Assistants and The FAO Representation in Venezuela to carry out the following activities:

- Support preparation of the Annual Work Plan and Budget (AWP/B);
- Day-to-day management of the project's Budget, including supervising of funds availability, preparation of the Budget and budgetary revisions to be reviewed by the Project Technical Coordinator;
- Maintain regular meetings with the Project Technical Coordinator regarding project management, as well as regular contact with the Technical Assistants on administrative and financial issues;
- Keep records of all relevant data for operational, financial and results based monitoring;
- Ensure that all reports related to expenditures, forecasts and advances are prepared and presented in accordance with FAO and GEF reporting procedures and formats, calendars and communication channels;
- Implement accurate and timely actions to comply with operational requirements related to personnel, procurement of equipment and materials and disbursements in the field;
- Prepare administrative and finance related correspondence;
- Support the Project Technical Coordinator in organization of the mid-term review and final evaluation, and provide inputs related to the project's Budget;
- Undertake any other duties as required.

Minimum Requirements:

- University degree in Administration, Material and Financial Resources Administration or Economist;
- At least 5 years experience in Project administration and accounting;
- Knowledge and experience in project administrative and financial management;
- Knowledge of multilateral project management and financing systems is desirable;
- Capacity for teamwork;
- Computer skills;
- Excellent oral and written communication skills.

Duration: 60 months

Location: Caracas

Languages: Spanish

N°7: DRAFT TERMS OF REFERENCE: SECRETARY

Under the overall supervision of the National Project Director and the FAO Representative in Venezuela and the direct supervision of the Project Technical Coordinator, the Secretary will be responsible of providing secretarial support to the Project Management Unit team carrying out the following activities:

- Secretarial support to the Project Technical Coordinator;
- Manage the correspondence of the Project Management Unit;
- Manage the files of the Project Management Unit;
- Maintain the inventory of goods of the Project Management Unit;
- Transcription of all documents generated by the Project Management Unit.

Minimum Requirements:

- Degree in Administration;
- At least 10 years experience in the field of project management and accounting;
- Knowledge and experience in secretarial and administrative support;
- Capacity for teamwork;
- Computer skills;
- Excellent oral and written communication skills.

Duration: 60 months

Location: Caracas

Languages: Spanish

N° 8: TERMS OF REFERENCE: Operations and Finance Officer

Under the general supervision of the FAO Representative in Venezuela (Budget Holder) and the Project Technical Coordinator, and in close collaboration with the project executing partners, the Budget and Operations Officer will take the operational responsibility for timely delivery of the project outcomes and outputs. In particular, he/she will perform the following main tasks:

- Ensure smooth and timely implementation of project activities in support of the results-based workplan, through operational and administrative procedures according to FAO rules and standards;
- Coordinate the project operational arrangements through contractual agreements with key project partners;
- Arrange the operations needed for signing and executing Letters of Agreement (LoA) and Government Cooperation Programme (GCP) agreement with relevant project partners;
- Maintain inter-departmental linkages with FAO units for donor liaison, Finance, Human Resources, and other units as required;
- Day-to-day manage the project budget, including the monitoring of cash availability, budget preparation and budget revisions to be reviewed by the Project Coordinator;
- Ensure the accurate recording of all data relevant for operational, financial and results-based monitoring;
- Ensure that relevant reports on expenditures, forecasts, progress against workplans, project closure, are prepared and submitted in accordance with FAO and GEF defined procedures and reporting formats, schedules and communications channels, as required;
- Execute accurate and timely actions on all operational requirements for personnel-related matters, equipment and material procurement, and field disbursements;
- Participate and represent the project in collaborative meetings with project partners and the Project Steering Committee, as required;
- Undertake missions to monitor the outputs-based budget, and to resolve outstanding operational problems, as appropriate;
- Be responsible for results achieved within her/his area of work and ensure issues affecting project delivery and success are brought to the attention of higher level authorities through the BH in a timely manner,
- In consultation with the FAO Evaluation Office, the LTU, and the FAO-GEF Coordination Unit, support the organization of the mid-term and final evaluations, and provide inputs regarding project budgetary matters;
- Undertake any other duties as required.

Minimum Requirements:

- University Degree in Economics, Business Administration, or related fields.
- At least five years experience in project operation and management related to natural resources management, including field experience in developing countries.
- Proven capacity to work and establish working relationships with government and non-government representatives.
- Knowledge of FAO's project management systems.

Location: Caracas

Duration: 60 months

Languages: Spanish

APPENDIX 7: MAP OF PROJECT INTERVENTION AREAS

Location of the Imataca Forest Reserve



Imataca Forest Reserve

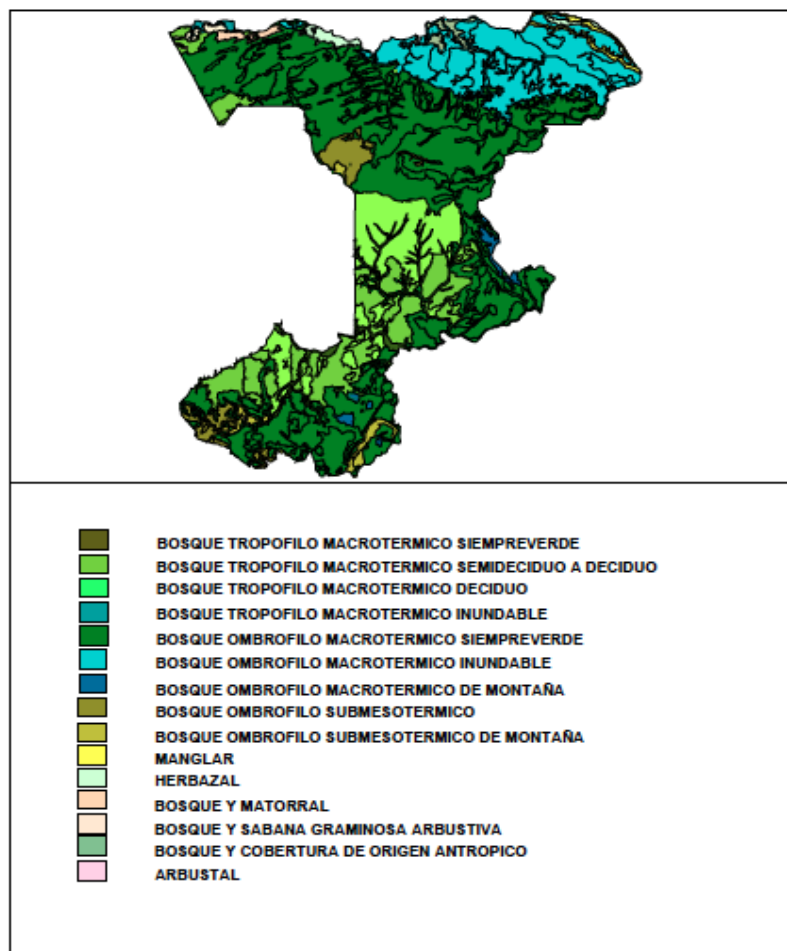



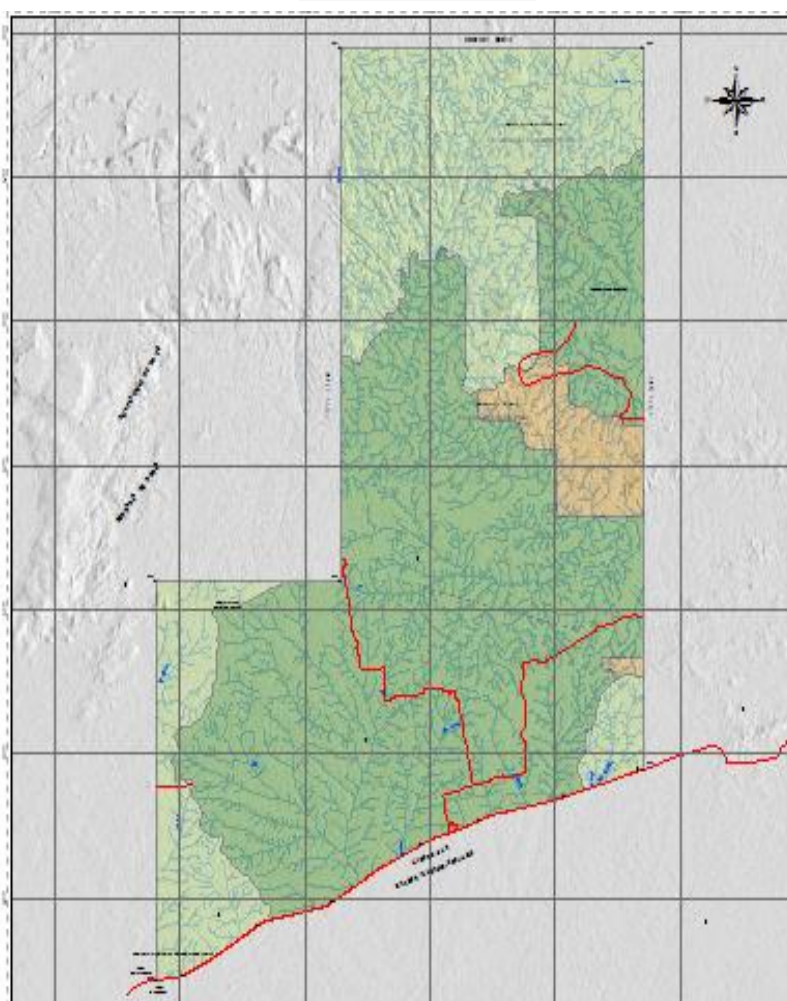


Figura 2: Mapa de Vegetación de la RFI. Fuente: CIERFI (2.000).

Unit V

	Área de Producción Forestal Integral	104310,16
	Área de Producción Forestal No Maderable	54179,60
	Área de Producción Forestal y Minera	8144,24

SUPERFICIE TOTAL
166.634,00 ha



APPENDIX 8: SOCIAL AND ENVIRONMENTAL REVIEW FORM

PROJECT NAME: Sustainable Forest Lands Management and Conservation under an Eco-social Approach

Project description: Venezuela is one of the 17 megadiverse countries in the world, mainly due to its location at the intersection of the Amazon, Andean, Caribbean and Guyana biogeographic regions. The vegetation coverage in the country is equivalent to 75 million hectares (ha) that represent 87.7% of the national territory. The Areas Under Special Administrative Regime (ABRAE) cover an area of 63.5 million ha. The forest area is approximately 47.63 million ha, of which 16,317,202 ha have been declared as Forest Reserves (15), Woodlots (4) and Forest Vocation Lands (39) for permanent forest production purposes.

One of the most important reserves of the country is the Imataca Forest Reserve (IFR), which has a surface area of 3,821,900 ha and is the project's intervention area. In 2003 8% of the total area of the IFR was intervened (around 272,000 ha.). Mining was the main land use (53%, of the area) followed by the forestry (39%) and agriculture activities (7%). The population comprises indigenous peoples, miners, small farmers and lumberers; with 44.3% being indigenous population, 25.4% non-indigenous population and 30.3 % lacking census data on their ethnicity.

The main barriers for mainstreaming biodiversity conservation, sustainable land management and climate change mitigation in the forestry sector to achieve a Sustainable Forest Management are: gaps in the technical skills for the monitoring and evaluation of forest ecosystems and production of timely information about the forest ecosystems conditions, the dynamics of land use and carbon stocks; lack of knowledge and valuation of forest biodiversity; lack of integration of information systems for proper monitoring of forest ecosystems, biodiversity, carbon stocks and land use changes; weaknesses in inter-institutional and inter-sectorial coordination to implement the new SFM vision; weak operational capacity for the community SFM and forest land management; lack of legal and policy frameworks and technical capacity for forest restoration; limitations to the appropriate conservation, management and sustainable use of forest ecosystems, and associated ecosystem services.

The long-term solution to the identified constraints is the integration of biodiversity conservation, sustainable land management and the mitigation of climate change in the forest sector to achieve a sustainable forest management through the innovation in information management, incentive programs, participatory governance, empowerment of communities depending on forests and multiple mechanisms for the recovery of forested areas under degradation processes in forest ecosystems representing Venezuela. With the incremental support the availability and access to information on the status of forest ecosystems and associated ecosystem services (biodiversity, carbon stocks and soil conservation) and capacities will be strengthened for the implementation of a new sustainable forest management model based on an ecosystem, landscape, integrated, participatory and multiple-use approach, to achieve sustained yields of the various products, goods and services it offers, in order to improve the livelihoods of forest-dependent communities and/or communities located in the areas of influence.

CERTIFICATION

Project Category C	Yes	No
I affirm that I have performed an environmental review of this project and certify that the project conforms to the pre-approved list of projects excluded from environmental assessment and that the project will have minimal or no adverse environmental or social impacts. No further analysis is required.		X

Title, name and signature of project leader:

Jorge Alberto Meza Robayo

Senior Forestry Officer

FAO Regional Office for Latin America and the Caribbean



Date: 10/04/2015

ENVIRONMENTAL SCREENING FOR CATEGORY A & B PROJECTS

Would the project, if implemented:	Yes	No	Unable to determine
1. Have significant adverse impacts on public health or safety?		X	
2. Have significant or controversial environmental effects on biophysical resources such as land, water, soil, biodiversity?		X	
3. Have adverse impacts on unique characteristics, such as wilderness, natural rivers, aquifers, prime farmlands, wetlands, floodplains, or ecologically significant areas?		X	
4. Have adverse impacts on traditional practices or agricultural systems in the area?	X		
5. Have highly uncertain and potentially significant environmental and social impacts with unique or unknown risks?		X	
6. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental and social impacts?		X	
7. Set in motion or contribute to a progressive accumulation of significant environmental and social impacts?		X	
8. Have adverse impacts (direct or indirect) on natural habitats such as wetlands, mangroves, tropical forests?		X	
9. Have adverse impacts on important national or international species (listed or proposed) or on critical species habitats?		X	
10. Have adverse impacts on local or indigenous populations residing in the area of interest?		X	
11. Contribute to introduction, continued existence, or spread of non-native invasive species or promote the introduction, growth or expansion of the range of non-native invasive species?		X	
12. Threaten national, local, tribal or indigenous peoples' requirements for use of natural resources or protection of the environment?		X	
13. Trigger or exacerbate unresolved land tenure conflicts concerning rights or alternative uses of natural resources?		X	
14. Have a disproportionate, significant adverse effect on low-income or disadvantaged populations?		X	
15. Restrict access to traditional or ceremonial sites or adversely affect the physical integrity of such religious sacred sites?		X	
16. Have adverse impacts on natural resources or properties of historic or cultural significance?		X	
17. Lead to significant impacts indicated by a national, district or local community group?		X	
18. Have the potential to be controversial because of stakeholder disagreement?		X	
19. Encourage migration or other population shifts?		X	
20. Increase the workload of local communities or subgroups within the communities?	X		
21. Work in opposition with ongoing socio-economic development goals or efforts?		X	
22. Require Capacity Development of affected or involved individuals and organizations? Require Capacity Development to review and update of policies, laws, regulations, or to develop partnerships?	X		

Please answer the following questions:

1. Are the personnel preparing this form familiar with the site? Yes ☒ No
2. Are the personnel familiar with the populations living in or near the site? Yes ☒ No
3. List the name of those who have conducted or will conduct site visits and the dates (*N.B. If a Category B rating is made and no site visit is expected, then please explain*):

Rikke Olivera, TCID Technical Officer

Dates: 15 – 16 January 2015

Andrew Kennedy, FAO Consultant

Dates: 15 – 16 January 2015

Jorge Meza Robayo, LAC Senior Forestry Officer

Dates: 30 – 31 March 2015

CERTIFICATION

Project Category A or B	Yes	No
I affirm the completion of an analysis of the potential environmental and social impacts for this project and certify it to be in Category B . The analysis included information to assess the potential negative and positive impacts and is addressed in the project design through appropriate prevention or mitigation measures. (Attach documentation).	<input checked="" type="checkbox"/>	
I affirm the completion of an analysis of the potential environmental impacts and have determined this project should be classified as Category A . (Attach documentation).		<input checked="" type="checkbox"/>

Title, name and signature of project leader:

Jorge Alberto Meza Robayo

Senior Forestry Officer for Latin America and the Caribbean

Date: 10/04/2015

Environmental analysis

Specific impacts for attention	Probability of impacts/description	Significance of impacts	Likely affected population/natural resources/economic effects	Preventive actions and mitigation measures
9. Have adverse impacts on traditional practices or agricultural systems in the area?	Medium. – The project will promote the development of small-scale commercial activities of non-wood products with indigenous communities as a means to foster income generation while at the same time conserving the natural resources. The risk is that the indigenous communities, due to these commercial activities, adopt habits different from their traditional ones in a manner that is not well planned and sustainable.	Medium	Indigenous peoples that maintain their traditions and culture would be affected, as well as the biodiversity due to intensive and unplanned commercial harvesting of non-wood products	In developing small-scale commercial activities with non-wood products, products to be promoted will be those with cultural relevance and adequate to the uses and customs of the indigenous peoples, so as to promote them as differentiated products. Maintaining culture and tradition will be a necessary requirement for commercial activities. Permanent monitoring will be necessary by the national authorities to ensure that small-scale commercialization of non-wood products is legal, planned and authorized by the competent authorities.
20. Increase the workload of local communities or subgroups within the communities?	High.-The project will promote ownership in management of the Reserve through a co-management scheme that will benefit primarily the local and indigenous communities living in the Reserve. This involvement is one of the project's strategies and implies a greater workload for the communities.	High	Local and indigenous communities would be affected given the need to allocate working time to management and coordination of actions with the national institutions, time that is generally used for productive or subsistence activities.	The project will seek to optimize the involvement and participation process through two concurrent actions: 1. Participation and involvement through training and skills development that will improve their intellectual development. 2. Participation and involvement that will result in the development of management and economic actions that directly benefit the communities. That is, improving incomes and livelihoods on the basis of participation and involvement in the activities promoted by the project.
22. Require Capacity Development of affected or involved individuals and organizations? Require Capacity Development to review and update of policies, laws, regulations, or to develop partnerships?	High.- Capacity building of human resources is needed to achieve the project's expected outcomes, as well as the development of certain skills and knowledge among the concerned population. Without adequate training the project's proposed outcomes will not be achieved.	High	The population will improve their knowledge and skills, which will have a positive effect in improving their productive activities, and at the same time an increased conservation of the natural resources	Participation, involvement and training of the communities will be a key aspect, to generate environment, social and economic benefits. Component 1 will promote the generation of information and systematization of experiences and knowledge related to forest conservation and management. Component 2 will strengthen capacities and develop innovative instruments for sustainable forest management with special attention to local and indigenous communities. These activities will empower these communities. The ethno-cultural characteristics of the communities in the area will be taken into account throughout the project, developing income opportunities and sustainable livelihoods in accordance to their realities and that deliver socioeconomic benefits to communities.

APPENDIX 9: CARBON BENEFITS ESTIMATION

Expected carbon benefits

The project foresees the following carbon benefits as a result of interventions in the Imataca Forest Reserve (IFR) in terms of sustainable forest management, and restoration, rehabilitation and recovery of forest cover:

- Direct avoided emissions: 1,136,759 tCO_{2eq} in 5 years in 25,000 ha (227,351 tCO_{2eq}/year for 5.000 ha/year)
- Indirect avoided emissions: 18,188,149 tCO_{2eq} in 5 years (3,637,629 CO_{2eq} /year in 80,000 ha)
- 512,985 tCO_{2eq} sequestered in 1,440 ha through reforestation, analogue forestry and agroforestry systems through GEF financing:

Estimation of avoided emissions

In the business-as-usual scenario, the loss of carbon due to conventional forest practices over an area of 5,000 ha harvested every year has been estimated at 453,135.81 tCO_{2eq}/year based on the information contained in Tables 1 and 2 below:

Table 1. Estimation of the loss of C and CO_{2e} contained in the above ground biomass of forests south of the Orinoco River in Venezuela (values per hectare) due to logging

REGION	VOLUME (m ³ /Ha) A	BIOMASS (Ton./Ha) B = A x Den.	BIOMASS (Ton./Ha) C = B x FEB	CARBON (Ton./Ha) D = C x 0.5	CO _{2e} (Ton./Ha) E = D x 44/12 (3.66)
IMATACA V (business-as-usual)	20,23	14,77	50,21	25,11	92,05
IMATACA V (sustainable forest management)	10,08	7,36	25,02	12,51	45,86

Source: A. Catalán (2015)

Table 2. Estimation of losses of C y CO_{2e} contained in the above ground biomass of forests south of the Orinoco River in Venezuela (values per hectare) due to logging

REGION	VOLUME (m ³ /Ha) A	BIOMASS (Ton./Ha) B = A x Den.	BIOMASS (Ton./Ha) C = B x FEB	CARBON (Ton./Ha) D = C x 0.5	CO _{2e} (Ton./Ha) E = D x 44/12 (3.66)
IMATACA V (business-as-usual)	101.150 = (20.23 x 5.000 ha)	72.828	247.615,2	123.807,6	453.135,81
IMATACA V (sustainable forest)	50.400 = (10.08 x 5.000 ha)	36.288	123.379,2	61.689,6	225.783,93

management)					
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Source: Catalán and Aymard (2015)

Under the alternative scenario (sustainable forest management) proposed by the project, the annual rate of direct emissions will be reduced to 225.783,93 CO_{2e}. The difference of both values represents 227.351,87 CO_{2e} less direct CO_{2eq} emissions per year (1,136,759 tCO_{2eq} in 5 years) to the atmosphere due to the project's intervention.

Additionally, positive indirect impacts are expected through the conservation of 80,000 ha of pristine high value forests in the IFR's Unit V. This forest management strategy will avoid indirect emissions of 3,637,629 CO_{2eq}/year or 18,188,149 tCO_{2eq} in 5 years.

Direct and indirect avoided emissions were estimated following IPCC recommendations (2003a;b; 2006) using the equation below, and the data in Tables 1 and 2 above:

$$A \times B \times C \times D \times E$$

A: VOLUME (m³/year) x 5.000 ha

B: BIOMASS (Ton./year) = A x Wood density (0.72)

C: BIOMASS (Ton./ha) = B x BEF (3.4) = Biomass expansion factor

D: CARBON (Ton./year) = C x 0.5

E: CO_{2e} (Ton./year) = D x 44/12 (3.66 = CO_{2e})

Estimation of carbon sequestration

Estimation takes into account the value of 40 t C/ha/year multiplied by the surface areas under restoration processes and the 3.66 CO_{2eq} conversion factor as per the IPCC:

- Reforestation (748 ha): 262.348,88 Ton./haCO_{2eq}: [(148 ha x 4 years + 200 ha x 3 years + 200 ha x 2 years + 200 ha) x 40 t C/ha/year x 3.66] +
- Analogue forestry (342 ha): 122.976 Ton./haCO_{2eq}: [(78 ha x 4 years + 88 ha x 3 years + 88 ha x 2 years + 88 ha) x 40 t C/ha/year x 3.66] +
- Agroforestry (350 ha): 127.660,08 Ton./haCO_{2eq}: [(87 ha x 4 years + 87 ha x 3 years + 87 ha x 2 years + 89 ha) x 40 t C/ha/year x 3.66]

Totalizing 512.985,68 tCO_{2eq} for the 1,440 ha financed by the GEF project.

**APPENDIX 10: GEF TRACKING TOOLS (BIODIVERSITY, CLIMATE CHANGE
LAND DEGRADATION, SFM-REDD+)**