

ENDDBG

NATIONAL STRATEGY FOR THE
APPROACH OF DEFORESTATION AND
DEGRADATION OF FORESTS IN
GUATEMALA

IVAN CASTRO



Ministerio de Ambiente y
Recursos Naturales

Ministerio de Agricultura,
Ganadería y Alimentación

Consejo Nacional de
Áreas Protegidas





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Grupo de Coordinación Interinstitucional (Inter-Agency Coordination Group)

Ministerio de Ambiente y Recursos Naturales (Ministry of Environment and Natural Resources)

Alfonso Rafael Alonzo Vargas

Minister of Environment and Natural Resources

Carlos Fernando Coronado Castillo

Vice Minister of Natural Resources and Climate Change

Ministerio de Agricultura, Ganadería y Alimentación (Ministry of Agriculture, Livestock and Food)

Mario Méndez Montenegro

Minister of Agriculture, Livestock and Food

Instituto Nacional de Bosques (National Forestry Institute)

Rony Estuardo Granado Mérida

Manager

Consejo Nacional de Áreas Protegidas (National Council of Protected Areas)

Elder Manrique Figueroa Rodríguez

Executive Secretary

Technical and Financial Support

Inter-American Development Bank (IDB)

Forest Carbon Partnership Facility (FCPF)

Coordination of Strategy Development

Omar Samayoa, Specialist on Climate Change -IDB

Aymé Sosa, Climatic Change Consultant -IDB

Luis Larrazabal, Operations Analyst -IDB

Coordination of MARN REDD+ Execution Unit

José Manuel Moro Blanco, Coordinator

José Israel Cojom Pac, Technical Adviser

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Technical personnel of GCI

Climate Change

Silvia Zuñiga, MARN
Edwin Rojas, MAGA
Jacob Cotto, INAB
Juan Carlos Funes,
Director de la Unidad de Asuntos Técnico de CONAP
Andrea Fernández,
Directora de Cooperación Nacional e Internacional

Gender

Marleny Oliva, MARN
Anabela Cordon, MAGA
Irene Velázquez, INAB
Letty López, CONAP

Indigenous Peoples

Julio Curruchiche, MARN
Cecilia de Paz, MAGA
Licerio Camey, INAB
Gloria Apen and Carolina Cocón,
CONAP

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Jorge Omar Samayoa Juárez, Climate Change Specialist -IDB
Ana Aymé Sosa Villatoro, Climate Change Consultant -IDB

Geotecnológica de Centroamérica, S. A. Consulting Team: Marco

Aurelio JuárezCalderón

Carlos Alberto Duarte Carranza
Francisco Leonel López Benitez
Alfonso ArrivillagaCortés
María Alejandra López Cárcamo Hugo
Renato Vargas Aldana Sofía Gabriela
RodasSamayoa
Ana Gabriela ChavarriaHernández

Text Revision andEditing

Gabriela Díaz Salazar

Geographic Information Systems(GIS)

Kenset Rosales, MARN
Rovoham Monzón, maga
Henry Hernández, INAB
Luis Lima, CONAP

GIS support specialists

Jorge Mario Gómez, Coordinador SIG
Danger Gómez
Edson Hernández
Mauro Tezen
Ricardo Rivas
Rolando Samudio

Design andDiagramming

Gabriela Anguiano

Entities that contributed during the initial implementation of the dialogue

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Alcaldía Indígena Nahualá	Asociación de Desarrollo Integral de Mujeres de Quetzaltenango (ASDIMQ)
Alianza Internacional de Reforestación (AIRE)	Asociación de Desarrollo Integral de San Jacinto (ADISJA)
Alianza Nacional de Organizaciones Forestales Comunitarias de Guatemala (ANFC)	Asociación de Desarrollo Pajales Nuevo Amanecer Chicomán (ASOPEDENACH)
Asociación Ak' tenamit	Asociación de Estudiantes de Ingeniería en Gestión Ambiental-CUNORI/USAC(AEIGAL)
Asociación Amantes de la Tierra (AAT/MICIG)	Asociación de Forestería Comunitaria de Guatemala Utz Che' (UTZ CHE')
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Asociación Civil para el Desarrollo Integral del Repatriado (ASODIR)	Asociación de Periodistas Comunitarios (APC)
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Asociación CRECER (ASOCRECER)	Asociación de Productores de Forestería Comunitaria (APROFORC)
Asociación de Agricultores Ecológicos (ASAECO)	Asociación de Productores Indígenas la Catarata(APIC)
Asociación de Autoayuda Chinimayá (ASOAC)	Asociación de Productores Orgánicos de Ixcán (ASIPOI)
Asociación de Cardamomeros de Guatemala (CARDEGUA)	Asociación del Desarrollo Indígena a la Paz (ADIPAZ)
Asociación de Comités Ambientales para el Desarrollo Sostenible de Quetzaltenango (ACADIS)	Asociación Estoreña para el Desarrollo Integral (AEPDI /Defensoría Q'eqchí)
Asociación de Comunidades Forestales de Petén (ACOFOP)	Asociación Forestal (AFICC)
Asociación de Desarrollo Agrícola y Empresarial (ADAM)	Asociación Indígena AIK (AIK)
Asociación de Desarrollo Comunal (Asociación JABELYA)	Asociación ISERI IBAGARI (Grupo de Auto apoyo Iseri Ibagari (Nueva Vida)
Asociación de Desarrollo Integral Apícola del Norte Q'an Us (ASODIAN QAN US)	Asociación Maya Pro bienestar Rural del Área de Sarstún (APROSARSTUN)
Asociación de Desarrollo Integral de Mujeres de Quetzaltenango (ASDIMQ)	Asociación Mujer Tejedora del Desarrollo (AMUTED)
Asociación de Desarrollo Integral de San Jacinto (ADISJA)	Asociación Mujeres de Oriente (A.M.O)

Asociación Multicultural y Multisectorial para el Desarrollo de Guatemala (AMMDEGUA)	Consejo Municipal de la Juventud de Quetzaltenango (COMUJ)
Asociación Nacional del Café (ANACAFE)	Consejos Departamentales de Desarrollo (Maya K'iche') (CODEDE MAYA K'ICHE)
Asociación para el Desarrollo Sostenible (SINERGIAS)	Cooperación Nacional de Desarrollo (COPENADE)
Asociación para el Desarrollo Sostenible de San Rafael Chilascó (ADESOCHI)	Cooperativa CHIPOLEN
Asociación para la Coordinación del Desarrollo Rural de Olopa (ACODEROL)	Cooperativa el Volcancito
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Asociación Regional Campesina Chortí (ASORECH)	Cooperativa Integral Agrícola CHORTI' JOL (CHORTIJOL)
Asociación Sostenible para el Desarrollo Integral y Turístico de Loma Linda (ASODILL)	Coordinadora de Asociaciones y Comunidades para el Desarrollo Integral del pueblo Ch'orti' (COMUNDICH)
Asociación Turística Comunitaria Bombil Pek (ASBOP)	Coordinadora de la Mujer
Autoridad para el Manejo Sustentable de la Cuenca del Lago de Atitlán y su Entorno (AMSCLAE)	Coordinadora de ONG de Alta Verapaz (CONGAV)
Autoridad para el Manejo Sustentable de la Cuenca del Lago de Izabal y Río dulce (AMASURLI)	Coordinadora Departamental de Comadronas Tradicionales de Quetzaltenango (CODECOT)
BAREN Comercial	Coordinadora Regional Juvenil Poqomchi' (CRJP)
Centro de Estudios Conservacionistas de la Universidad de San Carlos de Guatemala (CECON-USAC)	Coordinadora Regional Poqomchi (CRP)
Centro de estudios para el Desarrollo y la Cooperación (CEDEC)	Defensoría de la Mujer Indígena (DEMI)
Centro Universitario de Occidente (CUNOC)	División de Protección a la Naturaleza (DIPRONA)
Centro Universitario de Petén (CUDEP)	Ecologic Development Fund
Centro Universitario de Totonicapán (CUNTOTO)	Ecoturismo Comunitario
Círculo Sagrado de Abuelos y Abuelas	Empresa Campesina Asociativa de Xalcatá, Cobán, AV
COCODE Aldea Chamtaca, Carchá, Alta Verapaz.	Empresa Comunitaria de Servicios del Bosque (FORESCOM)
Comando Aéreo del Norte (CANOR)	Enredemonos por el Corazón Verde
Comisión Ciudadana de Transparencia y Probidad de Quetzaltenango (CCTPQ)	Escuela Superior de Agricultura de Occidente (ESAO)
Comisión Presidencial Coordinadora de la Política del Ejecutivo en materia de Derechos Humanos (COPREDEH)	Estrategia para el Desarrollo Internacional (SIOL)
Comité de Gestión Comunitaria	Estrellas Preciosas
Comité de Mujeres Barra Sarstún	Facultad de Agronomía de la Universidad de San Carlos de Guatemala (FAUSAC)
Comunidad Chiantleco	Federación de Asociaciones Agroforestales, Ambientales y Agroecológicas del Occidente de Guatemala (FEDERAFOGUA)
Comunidades Guatemaltecas por la defensa de los Manglares y la Vida (COG-MANGLAR)	Federación de Cooperativas de las Verapaces (FEDECOVERA)
Consejo de Mujeres y Biodiversidad	Federación de pueblos indígenas de desarrollo integral de Guatemala (FEPIDIG)
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Fundación Defensores de la Naturaleza (FDN)	Organización Comunitaria de Mujeres (AMCO)
Fundación Lachua (FUNDALACHUA)	Organización Manejo y Conservación Uaxactun (OMYC)
Fundación para el Desarrollo Integral del Hombre y su Entorno (CALMECAC)	Parlamento del Pueblo Xinka de Guatemala (PAPXIGUA)
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Instituto Interamericano de Cooperación para la Agricultura, Alta Verapaz (IICA)	Recursos Naturales y Celulosa (RENACE)
Instituto Maya Guatemalteco para la Ciencia (IMAGUAC)	Red Agroforestal
Mancomunidad Copan Chorti'	Red de Cambio Climático
Mancomunidad Metropolitana de los Altos Mayaníquel S.A	Red de Pescadores (Livingston)
Ministerio de la Defensa Nacional (MDN)	Red del Programa de Incentivos Forestales para Poseedores de Pequeñas Extensiones de Vocación forestal o agroforestal (Red PINPEP)
Municipalidad de Tamahú	Red Juvenil Purulhá (RJP)
Municipalidad de Carchá	Red Nacional de Comunidades Organizadas Uk'uj'ul (RENACOR)
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Municipalidad de Esquipulas	Secretaría de Asuntos Agrarios (El Estor Izabal) (SAA/El Estor Izabal)
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Municipalidad de Huité	Segunda Oportunidad para el Planeta y el Ser Humano (SOPLANETSH)
Municipalidad de Jocotán	Sociedad Civil Custodios de la Selva (CUSTOSEL)
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Municipalidad de Totonicapán	
Municipalidad de Olintepeque	



Acronyms

AFOLU	Agriculture, Forestry and Other Land Use
BANGUAT	Bank of Guatemala
CADER	Rural Development Learning Centers
CARE	Cooperative for Assistance and Relief Everywhere
CEAB	Center of Environmental Studies and Biodiversity
CIF	Climate Investment Fund
CNCG	Climate, Nature and Communities in Guatemala
CONADUR	National Council of Urban and Rural Development
CONAP	National Council for Protected Areas
CONRED	Coordinating Agency for Disaster Reduction
CO₂e	Carbon dioxide equivalent
DCC	Climate Change Directorate
DGM	Dedicated Grant Mechanism
ENCOVI	National Survey of Living Conditions
ENS	National Safeguard Approaches
ER-PIN	Emission Reduction Program Idea Note
ESMF	Environmental and Social Management Frame
FAO	Food and Agriculture Organization
FCPF	Forest Carbon Partnership Facility
FIP	Forest Investment Program
FLEGT	Forest Law Enforcement, Governance and Trade
FONABOSQUES	Forest National Fund
FREL	Forest Reference Emissions Levels
FRL	Forests Reference Levels
GCI	Inter-Agency Coordination Group
GHG	Greenhouse Gases
GIMBUT	Inter-Institutional Group for Forest Monitoring and Land Use
GIS	Geographic Information System
GISREDD	Inter-Institutional Group of REDD Safeguards
GPA	Good Agricultural Practices
GRM	Grievance Redress Mechanism
IARNA	Research and Projection Institute on Natural Environment and Society
ICTA	Science and Technology Institute
IDB	Inter-American Development Bank
INAB	National Institute of Forests
INE	National Institute for Statistics
INSIVUMEH	National Institute of Seismology, Volcanology and Hydrology
IP	Indigenous Population
ISCC	Information System on Climate Change

LOI	Letter of Intention
MAGA	Ministry of Agriculture, Livestock and Food
MARN	Ministry of Environment and Natural Resources
MEM	Ministry of Energy and Mines
MINIFIN	Ministry of Finance
MRV	Monitoring, Reporting and Verification
NAMA	Nationally Appropriate Mitigation Actions
NCCC	National Council on Climate Change
NDC	Nationally Determined Contributions
NFLR	National Forest Landscape Restoration Strategy
NGO	Non-Governmental Organization
NSDDGF	National Strategy to Address Deforestation and Degradation in Guatemala Forests
ODS	Sustainable Development Goals
PAFFC	Family Agriculture Program for the Strengthening of the Peasant Economy
APCCA	Action Plan on Climate Change Adaptation
PINFOR	Forest Incentive Program
PINPEP	Incentive Program for Small Landowners of Forest or AgroForest Land
PNC	National Civil Police
PNPDIM	National Policy for Promotion and Integral Development of Women
PNDRI	National Policy of Integrated Rural Development
UNDP	United Nations Development Programme
PRCC	Regional Climate Change Programme
PROBOSQUE	Law to Promote the Establishment, recovery, restoration, management, production and protection of forests
PRONACOM	National Competitiveness Programme
RBM	Mayan Biosphere Reserve
REDD	Reducing Emissions from Deforestation and Forest Degradation
R-PP	Readiness Preparation Proposal
SAF	Agroforestry System
SIGAP	Guatemalan System for Protected Areas
SEGEPLAN	Planning and Programming Secretariat of the Presidency
SESA	Strategic Environmental and Social Assessment
SIPECIF	National System for Prevention and Control of Forest Fires
SISyMB	Information System of Safeguards and Multiple Benefits
URL	Universidad Rafael Landívar
USAID	United States Agency for International Development
UNFCCC	United Nations Framework Convention on Climate Change
UVG	Universidad del Valle de Guatemala

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1. Presentation

Guatemala is a Castilianization of the Nahuatl word Quauhtemallan <place of many trees>, a word with which the Kaqchikel city and nation was known (Historical Biographical Dictionary, 2004). The importance of forests for Guatemalan society is high, which is demonstrated by the declaration of the conservation of forests and reforestation as a national urgency, (Constitution, 1985).

Due to the high importance that forests have for the country, great efforts have been made on behalf of their protection, conservation and restoration. Some of these started on the 50s, but it is on the 90s when the country makes decisions that are considered fundamental to date. The experiences acquired with the creation of the Guatemalan System of Protected Areas (SIGAP - for its acronym in Spanish) that covers almost 32% of the country, the establishment of Forest Incentive Programs (PINFOR, PINPEP and PROBSQUE), and the creation of several forest and biodiversity governance platforms, have allowed the strengthening of local capacities to address the problems of forests and forest ecosystems. However, the efforts made to date have not allowed the reduction of the trend of deforestation and forest degradation.

However, the efforts made to date are not limited to addressing the national problem. Guatemala, in response to the global call of Nations, promotes compliance with the State's commitments to the United Nations Framework Convention on Climate Change (UNFCCC), which are contained in the proposed and determined contribution (NDC), for which the implementation of the National Strategy for Deforestation and Forest Degradation in Guatemala (ENDDBG) is established as one of the main policy instruments for mitigating climate change in the Land Use and Use and Forestry sector¹. The NDC was endorsed by the National Council on Climate Change and which is composed of government entities, universities, indigenous peoples, farmers, private sector, non-governmental organizations

As part of these efforts, in 2011 the country submitted the Readiness Preparation Proposal (R-PP Proposal) before the Preparation Fund of the Forest Carbon Partnership Facility (FCPF), in order to obtain resources to prepare for the implementation of REDD+ in the country.

As a result of this effort, since the beginning of the preparation of REDD + for Guatemala (readiness) the participation of stakeholders in the design of the ENDDBG has been promoted, however, in 2017 the National Dialogue and Participation Process with the stakeholders of the REDD+ National Strategy was designed and implemented, with cultural relevance and gender perspective, an effort that has served to promote dialogue and participation of all the actors related to deforestation and forest degradation. This process to dialogue on the National REDD + Strategy in Guatemala, initiated in five regions of the country, allowed to obtain strategic elements for the ENDDBG and to continue the participatory process of it.

¹Created by Decree 7-20132, Framework Law of the Climatic Change

¹NDC de Guatemala, página 12 <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Guatemala/1/Gobierno%20de%20Guatemala%20INDC-UNFCCC%20Sept%202015.pdf>

A first version of the ENDDBG is included in this document, which was built by the review and compilation of the proposals that the Government of Guatemala has made, but mainly with those obtained in the second Round of the Regional Meetings for Dialogue and Participation that took place between the months of October and December 2017 with the support of the financial resources from the FCPF.

This document includes the main elements of the ENDDBG proposal, which is presented to the technical authorities of the GCI (Interinstitutional Coordination Group - GCI - for its acronym in Spanish) to receive feedback on the process, and it mainly contains three thematic areas:

- a) Causes and Agents of Deforestation and Degradation of Forests in Guatemala, based on the information obtained in the second round of Regional Dialogue and Participation Gatherings.
- b) Main limitations and barriers that circumscribe the existing legal framework to address deforestation and forest degradation, and the increase in forest cover. To carry out this analysis, the analyses previously carried out within the framework of the R-PP, the ER-PIN, inputs of the REDD+ pilot projects and the expert criterion of the consultant team were reviewed. The analysis of the identification of limitations and barriers is critical in the formulation process of the ENDDBG, since the strategic activities proposed are aimed to directly address the identified limitations.
- c) Strategic Framework to address the main limitations or barriers that do not adequately address the direct causes of deforestation and degradation of forests, as well as those related to the increase in the forest coverage. This proposal is articulated in the form of: Strategic Activities and Specific Actions proposed.

This document is presented as a first version -draft- of the strategy, which will be presented to REDD+ stakeholders to continue with the participatory process of its construction, since it is a living document that must be permanently feedback to be improve and be effective in the implementation of the actions outlined within the strategic axes established in it.

We thank the different entities, groups, people and technicians who have directly or indirectly expressed their opinions and contributions in the formulation of this policy, for which we have the will and institutional commitment to strengthen and implement it.

Alfonso Rafael Alonzo Vargas

Minister of Environment and Natural
Resources

Mario Méndez Montenegro

Minister of Agriculture, Livestock
and Food

Rony Estuardo Granado Mérida

Manager
Instituto Nacional de Bosques
(National Institute of Forests)

Elder Manrique Figueroa Rodríguez

Executive Secretary
Consejo Nacional de Áreas Protegidas
(National Council of Protected Areas)



1. Forest Management in Guatemala

Guatemala is a country located in the far north of the Central American Isthmus, which has an extension of 108 890 square kilometers (equivalent to 10 889 000 hectares), with altitudinal variations from 0 up to 4211 meters above sea level and yearly rainfalls from 500 to 6000 mm, which in a relatively small territory, causes to have a large ecological diversity (CONAP - National Council of Protected Areas - CONAP - for its acronym in Spanish, 2008).

This diversity comes as a result of the interaction between complex cosmic, geologic and biologic processes that have taken place for a prolonged period. The sum of these interactions, defined by particular characteristics and factors, impose condition on the development of the ecosystems and their biotic components (UVG - Universidad del Valle de Guatemala - UVG - for its acronym in Spanish, 2006). The main conditions that have an effect in the high biological diversity in Guatemala are (CONAP, 2008):

- a) Relatively old geological origin of the region;
- b) Geographic location between two different biogeographic regions (holarctic and neotropical), in between of two oceans;
- c) Altitudinal variability; and
- d) Mountain ranges leaded toward west-east (migration corridors) between the northern and southern hemispheres.

Altitudes and reliefs are the result of geologic processes and this, at the same time, have influence upon the weather, the kind of soils and their productivity, which causes to have a highly diverse relief, since it has a high diversity of landscapes that causes a diversity of weathers that define six climatic regions (See Figure 1):

1. Northern Region;
2. Caribbean and y Northern Transversal Strip Region;
3. Central and West Highlands Region;
4. Piedmont Region;
5. Pacific Region; and
6. Region of the Eastern (INSIVUMEH, 2014; National Institute for Seismology, Vulcanology, Meteorology and Hydrology - INSIVUMEH - for its acronym in Spanish).

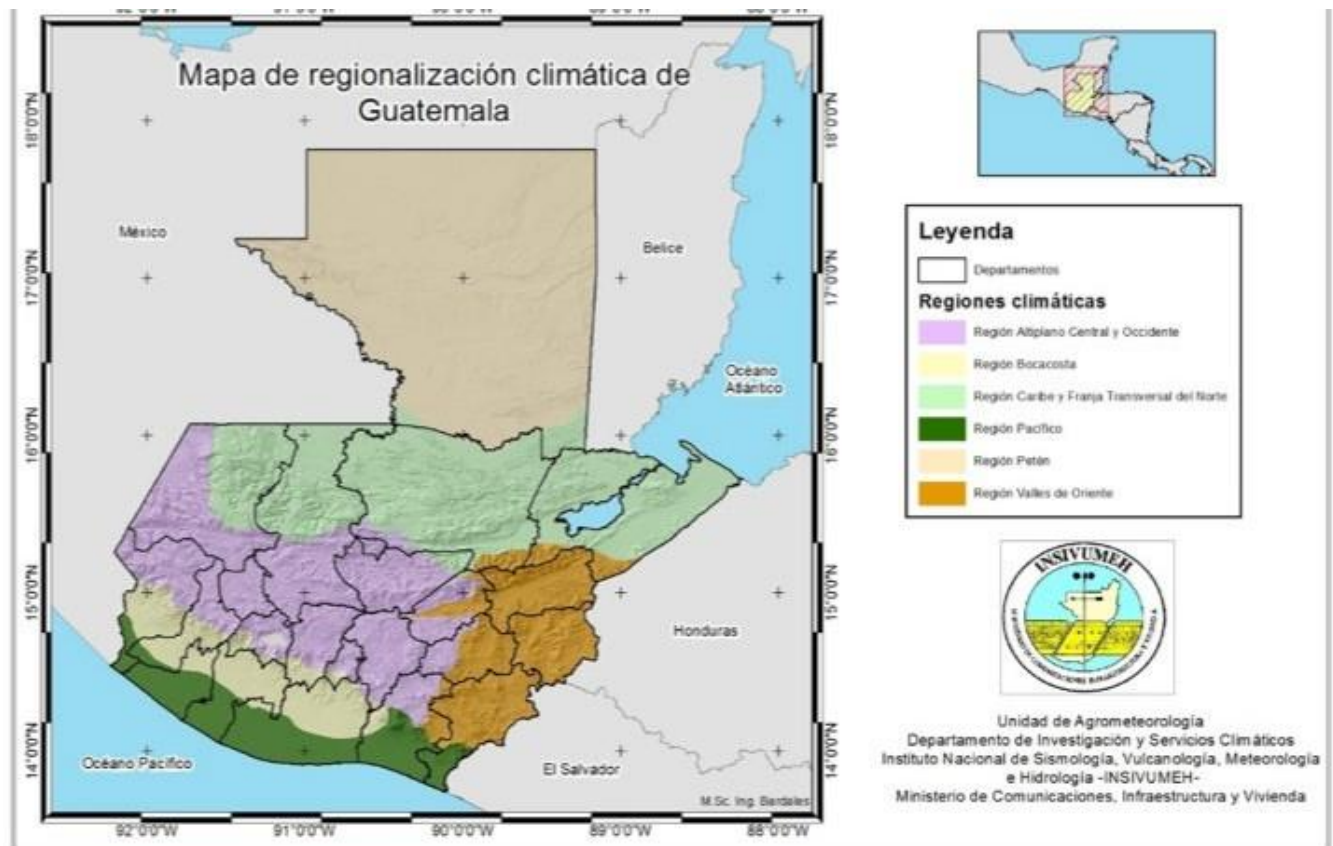


Figure 1. Climate Regionalization of Guatemala

Source: INSIVUMEH, 2013

The diversity of climatic and productive conditions of the country has defined the use that is given to the territory and to the natural resources associated to these. The evaluations performed by the Interinstitutional Forest and Land Use Monitoring Group (INAB-CONAP, 2015) indicates that for year 2012, 37.57% of the national territory was covered by a diverse types of forests, where 1.1% had forest plantations and rubber cultivation (*Hevea brasiliensis* (Willd. ex A.Juss.) Müll.Arg.), 1.1% was covered by areas with scattered trees, 57.7% by areas without forest coverage and 2.5% by other land uses such as wetlands, water bodies or without information due to the presence of clouds (See Figure 2).

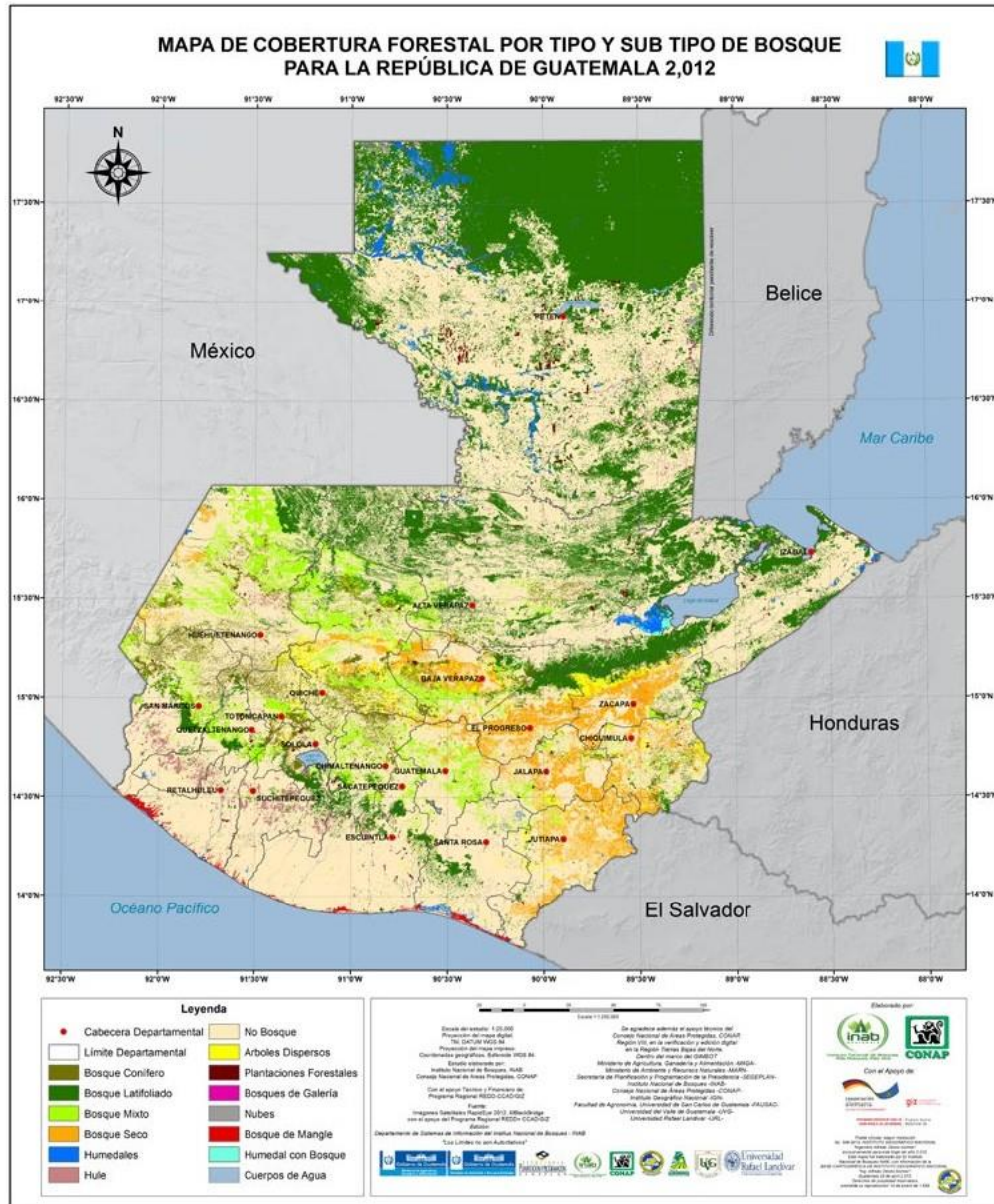


Figure 2. Map of the Forest Coverage by type for Guatemala as of year 2012

Source: taken from the Technical Report of the Forestry Map by Forest Type and Subtype, 2012 (INAB-CONAP, 2015)

Existing forests are distributed in various types highlight the following (INAB-CONAP, 2015):

- **Coniferous Forests (297 982 ha):** usually formed by one or several species, mainly represented by Pine Tree species (*Pinus* spp.), Silver fir (*Abies guatemalensis* Rehder.), Cypress tree (*Cupressus lusitánica* Mill.), Sabino or Ahuehuete (*Taxodium mucronatum* Ten.) and, *Juniperus* spp.

- **Broadleaf Forest (2 754 534 ha):** refers to the trees and bushes which are considered as leafy due to their wide and plane leaves. They are important for the high diversity of species that use them as habitat and source of forestry products for exportation. Its role in the supply of ecosystem services is highlighted for being the forests with more carbon sequestration.
- **Mixed Forest (522 028 ha):** these forests are composed by species of templated conifers and broadleaves, prevailing the *Pinus* y *Quercus* genders. However, there are some species of the *betulaceae* (*Ostrya* spp y *Alnus* spp.) family, *hamamelidaceae* (*Liquidambar styraciflua* L.) and, genders of the *lauraceae* (*Ocotea* spp, *Nectandra* spp, *Persea* spp.) family, among others.
- **Dry Forest (411 016 ha):** is the ecosystem with semi-dense or dense woody and shrubby vegetation, which alternates seasonal brief rainy climates with more prolonged dry climates. They compose a very important ecosystem due to its oddity, endemism and biologic.
- **Mangroves (25 089 ha):** are forests with the special characteristic of settle in coastal areas in dynamic relationship with brackish water. The main five species of mangroves composing these forests are: *Avicennia nítida* Jacq.y *A. bicolor* Standl., *Rizophora mangle* L., *Laguncularia racemosa* (L.) C.F.Gaertn. and *Conocarpus* spp.
- **Fallow/Secondary Forest/Coffee:** fallow or secondary forest has woody vegetation of the secondary successional kind that was developed after the original vegetation was eliminated by human activities or by natural phenomena; it refers to the successional forests. For coffee with spectral shadow, it behaves in a manner similar to the broadleaf, however, for this study it is considered as a separate kind of forest.
- **Wetlands (127 572 ha):** wetlands is understood as: “the extensions of marshes, swamps and peat bogs, or surfaces covered by water, weather natural or artificial, permanent or temporary, stagnant or running, fresh, brackish or salted, including the extensions of sea water, which depth in the lower region does not exceed six meters” (Ramsar Convention Secretariat, 2013).
- **Scrub:** formed by the thick ensemble of low and twiggy branched. Formed plant communities dominated by bushes lower than 13.12ft.

Importance of the Forestry Sector of Guatemala

The forestry sector comprises a group of actors (public, private-entrepreneurial, NGOs, individual owners, local communities and groups of indigenous peoples, communities awarded with forestry concessions, groups of women, municipalities) related among themselves by the activities of exploitation, protection, commercialization, industrialization, among others, and which produces products for other sectors in the context of the national and global economic system (forestry goods and services).

The economic importance of the forests in Guatemala lies on one hand on the supply of timber-yielding goods with which most of the demand of the internal market of the forestry industry is covered (calculated as of 2006 in 3.15 million of m³ of wood for the fabrication of furniture and the manufacturing industry; and 2.71 million of m³ of wood for sawmills and for the fabrication of wooden products (BANGUAT (Bank of Guatemala - BANGUAT - for its acronym in Spanish) and URL (Rafael Landívar University - URL - for its acronym in Spanish), IARNA (Institute of Agriculture, Natural Resources and Environment - IARNA - for its acronym in Spanish) 2009), and the demand of firewood as combustible material (calculated as of 15 771 187 tons (INAB, IARNA-URL, FAO/GFP. 2012)). On the other hand is the provision of non-timber woods (flora, animal protein) and the environmental services connected to the forests.

On a social level, indicates that more than 69.82% of Guatemalan homes report the use of firewood as their energy source for cooking at home, mainly in rural areas (INE, National Statistics Institute - INE - for its acronym in Spanish; 2014).

Protected Areas and Biodiversity

Guatemalan territory is covered in 31.85% by protected areas, legally declared, distributed in six categories of management, internationally known. The category with the highest extension is the Biosphere Reserves (Maya BR, Chiquibul Mayan Mountains BR, Trifinio BR, Sierra de las Minas BR and Visis Cabá BR), the Wildlife Refuges (El Pucté, Petexbatún, Machaquilá, Xutilhá, Bocas del Polochic, and Punta de Manabique), and the Multi-purpose Areas (Lake Atitlan's Basin, Monterrico, Ipala's Vulcanoe and Lagoon, Sarstún River and Hawaii) (See Table 1).

Table 1. Categories of Protected Areas of Guatemala by Amount and Surface

TYPE/MANAGEMENT CATEGORY	Number	Area (ha)	%
Type I - National Park	30	56,040.76	1.62%
Type I - Biologic Reserve	21	32,222.47	0.93%
Type II - Protected Biotope	1	60,878.00	1.76%
Type II - Cultural Monument	6	7,248.29	0.21%
Type II - Natural Monument	3	64,649.40	1.86%
Type III - Wildlife Refuge	1	1,837.55	0.05%
Type III - Multi-purpose Areas	6	334,805.05	9.65%
Type III - Water and Forest Reserve	5	170,145.66	4.91%
Type III - Water Springs Protection Reserve	1	19,013.44	0.55%
Type III - Water Springs Protection Forest Reserve	1	47,433.00	1.37%
Type IV - Municipal Forestry Reserve	1	5,372.00	0.15%
Type IV - Natural Municipal Recreation Ground	2	158.50	0.00%
Type IV - Regional Park and Natural Recreation Area	1	38.28	0.00%
Type IV - Municipal Regional Park	1	2,673.00	0.08%
Type V - Private Natural Reserve	69	43,845.76	1.26%
Type VI - Biosphere Reserve	182	30,420.49	0.88%
Type I - National Park	5	2,591,806.45	74.72%
TOTAL	336	3,468,588.1	

Source: Registries of the National Council of Protected Areas (CONAP - for its acronym in Spanish), updated as of August 2017.



IVAN CASTRO

2. Deforestation² and Degradation of Forests³ in Guatemala

Several studies have been performed to understand the magnitude of the deforestation of forests in Guatemala. On year 1950, it was calculated that in Guatemala the forest coverage comprised 6 973 924 ha (URL, IARNA, 2009), which has been reduced to 3 722 595 as of year 2010, which represents a rate of 1.04% in the above mentioned term. In order to provide a better detail of the forest coverage behavior and of the deforestation gross rate, Figure 3 shows their behavior.

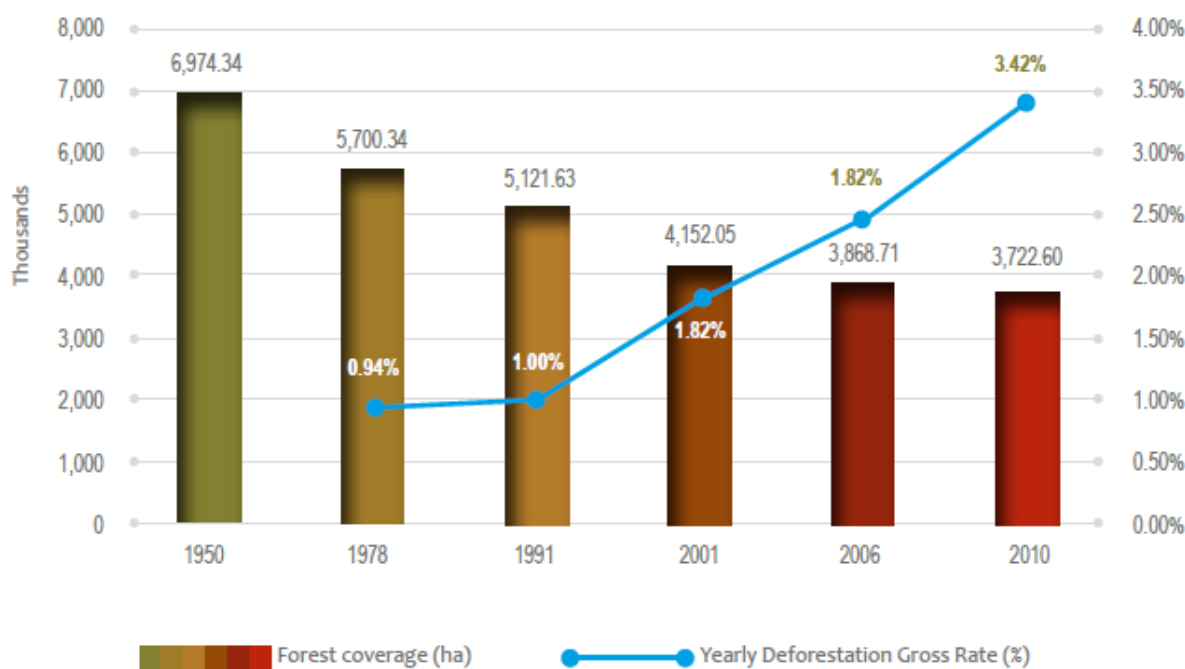


Figure 3. Dynamic of Forest Coverage and Deforestation Rate in Guatemala (1950 – 2010)

Availability per cápita of forests has been reduced over time, due to the magnitude of the observed deforestation and to the increment of population, which has influenced this factor to be reduced drastically, since as of year 1950, the availability was 2.50 ha per capita, as of year 1978 this have been reduced to 1.0 ha per capita, coming down to 0.26 ha as of year 2010.

² Deforestation: “Is the conversion of forest to an alternative permanent non-forested land use” (IPCC, 2013). It is the surface rated as forest at the beginning of the period, which was converted into another category not considered as forest at the end of the period, due to anthropogenic causes (GIMBUT, 2017).

³ Forest Degradation: is the reduction of carbon stock in forests caused by non-sustainable anthropogenic activities (fires, firewood extraction and lumber; GIMBUT, 2017).

According to the analysis performed on the determination of the Reference Emission Levels (GIMBUT - Interinstitutional Forest and Land Use Monitoring Group - GIMBUT - for its acronym in Spanish; 2017), during the period of 2001-2010, in Guatemala, 1 039 602 ha of forest were deforested (106 845 ha per year), mainly due to livestock (35%) and production of basic grains, such as corn, beans and rice (31%). In a lower scale, other crops that contributed to deforestation were: African palm (4%), cardamom (3%), rubber (3%) and other diverse crops (4%). To this, there must be added the change of use due to the growth in the urban areas, equivalent to 2% of the deforestation (See Figure 4).

However, coffee, cardamom, and rubber are associated with arboreal species causing a lower impact on the loss of the forestry resource, representing also an important economic source for the income of foreign currency to the country. For example, Guatemala is the main cardamom producer worldwide, where more than 300 000 small producers export around US\$200 million every year, in the case of rubber, the country is the biggest producer of rubber in Latin America and every year, around US\$ 239 million⁴ is exported. In the case of coffee, 18% is the result of the methodologic improvements performed for the period of 2006-2010, which allowed the identification and spatial separation of this category which in the past have been considered as a forest.

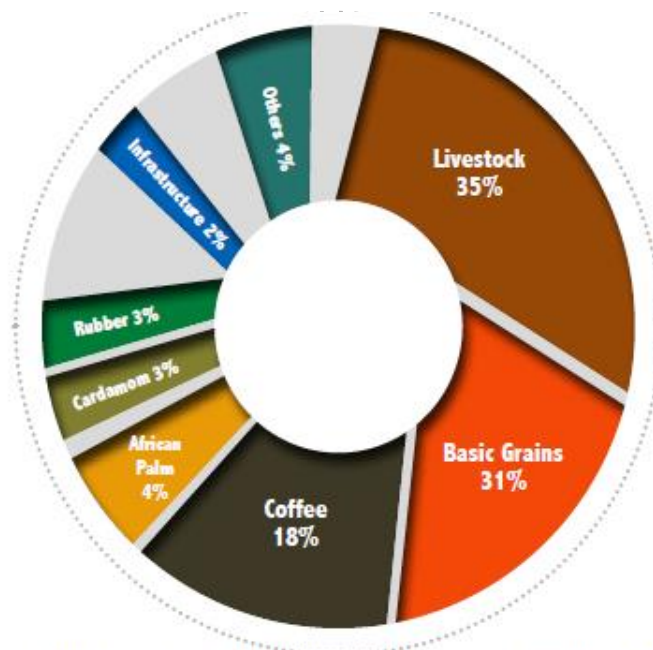


Figure 4. Distribution of deforestation by category of land use. Source: MARN (Ministry of Environment and Natural Resources - MARN - for its acronym in Spanish), 2018, with information produced by GIMBUT (Interinstitutional Forest and Land Use Monitoring Group - GIMBUT - for its acronym in Spanish)/MAGA (Ministry of Agriculture, Livestock and Food - MAGA - for its acronym in Spanish)

With the spatial database and the results of the analysis of the causes for deforestation, MARN (Ministry of Environment and Natural Resources - MARN - for its acronym in Spanish)

⁴ Bank of Guatemala, 2017

(2017) performed a preliminary analysis that enables to make the correlation between deforestation and its causes. For each of the aforementioned deforestation causes, the forest dynamics was analyzed in regard to associated coverings and economic variables.

- **Livestock:** the increment of the pastureland coverage can be associated with livestock activity. It was observed that in the period from 2001-2010, pastures areas grown at a yearly rate of 2.5%, a behavior similar to the growth of the heads of cattle, which recorded a yearly growth of 2.4% for the same period (BANGUAT (Bank of Guatemala - BANGUAT - for its acronym in Spanish), 2017). According to the national forest dynamics, during the reference period (2001-2010), 35% of deforestation is caused by the expansion of pastureland associated to livestock, with more presence in the National Park Laguna del Tigre and in the Buffer Zone of the MBR (Maya Biosphere Reserve) in Petén, and the Wildlife Refuge Punta de Manabique in Izabal.
- **Basic Grains:** no direct correlation was found between the increase of the basic grains harvested area (corn, beans and rice) and the forest coverage. The basic grains coverage does not have had a growing behavior, which implies that there is no relationship with deforestation since, according to the national forest dynamics, during the reference period, 31% of the deforestation is caused by the incorporation of the new

areas of these crops. The reduction of the crops surface is explained by the expansion of monoculture plantations (mainly live-stock, African palm and others) on these areas, as well as by the change to other more profitable crops such as vegetables.

- **African Palm:** according to the National Forest Dynamics, during the reference period, 4% of deforestation was caused by the expansion of this crop. According to a study performed by IARNA (Institute of Agriculture, Natural Resources and Environment - IARNA - for its acronym in Spanish; 2010⁵), approximately 40% of the new African Palm plantations were established in areas that were covered by forests in the last five years and 25% of the total of the surface planted in the period from 2001-2006 is located inside protected areas, mainly in the south of Petén, Alta Verapaz, Retalhuleu, San Marcos and Izabal.
- **Urban Infrastructure:** according to the national forestry dynamics, during the reference period, 4% of deforestation is caused by the expansion of the urban infrastructure surface, mainly in the departments of Guatemala, Escuintla and Petén.

Regarding forest degradation, three main causes are appointed: illegal extraction of wood and firewood (mainly for home consumption) and forest fires. Firewood extraction is influenced by the number of homes which use firewood in Guatemala.

⁵ URL, IARNA (Rafael Landívar University. Institute of Agriculture, Natural Resources and Environment). (2010). Analysis of the Dynamics of the Expansion of African Palm Cultivation in Guatemala. Guatemala. <https://www.url.edu.gt/publicacionesurl/FileCS.ashx?Id=40163>

2.1 Deforestation Inside and Outside the Protected Areas

Guatemalan System of Protected Areas (Sistema Guatemalteco de Áreas Protegidas - SIGAP - for its acronym in Spanish) constitutes the greatest effort of the country on behalf of the conservation of biodiversity and of the resources associated to it; as of 2017, 3 468 588.11 ha are within the schemes of conservation and management of protected areas of SIGAP, which represents 31.88% nationwide.

The biggest amount of forests is within protected areas. As of 2010, 51.9% of the country's forests were inside the protected areas, against 48.1% that were out of these, which is why it is reasonable to affirm that it is very likely that without these protected areas, the country could have much less forests than what it has at the present time (INAB (National Forestry Institute - INAB - for its acronym in Spanish)-CONAP (National Council of Protected Areas - CONAP - for its acronym in Spanish) - UVG (University Del Valle of Guatemala - UVG - for its acronym in Spanish) - URL (Rafael Landívar University - URL - for its acronym in Spanish), 2012).

However, forest threats inside protected areas are greater. This is evidenced with the reduction of the forest coverage on these.

On year 2006, inside the PAs were 2 044 465 ha of forests, a surface that was reduced to 1 930 397 ha on year 2010, which represents a reduction of 33 322 ha per year, with a yearly net rate of deforestation of 1.5%. On the other hand, out of the protected areas, in the same period (2006-2010) forest coverage changed from 1 824 242 to 1 792 199 ha, which means an annual net loss of 8 127 ha and a yearly deforestation rate of 0.4%.

In the evaluation of forest dynamics 2006-2010, the remaining forests were analyzed. It also shows that perhaps, the forests inside the protected areas are and have also been more susceptible to deforestation, in terms of the average slope values on which they are located. It was determined that the average slope value in forests within protected areas as of 2010 is 16.1%, while the forests out of protected areas are found in places with average slopes of 37.1%. This means that many of the forests out of protected areas are actually, fringe areas, undesirable for the change toward agricultural and/or agro-industrial uses and probably much more meadow or less susceptible to be deforested in a short term.

2.2 Policy Gaps and Incompatibilities to Attend the Causes of Deforestation and Degradation

Guatemala has a wide political frame related with the actions that seek to reduce the causes of deforestation and degradation of forests. Gómez-Chavarri (2017) from the analysis of 55 policy documents and its instruments related to the National Strategy REDD+ and the ER-PIN concludes that Guatemala has developed a wide range of international instruments, including contracts, treaties, declarations, agreements, pacts, letters and memorandum of national insight and character; policies, laws, regulations, standards, strategies, programs, agendas, plans, ministerial agreements and protocols, to comply with UNFCCC Safeguards (7 safeguards) and the FCPF Common Approach Safeguards (IDB and WB Safeguards).

Gómez-Chavarri analyzed that 22 policies and their instruments does not present gaps with the options of the REDD+ National Strategy and with the policies of other programs of the forestry sector and of other sectors related (agriculture, energy, highways, etc.), since these mention actions directly related to the modalities and options of National Strategy REDD+.

However, four of these policies and their analyzed instruments present incompatibilities⁶ related to National Strategy REDD+, which are: a) Agricultural Policy 2011 -2015, b) Irrigation Promotion Policies 2013 -2023, c) Agrarian Policy and d) Framework Law for the Regulation of the Reduction of Vulnerability and Obligatory Adaptation to the impacts of Climate Change and the Mitigation of Greenhouse Gases, Decree 07-2013, of the Congress of the Republic of Guatemala (See Table2).

⁶ Incompatibility: For the purposes of the present analysis, incompatibility is defined as the fact indicated implicitly by a policy or its instruments, or which is mentioned in its texts; actions that go in prejudice of the modalities and options of the REDD+ National Strategy.

Table 2. Main incompatibilities identified in the policies and their instruments, related to the options of REDD+ Strategy in Guatemala

Identified Policy Instruments	Incompatibility
Agricultural Policy 2011-2015	<p>Food and Nutrition Security Axis: To strengthen the land leasing program for the economy of the infra subsistence and subsistence.</p> <p>Agricultural Sanitation Axis: To establish programs for the promotion of agriculture and artisan fishing, taking special care to benefit the subsistence and infra and subsistence populations.</p> <p>Both axes require for their execution, the existence or availability of lands used for other purposes or the incorporation of new lands, however, it does not make clear or presents mitigation measures in order to not contribute with the deforestation process of the country.</p>
Irrigation Promotion Policy 2013 -2023	<p>The Promotion Policy will propitiate a larger area under risk, even in lands with agroforestry capacity (Class VI) and will ease these systems with financing and studies. However, it does not explain with more details how it will prevent that this may stimulate the deforestation or degradation of Class VI lands, in order that it can later have an access to these incentives.</p>
Agrarian Policy	<p>Promotes the support to rural producers, located as infra and subsistence, which normally have access to marginal, degraded lands, in high gradient and fragmented, not explaining which mitigation measures will be used in order that this may not promote or motivate the deforestation.</p>
Framework Law	<p>The REDD+ National Strategy has the main purpose to implement the actions for mitigation, and since Article 25 proposes that 80% of the financial resources of the National Fund for Climate Change be used for adaptation, it presents incompatibility.</p>

Source: Sistematization of the Frame of Policies and Forest Governance for the Execution of REDD+ in Guatemala, Gómez-Chavarri (2016)

Another fundamental aspect regarding the success that can be obtained with the application of the REDD+ Strategy is related to land tenure and the resources associated with it. Ownership, possession and occupation of land and forests determine which actors are involved, how they can negotiate and what benefits they may be entitled to, together with the responsibilities they will have to assume (Kuper, 214).

There are four types of holders of land rights in Guatemala: state, municipal, private, individual and community (including indigenous lands). The tenure rights (as well as the ability to participate in the various incentive schemes) of each of these groups depend on whether they are owners (with registered title), possessors (with documented title, but not registered) or land occupants of lands which belong to third parties, which includes leasing, unregulated peaceful occupation and illegal occupation. The figure of “possessor” is the category with the least legal clarity, but also the one that predominates among the small owners and those who live within the protected areas. Therefore, this is a category of great importance for REDD+.

From the point of view of the revision of land policies and the classification of tenure, the recommendations made include investments to achieve the following: to establish a clearer definition/regulation of the category of “holders”; continue working with indigenous peoples towards security of tenure; allow communities to carry out internal consultations to register community properties; prioritize land use planning and soil studies in the areas of early REDD+ initiatives; and review land distribution policies (Kuper, 2014).

At present, PINPEP (Forestry Incentives Program for Small Holders on Land Suitable for Forestry and Agroforestry - PINPEP - for its acronym in Spanish) Law ⁷ expands the range of attention and support to community groups and individual owners to have access to forestry incentives which, by the grounds of land extension and tenure regime, could not be beneficiaries with the previous program PINFOR (Forestry Incentive Program - PINFOR - for its acronym in Spanish) ⁸ which expired at the end of 2016 and encouraged owners of forest lands. Given the success of these programs, PROBOSQUE Law (Law to Promote Establishment, Regeneration, Restoration, Management, Production and Protection of Forests in Guatemala - PROBOSQUE - for its acronym in Spanish) ⁹ is created in order to give continuity to PINFOR and also to broaden the typology of beneficiaries, ensuring the granting of forest incentives for another 30 years and thereby contribute to the management and conservation of forest resources with the participation of municipalities, indigenous communities, associations and the private sector, among others. Under the ENDDGB (the expansion of the forestry incentives programs will be a priority, especially to serve this segment of the population.

⁷ Decree 51-2010, Forestry Incentives Program for Small Holders on Land Suitable for Forestry and Agroforestry (PINPEP - for its acronym in Spanish)

⁸ Forestry Incentive Program (PINFOR - for its acronym in Spanish)

⁹ Law to Promote Establishment, Regeneration, Restoration, Management, Production and Protection of Forests in Guatemala (PROBOSQUE - for its acronym in Spanish)



3. Causes and Agents of Forest Deterioration and Degradation

Causes or drivers of deforestation and/or degradation of forests are considered to be direct activities (such as the expansion of a cultivation or grazing area) that are carried out by an agent (persons or groups of people), and that result in deforestation or degradation of forests. An analysis of causes and agents of deforestation and forest degradation allows countries and projects to identify the main productive and/or social activities that promote the loss of forests, understand the dynamics of agents and their degree of contribution, so that the plans and strategies that are promoted may focus on the most important causes or motors (Winrock, 2015).

In Guatemala, several analysis of deforestation causes and agents have been performed. At a local or regional level, evaluations have been performed, such as the ones of REDD+ projects: GuateCarbon (Samayoa, 2011), Lacandón Bosques para la Vida (Lacandón, Forests for Life, Portillo y Rojas, 2011), Proyecto Caribe Guatemalteco (Guatemalan Caribbean Project, CEAB-UVG (Environmental and Biodiversity Study Center - CEAB - for its acronym in Spanish /Del Valle University of Guatemala - UVG - for its acronym in Spanish) and FUNDAECO (Foundation for Eco-development and Conservation - FUNDAECO - for its acronym in Spanish), 2015), Ecoregión Lachuá (Lachuá's Ecoregion, Winter, 2010); while at a national level (Leiva 2017-2018) the identification and quantification of forest deforestation and degradation causes and agents is in process. This last effort is being reinforced by an econometric analysis performed by MARN (Ministry of Environment and Natural Resources - MARN - for its acronym in Spanish, 2018) with information of the Forest Reference Emission Levels/Forest Reference Levels of Guatemala-FREL/FRL- (GIMBUT, 2017). These efforts of analysis of the causes and agents have been confronted with analysis of the dynamics of land use, both specific analyses and those of the NREF-NRFs.

During the initial implementation phase of the Dialogue and Participation of the ENDDBG, organized by INDUFOR (2017), Leiva (2017) presented and validated the main elements to identify the main causes and agents of forest deforestation and degradation, information which helped for the construction of the ENDDBG. In this section, the main causes of forest deforestation and degradation and the related agents, are described (Leiva, 2017).

3.1. Causes and Agents Related to Deforestation

Leiva (2017) concludes that four main causes that promote deforestation in Guatemala have been identified, being these (See Figure 5). These inputs were generated from the initial implementation of the dialogue and participation process, where stakeholders indicated, according to their experience and knowledge, which are the main causes and agents of deforestation. Below, each one of them is described:

1) Increase in the Areas Destined to Agricultural and Livestock Production:

Where two kinds of actors participate, one group which cultivates the lands for obtaining their own food and the other group cultivates the land for commercial purposes.

Related to this activity, there have been found specific people or specific groups who promote the occupation and appropriation of lands, especially those which belong to the State, and which main purpose is the appropriation and/or sale of the lands.

2) Increase in the Areas Destined to Livestock Production:

The areas destined to the livestock are established with the purpose of obtaining economic income. Within these activities, we have also been able to identify groups of people that promote the occupation and market of land owned by the State, mainly in the Maya Biosphere Reserve.

3) Growth of Urban Areas and Rural Communities:

This activity is directly related to the growth of populations, both by the vegetative growth of cities and communities, as well as migration to and from them. Many of the new occupations are carried out in forest areas and steep slopes, due to the price of urban and peri-urban lands.

4) Growth of Productive Activities and Infrastructure, Mainly Mining, Hydroelectrics and Infrastructure, such as Warehouses, Roads and Other Infrastructure.

Although maps and analyzes of deforestation do not show the impact of these activities at the national level, one of the conclusions of the dialogue and participation process is that some of these activities have an impact at local level.

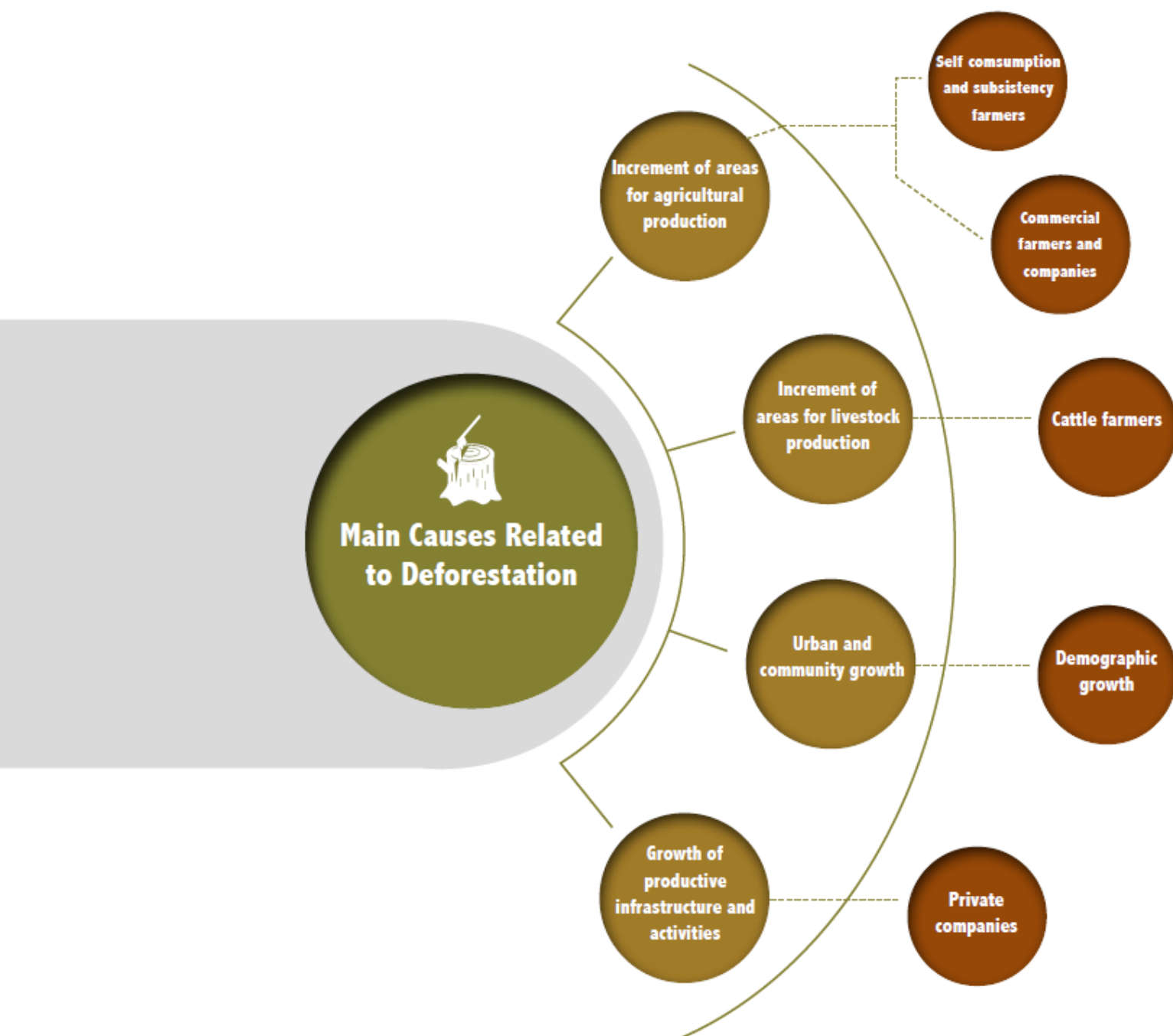


Figure 5. Main Causes Related to Deforestation in Guatemala

Source: Workshops of the 2nd Territorial Gathering for the Dialogue and Participation for the Construction of the ENDDBG

3.2. Causes and Agents Related to Forest Degradation

Three causes related with the forest degradation in Guatemala were identified (See Figure 6):

1) Non-sustainable and uncontrolled firewood extraction:

This activity is closely related to the general population. According to the information from the 2014 National Survey of Living Conditions (INE, 2014), more than 2.34 million homes use firewood in the country, of which 61% are located in rural areas and the remaining 39 % in urban areas. Many of these homes directly collect wood from the forests. There is a good proportion of homes that buy firewood from private persons, who dedicate themselves to this activity.

2) Illegal and Unsustainable Extraction of Timber and Other Forest Products:

This activity concentrates on extracting, processing and commercialize mainly wood for construction and woodworking (species of high commercial value). This activity is developed by loggers, who in most cases contact the owners of the forests or trees; they cut, process, extract and market them. Their main purpose is to receive income from this activity.

3) Forest Fires:

They are mainly caused by carelessness at the time of the cleaning of the agricultural plots or in the activities of renewal of pastures and in the control of the ticks, mainly in the region of the north and north-east of Guatemala. In addition to these causes, agents related to hunting are also identified, as well as people who cause arsons, with the aim to affect the forest and thus be able to use the land once it is devoid of trees.

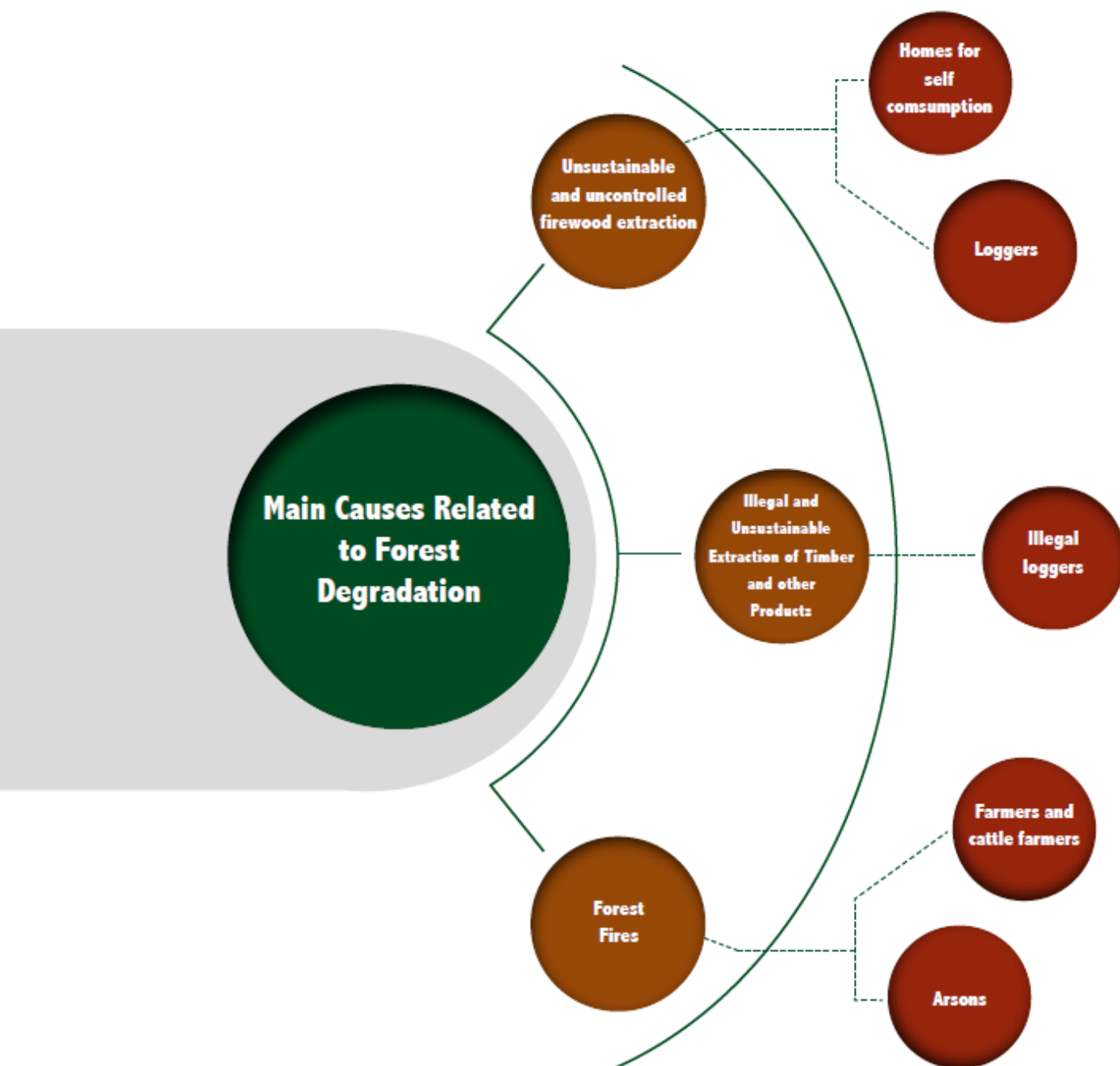


Figure 6. Main Causes Related to Forest Degradation in Guatemala

Source: Workshops of the 2nd Territorial Gathering for the Dialogue and Participation for the Construction of the ENDDBG

3.3. Framework of Policies Compatible with the ENDDBG

The country's efforts to address the main causes and agents of deforestation and forest degradation have led to the generation of various public policy and regulatory instruments, which seek to reduce this problem in an integral manner in some cases, and in a timely manner in other cases.

The analysis carried out by Gómez-Chavari (2016) regarding the policy and regulatory framework concludes that there is a legal framework (Laws, Regulations, Norms), Policies and their instruments (Programs) and Planning (Strategies, Plans, Agendas, Manuals and Guidelines) that support the Options and REDD+ modalities proposed in the ENDDBG.

These policy documents and their instruments present an adequate orientation and scope in their proposals, mainly in relation to the management of natural resources, conservation of biodiversity and the environment, in accordance with the scope of application of each of these, by how much does it have implications in the activities related to the ENDDBG.

The foregoing is due, in part, to the fact that 33 of the documents analyzed were issued or promulgated after the REDD+ process was initiated in the country, which began with the presentation of the R-PIN in March 2009. It should be noted that only nine of these documents make specific mention in their content to the ENDDBG. This allows us to conclude that there is a broad policy framework in the country that will allow the implementation of the strategy in it.



4. Main Barriers and Limitations

All those factors that prevent or reduce, totally or partially, the operational or promotional capacity of the institutions related to REDD+ in the country, in order to fulfill their roles, objectives and/or legal mandates for proposing and implementing actions and strategies aimed to the reduction of driving activities of deforestation and forest degradation in Guatemala, are considered as a barrier or limitation.

Pavez and Montenegro (2014) evaluated the framework of action of the institutions involved in the learning process on REDD+, taking as hypothesis that these institutions and/or platforms have limited resources and action fields committed to execute the proposed objectives, and also face limitations, holes or gaps in their actions, determined by the lack of clear rules of the game or lack of operational, technical and/or political harmony.

There are different kinds of barriers and limitations, however, to guide the approach of the ENDDBG, there will be included those that prevent or negatively interfere in the implementation of activities to take care of the main agents that cause deforestation and degradation of forests in Guatemala, and in this way, influence the reduction of the direct causes of deforestation and degradation of forests, as well as those that limit the implementation of actions to restore degraded lands and forests.

4.1. Related to Deforestation

a) Increment of Agricultural and Livestock Production Areas

Agricultural and livestock activities, whether for commercial or self-production purposes, are the greatest employer of the people in Guatemala. According to information from ENEI (National Employment and Income Survey - ENEI - for its acronym in Spanish) 1-2016 (INE (National Statistics Institute - INE - for its acronym in Spanish), 2016), the economic activity which absorbs the greatest amount of labor power is agriculture (28.8%), followed by - in importance order - commerce, lodging and services (25.3%).

Agricultural activities are not regulated and/or controlled in the country, so a producer - small or large - is the one who makes the decisions on what crops, which extensions and on what dates to plant. These activities are carried out in all the departments and municipalities of the country, in some with greater intensity than others. According to the analysis of the dynamics of forest coverage in Guatemala for the period of 2006-2010 (INAB, CONAP, UVG, URL, 2012), indicate that the departments where the largest net deforestation is observed are: Petén (40 125 ha per year), Izabal (4272 ha per year), Chiquimula (1908 ha per year), Baja Verapaz (1569 ha per year), and Santa Rosa (1281 ha per year).

Agricultural and farming production activities are carried out practically in all the municipalities and departments of the country; however, the greatest amount of conversion of forests to croplands and pastures has been observed mostly within the protected areas. The net annual loss within the protected areas for the period 2006-2010 was calculated in 33 322 ha, in comparison with the loss that was observed outside of it, which amounted to 8 127 ha. This situation, in addition to impacting the loss of carbon in the ecosystems, complicates the efforts made for the conservation of the biodiversity.

Guatemala has performed efforts to handle deforestation. In 1998 the Forestry Policy¹⁰ was enacted; it is important to highlight a part of its purpose “...contribute to land use in rural lands, through the promotion of productive management and the conservation of the natural resource base, with emphasis on forestry and associated resources such as biodiversity, water and soil...” This strategy is complemented with other efforts, such as the National Policy on Biological Diversity¹¹ which was launched with the aim to “promote a transversal and effective management of Guatemalan biodiversity, emphasizing its conservation and sustainable use...” In the same manner, the

National Strategy for Forest Landscape Restoration¹² also promotes the sustainable management of the forest landscape. With the enactment of the PROBOSQUE¹³ law, the modalities for managing the protection and conservation of forests in the country are expanded.

Despite the country's effort, there are barriers that have limited the adequate fulfillment of the objectives of these instruments, among them, the following have been identified:

Main Identified Barriers and Limitations:

- 1) Operational weakness of institutions related to the agricultural, forestry and natural resources activities and to those for forest and natural resources conservation (MAGA, MARN, INAB, CONAP) and the municipalities, which limit the fulfillment of their functions and the monitoring of the application of the forest-environmental regulations
- 2) Lack of a comprehensive approach and Inter-institutional coordination for the promotion of sustainable economic activities that strengthen the processes of protection, conservation and restoration of forests and ecosystems of importance to society
- 3) Limited budgetary investment and of other resources to strengthen the management and control of the Guatemalan System of Protected (SIGAP) and the areas which constitute it

¹⁰ Forestry Policy, page 26, <http://www.marn.gob.gt/Multimedios/419.pdf>

¹¹ National Policy on Biological Diversity, page 26, <http://www.marn.gob.gt/Multimedios/422.pdf>

¹² National Strategy for Forest Landscape Restoration <http://www.marn.gob.gt/Multimedios/1238.pdf>

¹³ Law to Promote Establishment, Regeneration, Restoration, Management, Production and Protection of Forests in Guatemala (PROBOSQUE), Article 10 <http://186.151.231.170/inab/images/descargas/legislacion/LEY%20PROBOSQUE.pdf>

10 <http://186.151.231.170/inab/images/descargas/legislacion/LEY%20PROBOSQUE.pdf>

- 4) Reduced institutional and governmental authorities presence for the supervision and control of the change of illegal land use towards agricultural activities, with greater emphasis on the country's main protected areas and strategic ecosystems
- 5) Low incentive to expand and strengthen the participation of community-based organizations - mainly women's and youth organizations - in the strengthening of local governance and in the protection and conservation of forests and protected areas
- 6) Greater profitability (opportunity cost) of land use in agricultural activities than in forestry, both for protection and production. Lack of medium and long-term financial mechanisms that promote the protection and conservation of natural forests and plantations
- 7) Lack of mechanisms for the promotion and implementation of incentive programs on priority lands for the protection and restoration of degraded lands and forests
- 8) Lack of non-agricultural labor or economic opportunities, especially in the rural areas, which causes the use of soils for subsistence agriculture, on marginal lands and for these activities.

a) *Urban and Community Growth*

Population growth is the main force that drives the growth of cities and communities in Guatemala. As of year 2015, only the city of Guatemala and Antigua Guatemala - of the 338 municipalities in the country - had land-use planning plans, and SEGEPLAN (Presidential Secretariat of Planning and Programming - SEGEPLAN - for its acronym in Spanish) was accompanying approximately 80 municipalities to build territorial reorganization plans (Carlos Barillas, SEGEPLAN, 2015).

One of the benefits of territorial ordering is the contribution to improving the living conditions of the population when carrying out an integral planning of the development, protecting, conserving and taking advantage of the natural resources and the environment in a sustainable way, since it identifies the needs of the population through a prospective analysis and to that extent, guides the sustainable use of the territory and its resources, while developing clear rules for territorial management, where everyone knows what can be done, where, how, what benefits can be obtained and what limitations exist (SEGEPLAN, 2011).

The efforts that the country has made regarding the organization of its territory have not achieved the desired goals however, it is considered an aspect of importance for the integral development of the population. Within the

General Policy Guidelines 2016-2018 (SEGEPLAN, 2015)¹⁴ appear the application of criteria and regulations of territorial environmental order to improve the interrelation between the population and natural resources. Despite having these proposals, the following limitations are observed to achieve the proposed objectives:

Main Identified Barriers and Limitations:

- 1) Lack of municipal territorial planning policies and plans, which establish regulations for land use and management of associated natural resources, and which, in turn, incorporate the variables of risk and climate change in urban and community planning
- 2) Poor control over the change of land use due to urban and community expansion
- 3) Lack of short-term and long-term financial mechanisms that promote urban and peri-urban forest protection and conservation

b. Activities and Productive Infrastructure Growth

There are some activities that tend to transform local productive landscapes, such as the open-pit mining of metallic and non-metallic minerals (construction materials), as well as the construction of infrastructure for hydroelectric plants, roads, among the main ones that were identified in the Dialogue and Participation Territorial Meetings

carried out in 2017. Deforestation analyzes at national level do not identify these activities as direct causes of deforestation and forest degradation, however, in certain regions of the country, these activities have high importance.

Main Identified Barriers and Limitations:

- 1) Low participation of government and municipal authorities in local dialogue processes, prior to the authorization and execution of this kind of activities
- 2) Lack of mechanisms for dialogue and dissemination of results at the community level
- 3) Lack of technical capacity for the implementation of plans of management, use and territorial ordering in the proposed areas for the development of this kind of projects
- 4) Corruption

4.2. Related to Forest Degradation

a) Non-Sustainable and Uncontrolled Firewood Extraction

Firewood is the main primary source of energy in the country and it is the source of most consumption (Ministry of Energy and Mines - MEM - for its acronym in Spanish, 2017). According to the Energy Balance 2016 (MEM, 2017), 55.53% of the final energy consumed

¹⁴General Policy Guidelines 2016-2018, page 14, http://www.segeplan.gob.gt/downloads/GpR/2015/03_Lineamientos_Generales_de_Pol%C3%ADtica_2016-2018.pdf

was by means of firewood, followed by petroleum products (35.62%) and electricity (8.85%). The main demand is at the household level and to a lesser extent, for small-scale productive activities, such as bakeries, brickworks, handicraft lime manufacturing, among others.

The use of firewood in homes as an energy source is related to the level of poverty and if the homes are located in urban or rural areas (INE, 2014). On year 2014, a 69.8% of the country's homes used firewood. According to the poverty level, these data vary: in homes in extreme poverty, the rate is 97.9%; homes considered as poor, 87.1% and non-poor, 50.1%. According to the location of the homes, these values also vary, since at the urban level, only 5.1% of the homes use firewood, while in the rural area, it is 93.4% of homes that employ it.

Guatemala currently has an Energy Policy 2013-2027 which V Axis mandates the production and sustainable use of firewood¹⁵, as well as a National Strategy for Sustainable Production and Efficient Use of Firewood and the National Strategy for Forest Landscape Restoration¹⁶ which also promotes the sustainable management of the forest landscape for energy purposes, in addition to the efficient use of this resource through clean technologies for cooking.

To these efforts is added the PROBOSQUE Law that includes a new modality of forest incentive for the establishment of energetic forests or the sustainable use of agroforestry systems and natural forests for biomass¹⁷.

These policy instruments establish objectives, goals, actions, responsible and even referential budgets to achieve the sustainable and controlled extraction of firewood. However, there are barriers that limit its approach, including:

Identified Limitations:

- 1) Lack of financial and credit mechanisms to promote efficient firewood use systems at household and industry level
- 2) Lack of extension systems at the household level to promote efficient systems for the use of firewood or other energy resources, with an emphasis on households that are in poverty
- 3) Lack of policies and regulations to promote the incorporation of trees in traditional agricultural production systems
- 4) Low participation of government and local authorities in controlling the extraction and use of forest products from forests
- 5) Low community participation in the control of extraction and use of wood from forests

¹⁵Energy Policy 2013-2027, page 47 <http://www.mem.gob.gt/wp-content/uploads/2013/02/PE2013-2027.pdf>

¹⁶National Strategy for Forest Landscape Restoration <http://www.mam.gob.gt/Multimedios/1238.pdf>

¹⁷Law to Promote Establishment, Regeneration, Restoration, Management, Production and Protection of Forests in Guatemala (PROBOSQUE), Article 10 <http://186.151.231.170/inab/images/descargas/legislacion/LEY%20PROBOSQUE.pdf>

- 6) Low interest of agricultural producers to incorporate trees into traditional agricultural production systems
- 7) High management cost for small agricultural producers and local communities to access forestry incentive programs to incorporate trees into traditional agricultural production systems

b) Illegal and Non-Sustainable Extraction of Wood and Other Forestry Products

It is estimated that about 95% of the activities of extraction of forestry products from the forest were done in an uncontrolled manner. In addition, two thirds of the wood processed in the country has an uncontrolled origin, with the consequent impacts on the country's economy and the protection of forests (BANGUAT and URL, IARNA, 2009).

This problem has been addressed for several years. In 2004, the INAB approved the Strategy for Combating Illegality in Forestry Activities, which was modified in 2006 and served as the basis for making the Forest Products Transport Regulations operational. This strategy was not carried out with the participation of other actors, so it stopped being a sectoral strategy, and became an institutional strategy.

In 2010, the INAB presented the Institutional Action Plan for the Prevention and Reduction

of Illegal Logging in Guatemala (INAB, 2010), which culminated in the signing of the Inter-institutional Coordination Agreement for the Prevention and Reduction of Illegal Logging in Guatemala, which includes twelve government institutions. As a result of this process, the Interinstitutional Table was formed to combat illegal logging in Guatemala. But the efforts that have been made do not allow the improvement in the achievement of the objectives that were presented, mainly because of:

Identified Limitations:

- 1) Low articulation of the actors in the competitive provision of wood
- 2) High management cost for obtaining permits and licenses for the management and use of forest products, mainly small producers, local communities and indigenous peoples
- 3) Limitations on the promotion and sustainable use of "certified/controlled" forest products
- 4) Low participation of government and local authorities in controlling the extraction and use of forest products from forests
- 5) Low community participation in controlling the extraction and use of forest products
- 6) Corruption and low application of the environmental-forest legislation

c) Forest Fires

The use of fire in agricultural activities is a practice commonly used in the country, however, it is not the main cause of forest fires; 58.14% of fires were considered intentional, 29.87% due to agricultural and pasture burning, and 11.99% due to various causes and/or oversights (INAB, 2017). On year 2016, 26 508 ha were affected, 14 745 ha of forest and 11 763 ha of other kind of vegetation.

Derived from the problems related to the forest fires of the years 1998 and 2000, in 2001 the National System for the Prevention and Combat of Forest Fires (SIPECIF- for its acronym in Spanish) was created, an instance that had to prevent, mitigate, control and extinguish fires forestry, however, through Government Agreement 156-2017 of July 20, 2017, this agreement was repealed, so to date, in the country there is no responsible body for the matter.

In 2009, a document was proposed that would serve as the basis for the National Policy on Prevention and Control of Forest Fires and Integrated Fire Management,¹⁸

however, this was not officially released. Although progress has been made in some cases, there are limitations to address the causes of forest fires, mainly due to:

Identified Limitations

- 1) Lack of institutional and financial resources to promote the prevention and control of forest fires, mainly in areas owned by the State
- 2) Lack of regulations and control in the use of fire in agricultural and livestock activities, especially in areas close to forests
- 3) Lack of research on the effects and emissions derived from forest fires, mainly in areas of recurrent fires
- 4) Lack of preventive forestry to reduce the scattering and spread of forest fires
- 5) Lack of immediate forest fire detection systems
- 6) Lack of support in the regional or community organizations for fire prevention and control

¹⁸ <http://www.fire.uni-freiburg.de/GlobalNetworks/MesoAmerica/Guatemala-Politica-Nacional-Manejo-Fuego-2009.pdf>

4.3 Related to the Restoration of Forests and Degraded Lands

a) Increment of the Areas Under Sustainable Forest Management

Guatemala's Forestry Policy look forward to promote the conservation of forests through its integration into sustainable production processes, and to integrate them to the formal economy of the country. It is expected that, with the generation of goods and income for the owners of forest properties, they will have an economic motivation to protect and improve them (that volumes of wood and other forest products may be incremented).

Within the protected areas, 507 993 ha are under the modality of forest concessions, subject to sustainable forest management, and 18 588.40 ha are subject to intervention on private farms; outside the protected areas, 21 000.18 ha have been incorporated into forest management (SIFGUA, 2017; Forest Information System of Guatemala - SIFGUA - for its acronym in Spanish). These extensions are considered low if the number of forests that have potential to be incorporated into sustainable forest management is taken into account.

The second axis of the Forest Policy¹⁹ seeks to promote the productive management of natural forests, and the third axis, the plantation of forests, actions that seek to increase the amount of goods and services that are generated in them, which at the same time contribute to increase forest carbon stocks in them. Another instrument, the National Strategy for Forest Landscape Restoration²⁰ among its thematic axes seeks the economic development from the restoration of the forest landscape based on income generating options, employment, goods and services, under productive approaches, such as agroforestry systems with species and forest products of high commercial value. The best experiences are with the Incentive Programs, with the finalized PINFOR, and currently with PINPEP and PROBOSQUE²¹ that have new modalities to encourage the restoration of the forest landscape and the establishment of agroforestry systems.

In spite of the efforts made by the country, there are barriers that have limited the adequate compliance of the purposes of these instruments, among them, the following have been identified:

Main Identified Barriers and Limitations:

- 1) Lack of mechanisms for the promotion and implementation of incentive programs in priority forests and plantations to be managed sustainably, as well as for the restoration of degraded lands and forests

¹⁹ Forest Policy, pages 13 and 15, <http://www.marn.gob.gt/Multimedios/419.pdf>

²⁰ National Strategy for Forest Landscape Restoration, page 10, <http://www.marn.gob.gt/Multimedios/1238.pdf>

²¹ Law to Promote Establishment, Regeneration, Restoration, Management, Production and Protection of Forests in Guatemala (PROBOSQUE), Article 10 <http://186.151.231.170/inab/images/descargas/legislacion/LEY%20PROBOSQUE.pdf>

- 2) Greater profitability (opportunity cost) of the use of land in agricultural activities than in forestry production
- 3) Lack of medium and long-term financial mechanisms that promote the productive management of natural forests and plantations
- 4) Lack of policies and regulations to promote the incorporation of trees in traditional agricultural production systems
- 5) Lack of interest of agricultural producers to incorporate trees into traditional agricultural production systems
- 6) High management cost for small agricultural producers and local communities to access forest incentive programs for the management of natural forests and plantations
- 7) High cost of management for obtaining permits and licenses for the management and use of forest products, mainly for small producers, local communities and indigenous peoples



IVAN CASTRO

5. Strategic Framework

Forests conservation and the reforestation of the country are considered as actions of national interest, which should be given a nature of national urgency²². In this sense, the ENDDBG seeks to comply with this constitutional mandate, through the systematization and articulation of the main policies, programs and projects that have been implemented in the country, which include the efforts that have been built with the support of Forest Carbon Partnership Facility (FCPF) through IDB.

The construction of the first version of the ENDDBG (version 1.0) is based on the systematization of the lessons learned from the efforts that Guatemala has made over more than twenty years²³, as well as the processes established for the construction of REDD+, as are the processes to guarantee social and environmental safeguards, the incorporation of gender considerations and the mainstreaming of ancestral and traditional knowledge and practices. These lessons learned are being strengthened in the Dialogue and Participation process that has been established for the preparation of REDD+, mainly in the dialogue and participation workshops held in 2017.

The strategic framework on which the ENDDBG is based is built around three strategic axes aimed at addressing the direct causes of deforestation and forest degradation, while including actions for the restoration of degraded lands and forests, and increase in the flows of goods and services that forests provide to Guatemalan and global society. Within these axes it is also included one of a cross-cutting nature to all causes and which is primarily oriented towards strengthening the governance framework of activities related to forests and other related land uses.

These axes are integrated by fourteen strategic lines²⁴ and a series of actions that have a substantive and transversal scope. The program framework and the ENDDBG Action Plan are integrated by activities²⁵ that form the technical and operative base for the fulfillment of the objectives of each strategic line. They consists of initiatives (programs, projects, regulatory instruments, financial

²² Art. 126 of the Political Constitution of the Republic of Guatemala.

²³ At the end of the nineties (1990s), several laws and programs were enacted, aimed at the protection of forests and the recovery of forest cover.

²⁴ These are specific measures aimed at achieving a specific impact on one of the causes of deforestation or degradation of forests, and may be of a transversal nature to all or several of them.

²⁵ These are concrete activities aimed at addressing the main causes of deforestation and forest degradation in the country, and at the same time they allow promoting the restoration of degraded ecosystems and the sustainable management of forests, forest plantations and agroforestry systems.

instruments, policy reviews and other instruments or mechanisms of dialogue and consensus) in execution or to be implemented, aimed at achieving objectives, goals and products of the strategy, in which the identified actors have been called to participate.

In this context, six strategic lines are considered associated with the direct prioritized causes, and three strategic lines of cross-cutting nature to all causes. As a whole, these lines involve the implementation of 27 strategic actions. For each one of these actions, specific objectives and activities are established, and will serve for the construction of the programmatic framework of the strategy. It is worth mentioning that the implementation of these actions will be carried out in compliance with the respect and approach of the REDD + Safeguards, among them, the non-conversion of natural forests, the full and effective participation of stakeholders in the measures, among others.

As part of the preparation process for the implementation of the ENDDBG in the country, in some regions it has begun with the implementation of some REDD+ projects, which are considered as early actions of this process, taking into consideration that they are efforts promoted at a local level to address the causes of deforestation and forest degradation, and at the same time, generate opportunities for the development of local communities.

These projects are contributing significantly to the national learning process, since they are promoting different institutional arrangements, governance structures, and monitoring and financing mechanisms in diverse local conditions (environmental, social and cultural) that are strengthening the national process. These activities are carried out both inside and outside the protected areas, which have different stages of development, and which are considered as part of the national process for the implementation of REDD+ (See Table 3).

Project's Name	Proponents	Kind of Project
GuateCarbon http://guatecarbon.com/el-proyecto/ http://vcsprojectdatabase.org/#/project_details/1384	ACOFOP (Association of Forestry Communities of Petén) and CONAP (National Council of Protected Areas)	REDD+ (Reducing Emissions from Deforestation and Forest Degradation)
Lacandón Bosques para la Vida (Lacandón, Forests for Life) http://bosques-lacandon.org/ http://vcsprojectdatabase.org/#/project_details/1541	Fundación Defensores de la Naturaleza (Nature Defenders Foundation)	REDD+ (Reducing Emissions from Deforestation and Forest Degradation)
Costa de la Conservación (Conservation Coast) http://theconservationcoast.com/ http://vcsprojectdatabase.org/#/project_details/1622	FUNDAECO (Foundation for Eco-development and Conservation) and ALTHELIA	REDD+ (Reducing Emissions from Deforestation and Forest Degradation)
Redes Locales para nuestro Desarrollo y el Cambio Climático (Local Networks for our Development and Climate Change) http://www.fundacioncalmecac.org/	Fundación CALMECAC (CALMECAC Foundation)	REDD+ (Reducing Emission from Deforestation and Forest Degradation)

Table 3. Existing REDD+ Projects and Initiatives

These activities have made various advances in the process, mainly in the aspects of specific issues such as: prior consultation, the safeguards approach, development of baselines of emissions, among others, while they have been able to demonstrate significant emission reductions. It is expected that, in the future, as part of the implementation of the ENDDBG, new REDD+ projects and initiatives may arise, which will seek to align with the national framework for this activity.

5.1. Legal and Policy Framework

Guatemala has recognized the importance of forests for society and for its economic development, which is why it has declared the country's reforestation and the conservation of forests a matter of national urgency and social interest (Constitution, 1985); This

declaration has been strengthened with the enactment of a series of ordinary laws aimed at this end, among which the Law on Protected Areas (Decree 4-89 and its reforms), the Forestry Law (Decree 101-97), and the Framework Law to regulate the reduction of vulnerability, the mandatory adaptation to the effects of climate change and the mitigation

of greenhouse gases (Decree 7-2013). In these laws, plant ecosystems and forests enjoy of special attention, and their protection, conservation and restoration are promoted.

There is a legal framework constituted by Laws, Regulations, Norms, as well as Policies and their instruments (Programs) and Planning (Strategies, Plans, Agendas, Manuals and Guidelines) that support the different options and proposed modalities for addressing the deforestation and degradation of forests in Guatemala, including actions oriented toward REDD+ mechanisms.

The Policy documents and their instruments present orientation and scope in their proposals, mainly in relation to the management of natural resources, conservation of biodiversity and the environment, in accordance with the scope of application of each one of these, which is why somehow they have implications in the activities related to the Options of the REDD+ National Strategy.

Gómez-Chavarri (2016) analyzed 63 legal and policy instruments that have been enacted in the country, of which 55 are related to the development of the REDD+ Strategy in Guatemala (See Table4).

Table 4. Legal and Policy Instruments Related to REDD+

Kind of Document	Number of Analyzed Documents	Related to REDD+			
		Instruments Related to REDD+	Present Gaps	Present incompatibilities	Have the support of interested parties
Policies	30	25	17	3	19
Laws	9	7	3	1	7
Regulations	6	6	2	0	6
Plans	5	4	1	0	3
Strategies	4	4	3	0	4
Agendas	3	3	2	0	3
Programs	2	2	1	0	1
Standards	2	2	2	0	2
Manuals	1	1	1	0	1
Guidelines	1	1	1	0	1
	63	55	33	4	47

Source: Systematization of the Forest Policy and Governance Framework for the implementation of REDD+ in Guatemala, 4th consulting report (Gómez-Chavarri, 2016)

Of the 55 policies and their instruments analyzed by Gómez-Chavarri (2016), there was found that: 22 of them make direct mention of actions related to the modalities and options of the REDD+ National Strategy; 44 policies and instruments present gaps in financing modalities for REDD+; and 48 policies and instruments present gaps in the distribution of benefits related to the reduction and removal of GHG emissions.

Of the policies and their instruments analyzed (55), four show incompatibilities related to the REDD+ National Strategy, being these: a) Agricultural Policy 2011-2015, b) Irrigation Promotion Policy 2013-2023, c) Agrarian Policy and d) Framework Law to Regulate the Reduction of Vulnerability, Compulsory Adaptation to the Effects of Climate Change and Mitigation of Greenhouse Gases, Decree 7-2013, of the Congress of the Republic of Guatemala.

Although many instruments include the subject in their contents, incorporated in their lines of action, component or strategy, only the specific instruments (Policy of Conservation, Protection and Improvement of the Environment and Resources, the National Forest Policy, the National Policy and Strategies for the Development of the Guatemalan System of Protected Areas, and the National Policy on Biological Diversity) address the issue in the specific goals. In this sense, most public policies do so by providing guidelines in relation to the environment and natural resources,

constituting only general ideas, without sustaining results and impact indicators.

Although there have been advances and responses in initiatives to address climate change and management of natural resources in Guatemala, there are limitations that need to be approached to address them, among which the following are highlighted (SEGEPLAN, 2014 (Presidential Secretariat of Planning and Programming - SEGEPLAN - for its acronym in Spanish)):

- There is limited coordination of operationalization between policies and a sectoralization of the environment is evident. This situation is due mainly to the existence of various entities with Government Stewardship on issues of environmental management.
- The main duplications in the validity and application of the policy framework stand out in territorial spaces in which different normative instruments are applied.
- At the level of Interinstitutional and coordination, there is no space for dialogue that promotes greater integration, in the definition and integration of the public policy aimed at adapting and mitigating climate change and in the execution of operations and investments.

With the valid of the K'atun National Development Plan: Our Guatemala 2032 (CONADUR, 2014. National Council of Urban and Rural Development - CONADUR - for its acronym in Spanish) and its policy, which include explicit guidelines on adaptation and mitigation to climate change, SEGEPLAN has defined processes to strengthen its function of

coordinating, accompanying and advise the public institutions within the framework of the National Planning System, which includes the management of public policies. It is expected that the ENDDBG will contribute to the goals, guidelines and results of, amongst others:

- The National Determined Contribution (NDC): through the reduction of GHG emissions for the Use and Change of Land Use and Forestry sector.
- The K'atun 2032 National Development Plan, specifically for the Axis of Natural Resources for today and for the future²⁶ contributing to the reduction of GHG emissions in the sector of land use change and forestry, contributing to maintain 32% of the national territory with forest cover (29% with natural forests and 3% with ecological restoration), maintaining 2.6% of the national territory with forest plantations and reduce to zero the annual net deforestation in core areas of the protected areas;
- The General Government Policy 2016-2020, linked to the Strategic Country's Results of Goal 5 on Environment and Natural Resources: "in 2019, forest coverage was maintained at 33.7% of the national territory" and "by 2019 the country's capacity for resilience and adaptation to climate change has been increased". For this, the Strategy seeks to promote the protection and increment of forest cover, which also implies increasing the resilience capacity of the population;
- The Climate Change Policy and Law, and its National Action Plan (National Adaptation and Mitigation Action Plan for Climate Change - PANCC - for its acronym in Spanish) related to Chapter V.4 of the "Land use, change of use and forestry", specifically with the results: i) "the emission of CO₂e has been reduced, avoiding deforestation and forest degradation", and ii) "the absorption of CO₂ has raised by increasing the forest cover". This, promoting REDD+ activities that specifically seek the reduction of GHG emissions, avoiding deforestation and forest degradation, and increasing carbon reservoirs;
- The Sustainable Development Goals (SDGs), especially objectives 2, 13 and 15 through the adoption of urgent measures to fight climate change through REDD+ activities for the protection and sustainable management of forests and biodiversity, which also imply support to food security, through the strengthening of forest incentive programs and the Guatemalan system of protected areas, which include productive activities linked to the forest for the generation of food; and
- National legislation on gender equality through the implementation of the Gender Route and REDD+ that addresses guidelines and standards established in the National Policy for the Promotion and Integral Development of Women

²⁶ Specifically: i) Priority of adaptation and mitigation to climate change, ii) Conservation and sustainable use of forests and biodiversity for the adaptation and mitigation of climate change, and iii) Priority territorial order for the sustainable use of natural resources, agricultural production and adaptation to climate change and mitigation of its effects.

2008-2023 (PNPDIM - for its acronym in Spanish), the MARN's Environmental Policy of Gender (2015-2020), the MAGA's Institutional Policy for Gender Equality and its Strategic Implementation Framework 2014-2023 and the Institutional Strategy of Gender Equality with Ethnic Relevance of INAB (National Institute of Forestry - INAB - for its acronym in Spanish).

5.2. ENDDBG Purpose

Articulate forest governance to create or operate the main public policy instruments that allow incorporating different actors and social and productive processes in the reversion of causes of deforestation and forest degradation through recovery actions and protection of the country's forest cover.

5.3. Transversal Axis

5.3.1 Strategic Line. Strengthening the Local Governance

Actions referring to the strengthening of governance of both forestry and agricultural actions, mainly, without this meaning that governance will not be promoted²⁷ in other related sectors. The strengthening of governance in the main territories where deforestation and forest degradation impacts Guatemalan society will be promoted, whether inside or outside

protected areas, with an emphasis on strengthening dialogue, coordination and planning processes among the agricultural, livestock, mining and forestry sectors with social participation in the discussion and search for solutions to avoid reduction of the national forest cover.

With the strengthening of national and local governance schemes, it seeks to strengthen and promote social participation mechanisms to support dialogue, coordination and planning between the different instances, both government and private and society, ensuring the representativeness of the owners of the lands, rural communities and indigenous peoples, and other relevant actors, that contributes to an effective application of the programs and projects that are promoted, including always the criteria of gender, youth and differentiated attention for indigenous peoples and communities.

The action seeks to integrate the relevant actors, institutionalize national, regional and local dialogue mechanisms on the issue of forests with social concerns such as water, forest illegality, biological diversity and forest fires through the agreement to inspect the legal, technical, financial instruments and arrangements between the actors.

The aim is to promote the creation and strengthening of multisectoral territorial management models and/or platforms in the rural area, mainly at different scales,

²⁷ Based on the deforestation studies carried out by Leiva, JM (2018).

with the aim of contributing to the organization of activities and sectorial competencies of the actors that impact on land use.

The application of forest regulation and access to legality systems must be addressed from the point of application of the law, the strengthening of governance platforms and access to competitive markets with high added value. There are other forest policy instruments that will contribute specifically to these strategic actions, such as:

- 1) National Policy for Integral Rural Development (PNDRI - for its acronym in Spanish)
- 2) Institutional strategy for the assistance of indigenous peoples in the forestry sector of Guatemala
- 3) Institutional strategy of gender equity with ethnic relevance
- 4) Institutional Strategy for the attention and mediation of conflicts in the forestry sector of Guatemala
- 5) Forest Investment Program (FIP) with financial resources from the Climate Investment Funds (CIF) with the support of the Inter-American Development Bank and the World Bank.

Attention to these actions, demand political decisions at the highest level and must have a provision and guideline so that they can be implemented, especially in the political endorsement for the creation of the coordination instance for forest governance. This is of vital importance of the financial support of the central government to provide the demanded resources to the respective institutions. In this regard, short-term actions (2 years) have been highlighted to have the expected results.

Direct managers: CONAP and INAB. Partners: MARN, MAGA, Municipalities, NGOs, organizational platforms, local communities, groups of women and indigenous peoples, and other local social and economic actors identified in the construction of the National Dialogue and Participation Plan.

Strategic Actions

- 1) Promote and consolidate multi-sectoral, national or local dialogue, coordination and planning schemes aimed to integrated territorial management
- 2) Promote the integration of regional and local planning instruments for the integrated management of the territory and the resources associated with it
- 3) Strengthen the social organizations of the forestry sector to promote projects with an integral management approach to the territory and the resources present in it

5.3.2 Strategic Line. Armonization of Public Policies and Related Documents

The analysis of the policy framework and other management instruments, Gómez-Chavarri (2016) concluded that there is a broad framework of policies and instruments that allow the implementation of some of the strategic lines and activities in the country. However, they found that four of them show incompatibilities between the options of the REDD+ National Strategy and the policies or programs of the forestry sector and other related sectors (agriculture, energy, viability, etc.), being these; a) Agricultural Policy 2011 -2015, b) Irrigation Promotion Policy 2013 -2023, c) Agrarian Policy and d) Framework Law to Regulate the Reduction of Vulnerability, Compulsory Adaptation to the Effects of Climate Change and Mitigation of Greenhouse Gases, Decree 7-2013, of the Congress of the Republic of Guatemala.

With this base, the coordination and harmonization of public policies, programs, strategies and other instruments is sought, as well as conditions for their effective and coordinated application with the participation of socially based organizations, such as organized producer groups, women's groups and young people and local NGOs. In this way, it is intended to eliminate the contradictions or controversies that may arise between the different actions, whether these are incentives or economic stimuli oriented to agricultural and other production, with which they promote the

protection and conservation of forest ecosystems and forests.

For this, it will be necessary the joint work with the Legislative Power and with the different dependencies of the Executive Power, in order to achieve the necessary reforms that allow to align the framework of the existing public policies, looking for its simplification towards a comprehensive policy, to later review planning instruments and legal instruments, if necessary.

In a complementary way, attempts will be made to develop incentives to strengthen the economic alternatives for a sustainable rural development, where agricultural production, protection, conservation and sustainable management of forests and ecosystems generate income that will allow the populations that depend on these, to sustain and improve their livelihoods and generate economic, social and environmental benefits.

Strategic Actions

- 1) Alignment and harmonization of functions, standards and procedures of the forest administration inside and outside protected areas.
- 2) Promote multi-sectoral partnerships that include Indigenous communities and peoples in the protection and conservation of forests within protected areas
- 3) Establishment of forest auditing and compliance systems

5.3.3 Strategic Line. Development and Strengthening of Capabilities

Deforestation and degradation of forests is a process that has multiple causes or factors that promote it, so its approach must be multi-sectoral and comprehensive. This requires the participation of dialogue, coordination and planning platforms, at different levels, national, regional and local. For this reason, it is necessary to establish governance arrangements and to strengthen them, in order that they can address these causes effectively.

The establishment of functional institutional arrangements requires the creation and/or strengthening of sufficient capacities that allow the effective implementation of ENDDBG's lines and activities, which must cover at least three areas: management capacity with a territorial approach for the different options of the public policy and of ecosystems and forests; the coordination with the government institutions for the implementation of public policies in the territories, which affect the livelihood of the rural population, including young people and women; and the ability to link the management of the strategy with a broad and robust monitoring system that allows the evaluation of the implemented policies.

The aim is to achieve an integral approach to the territory enabling the confrontation of the causes of deforestation and forest degradation, taking into account the diversity of local contexts in the different regions of the country, which will require coordination between different agents at different scales. The objective of this action is to count on territories that allow multiple land uses with environmental, social and economic harmony, and that indirectly have a positive impact on the reduction of GHG emissions and the increase of carbon stocks in the forest ecosystems and forests.

Strategic Actions

- 1) Analyze the roles of institutions, civil society platforms and other instances in the implementation of the ENDDBG
- 2) Evaluate the progress and results obtained from the programs, projects and actions linked to the implemented ENDDBG, in order to analyze the minimum requirements for its implementation
- 3) Analyze the gap between the current demands of resources and requirements to fulfill their functions and attributions established in the ENDDB
- 4) Establish a plan to strengthen the institutions, civil society platforms and other entities in the implementation of the ENDDBG, based on the performed analyzes

5.4. Thematic Axis. DEFORESTATION

5.4.1 Strategic Line. Strengthening of Guatemalan System of Protected Areas

These are actions aimed at strengthening the governability and governance of the Guatemalan System of Protected Areas (SIGAP), which will ensure the conservation, rehabilitation and protection of the country's biological diversity and natural resources, focusing on forest ecosystems and resources related to these.

Within this the purpose is to provide measures to ensure the operation of the system according to current challenges, and to enable them to provide the conditions to strengthen the actions of protection, conservation and restoration of natural resources, through actions that improve management and management of the SIGAP, the strengthening of the actions of surveillance and protection of the ecosystems and the restoration of degraded areas.

The basis of this activity is the strengthening of the institutions and of protection and surveillance mechanisms, the strengthening and expansion of community and private forest protection and management under the scheme of forestry concessions and/or conservation

or co-administration agreements; the updating and application of normative instruments, such as the master plans of the protected areas, forest management plans (in areas that are allowed), and to make effective new and current instruments of promotion, such as financial mechanisms for conservation, supports to promote the sustainable forest management²⁸, public-private alliances, among others.

The attention to these actions demands political decisions at the highest level and they must have a provision and guideline so that they can be implemented, but also the financial support of the central government to provide the requested resources to the respective institution.

Direct managers: CONAP and INAB. Partners: MARN, Municipalities, NGOs, organizational platforms, local communities, groups of women and indigenous peoples, and other local social and economic actors identified in the construction of the National Dialogue and Participation Plan.

Strategic Actions

- 1) Strengthen CONAP's execution capacity to meet SIGAP's demands
- 2) Establish detection systems and early warning of illegal activities within SIGAP
- 3) Attention and monitoring of cases of invasion and usurpation of lands in protected areas owned by the State
das propiedad del Estado.

²⁸ This activity will be promoted only in the areas allowed by the Law of Protected Areas and its regulations.

- 4) Promote multi-sectoral partnerships, including local communities, women's groups and indigenous peoples in the protection and conservation of forests within the protected areas
- 5) Establish the rights of tenure and use of land and carbon rights in protected areas, municipal, communal and private territories

5.4.2 Strategic Line. Protection and Conservation of Strategic Ecosystems and Natural Forests

These are actions aimed to control, surveillance and safeguarding of strategic forest ecosystems that are inside and outside protected areas, through the administration and management of CONAP and INAB, respectively. This strategic activity includes conservation activities, sustainable forest management and forest restoration, both on land owned by the State and in other types of tenure. In the geographical area of lands outside the protected areas, the actions are oriented to the protection and promotion of sustainable forest management of natural forests.

This strategic activity seeks to strengthen the existing technical and economic instruments in the country that have shown progress in favor of the conservation of ecosystems and forests, although the results obtained have not been able to reduce the trend of deforestation. There are multiple policy instruments in the country with ecosystem and forest conservation

objectives, as well as forestry activities, which will contribute specifically to these strategic actions, such as:

- 1) National Strategy of Biologic Diversity
- 2) National Strategy for Forest Landscape Restoration (ENRPF-for its acronym in Spanish)
- 3) Conservation Plan of the Pine-Oak Forests of Central America and of Migratory Bird *Dendroica chrysoparia*
- 4) Strategy of the Guatemalan sugar sector for forest restoration of the Pacific slope
- 5) Mangrove Forest Enrichment and Monitoring Plan, Mazatenango, Suchitepéquez
- 6) National Strategy for Guatemalan Fir Conservation (*Abies guatemalensis* Rehder)
- 7) Strategy for the Conservation of the Dry Forest
- 8) Forest incentive programs (PINPEP y PROBOSQUE). In the case of protected areas, where the zones established for sustainable forest management allow it
- 9) Forest Investment Programs (FIP) with financial resources from the Climate Investment Funds (CIF) with the support of Banco Interamericano de Desarrollo and the World Bank.
- 10) National Strategy for the management and conservation of natural resources in communal lands

The attention to these actions, demand political decisions at the highest level and must have a provision and guideline in order to be implemented, but also require the financial support of the central government to provide the resources demanded from the corresponding institutions. To that effect, short-term actions have been highlighted to have the expected results.

Direct managers: MARN, CONAP y el INAB. Partners: MAGA, Municipalities, NGOs, organizational platforms, local communities, groups of women and indigenous peoples, and other local social and economic actors identified in the construction of the National Dialogue and Participation Plan.

Strategic Actions

- 1) Evaluate options for the design of new instruments oriented exclusively to the conservation of forests within protected areas, whether in private or state-owned areas
- 2) Promote the creation of incentives and financial mechanisms to promote the conservation, sustainable management and restoration of lands and forests owned by the State
- 3) Promotion of the use of incentive programs for the protection and conservation of forests in private areas such as municipal, communal and private areas
- 4) Development of mechanisms to ensure the instrumentalization of technical and regulatory frameworks to ensure the sustainability of forest resources and their ecosystem services within the SIGAP

5.4.3 Strategic Line. Sustainable Management of Natural Forests

These are actions aimed at encouraging and promoting management activities of primary and secondary natural forests within and outside protected areas, through the promotion of productive activities carried out by CONAP (within protected areas) and INAB (outside protected areas).

There are policy instruments that are oriented towards the promotion management of natural forests and that will contribute to progress in achieving the objectives of this line, mainly:

- 1) Forest incentive programs (PINPEP and PRO-BOSQUE); in the case of protected areas, where the zones established for sustainable forest management allow it
- 2) Forest Investment Programs (FIP) with financial resources from the Climate Investment Funds (CIF) with the support of Banco Interamericano de Desarrollo and the World Bank
- 3) National Strategy for the management and conservation of natural resources in communal lands
- 4) National Strategy for Forest Landscape Restoration (ENRPF)

This strategy is aimed at guaranteeing the permanence of natural forests, once these become forests that generate goods and services for the owner and society, through their sustainable use by communities and populations that live inside or outside from them. This will encourage the use of regulatory instruments, such as master plans, management plans and group forest licenses, as well as promotion instruments, among which stand out the forestry incentive programs, productive forest concessions and public-private partnerships.

Attention to these actions, demand political decisions at the highest level and must have a provision and guideline so that they can be implemented, but also the financial support of the central government to provide the demanded resources to the respective institutions.

Direct managers: CONAP and INAB. Partners: MARN, MAGA, Municipalities, NGOs, organizational platforms, local communities, groups of women and indigenous peoples, and other local social and economic actors identified in the construction of the National Dialogue and Participation Plan.

Strategic Actions

- 1) Establishment of a Program to Promote the Sustainable Management of Natural Forests
- 2) Expand and strengthen community forest management, mainly in areas owned by the State, Municipalities or Government institutions
- 3) Promote Urban Forestry Programs

5.4.4 Strategic Line. Support to Local Territorial Organizing Processes

Within the objective of the Forest Policy²⁹ the contribution to land use in rural lands is highlighted, through the promotion of productive management and the conservation of the natural resource base, with emphasis on forestry and associated resources such as biodiversity, water and soil.

The aim is to establish a model of forest management adapted to local conditions and consistent with the livelihoods of local populations, taking into account the threats of climate change, the fight against desertification and land degradation, drought and other factors, as well as pressures on forest resources. To achieve these purposes, some guidelines must be taken into account, such as: there must be a long-term planning process; have a vision oriented to the common good, with an approach

²⁹ Forest Policy, page, <http://www.marn.gob.gt/Multimedios/419.pdf>

based on sustainable land management, where extractive activities are adjusted to the sustainable use of the forest; to promote the integral management of plots or communities, where multiple actions are incorporated (silvicultural management, afforestation, revegetation, restoration).

These actions are related to the harmonization of public policies in favor of recovering coverage and avoiding loss of coverage. It means a review and political decision aimed at avoiding the operation of current public policies that indirectly or directly motivate the change of land use, from forestry to other uses. It includes the integration of forest policies, protected areas, wood energy, mining and rural development policies. The purpose is the existence of public policy instruments with territorial planning approach (without competition for the same territorial space).

The action seeks to integrate the relevant actors, institutionalize national, regional and local dialogue mechanisms on the issue of mining through the agreement of review of legal, technical, financial instruments and arrangements between the actors.

The application of forest regulation for the recovery of deforested and degraded lands is proposed to address them from the level of application of the law, the strengthening of governance platforms

and to maintain, recover and manage forest cover. There are other forest policy instruments that will contribute specifically to these strategic actions, such as:

- 1) Law for the Protection and Improvement of Environment (Guatemala, 1989)
- 2) National Land Management Policy (proposal)
- 3) Mining Law, Decree 48-97 of the Congress of the Republic and its Regulations
- 4) Legislation of industrial and tax promotion.
- 5) National Strategy for Forest Landscape Restoration (ENRPF)
- 6) Forest incentive programs (PINPEP y PROBOSQUE)

Attention to these actions, demand political decisions at the highest level and must have a provision and guideline for them to be implemented, especially in the political endorsement for the revision of the regulatory framework on open-pit mining and the search for mechanisms of recovery of lands that have been affected and have no forest cover and also for deforested and degraded forests. For this it is necessary to create an instance of dialogue and agreement for forest governance; of vital importance of the financial support of the central government to provide the demanded resources to the respective institutions. In this sense, short-term actions (4 years) have been highlighted to have the expected results.

Direct managers: Secretariat of Planning and Programming of the Presidency (SEGEPLAN), MARN, MAGA, CONAP, and INAB. Partners: Municipalities, NGOs, organizational platforms, local communities, groups of women and indigenous peoples, and other local social and economic actors identified in the construction of the National Dialogue and Participation Plan.

Strategic Actions

- 1) Identify strategic areas of local importance for the protection, conservation and sustainable management of forests and other lands with arboreal resources
- 2) Articulate local planning efforts with the National Strategy for Forest Landscape Restoration, adapt it to regional and local requirements and needs
- 3) Revision of the law and regulations for the use and exploitation of minerals, especially in protected sites and/or on lands with a forestry vocation provided with forest
- 4) Develop mechanisms for the recovery of degraded forest lands in areas of use, extraction and use of minerals from forestry areas with forests.

5.5. Thematic Axis. FOREST DEGRADATION

5.5.1 Strategic Line. Sustainable Production and Efficient Use of Firewood

These are actions aimed at improving the sustainable production of firewood and other energy forest products in the different productive landscapes of the country, as well as their efficient consumption in homes and industry, processes where local authorities have a fundamental role in promoting these activities.

This line seeks to contribute to reduce the pressure of natural forests and at the same time have a supply of firewood and other energy forest products from sustainable sources, through the promotion of promotional instruments such as forest incentive programs, forest supports, public-private partnerships, and regulatory instruments, such as decentralization and deconcentration of administrative authorizations/approvals, such as management plans and forest licenses, - among others - in the case of protected areas, where the zones established for the sustainable management of forests allow it.

It seeks to promote the sustainable use of firewood with the creation of capacities on the establishment and management of energy plantations for sustainable use, but also with the promotion of rural businesses and the leveraging of actions that facilitate the access of small

rural producers to forestry incentive programs. Parallel to these actions and with the aim of encouraging the production and sustainable consumption of firewood, the sources, registration and reducing costs of production and commercialization of firewood and forest products are simplified.

Another important aspect is the traceability systems of forest products, which, despite of having shown progress, there still are challenges to improve these systems that allow a better record and control of the dynamics of forest product flows, including firewood as a significant consumer item.

In order to operationalize this axis, several forest policy instruments have been considered that will contribute specifically to these strategic actions, such as:

- 1) Energy Policy 2013-2027 (MEM, 2013)
- 2) National Strategy for Sustainable Production and Efficient Use of Firewood 2013-2024 (INAB, 2015)
- 3) National Strategy for Forest Landscape Restoration: Mechanism for rural development in Guatemala (MAGA, MARN, CONAP, INAB, 2015)

- 4) Strategy for linking the Forest-Industry-Market (INAB, 2015)
- 5) Strategy of the Guatemalan sugar sector for the forest restoration of the Pacific slope (ICC, 2015)
- 6) NAMA: Efficient Use of Fuel and Alternative Fuels in Indigenous and Rural Communities (PRONACOM, 2016) with technical and financial support of IDB and NAMA Facility
- 7) Forest Incentive Programs (PINPEP and PRO-BOSQUE)
- 8) Forest Investment Program (FIP) with financial resources from the Climate Investment Funds (CIF) with the support of Banco Interamericano de Desarrollo and the World Bank

The attention to these actions, demand political decisions at the highest level and must have a provision and guideline so that they can be implemented, but also the financial support of the central government to provide the demanded resources to the respective institutions. In this regard, short-term actions (2 years) have been highlighted to have the expected results.

Managers: Ministry of Energy and Mines (MEM), INAB and CONAP. Partners: MARN, MAGA, Municipalities, social and economic actors, represented by local communities and NGOs.

Strategic Actions

- 1) Implement a program of information development, capacity building, dissemination and adoption of alternative and efficient fuelwood technologies at household and industry level
- 2) Implement a program to promote the use of firewood from sustainable sources
- 3) Strengthen municipal and communal capacities for sustainable production and efficient use of firewood at the local level
- 4) Develop mechanisms to increase the number of beneficiaries of forest incentive programs in the form of energy forests
- 5) Encourage the development of rural businesses oriented to the use of firewood from thinning of forest plantations

5.5.2 Strategic Line.

Promotion of the Use of Wood and Other Forestry Products

The actions considered within this line are aimed at reducing the use and consumption of wood and other forest products, including firewood, which are obtained illegally and uncontrolled, which affects deforestation and forest degradation. It is proposed to achieve the objectives of this line through two actions: the promotion of forest products of legal and controlled origin, and the application of the law to individuals and groups that transgress it.

For the first case, the reactivation of the Interinstitutional Table against Illegal Logging in Guatemala is proposed, with the purpose of aligning the efforts of the institutions related to the administration and control of forestry activities with those responsible for the application of justice, to promote the updating and implementation of the Interinstitutional Plan of Action for the Prevention and Reduction of Illegal Logging in Guatemala (INAB, 2010); but that also must count on the social participation in the discussion and search of solutions to avoid the reduction of the national forest cover and to promote economic development.

The action seeks to integrate the relevant actors (including community and municipal authorities), institutionalize national, regional and local dialogue mechanisms on the subject of illegal and uncontrolled harvesting and felling through the agreement to review legal, technical, financial and arrangements instruments between the actors.

The strategy seeks the application of forest regulation and access to legal systems through the application of legislation, the strengthening of governance platforms and access to competitive markets with high added value. There are other forest policy instruments that will contribute specifically to these strategic actions, such as:

- 1) **Interinstitutional Action Plan for the Prevention and Reduction of Illegal Logging in Guatemala (INAB, 2010)**

- 2) Linking Strategy for the Forest-Industry-Market (INAB, 2015)
- 3) Forest incentive programs (PINPEP and PROBOSQUE)
- 4) Forest Investment Programs (FIP) with financial resources from the Climate Investment Funds (CIF) with the support of Banco Interamericano de Desarrollo and the World Bank

Attention to these actions, demand political decisions at the highest level, especially from the Vice Presidency of the Republic and must have a provision and guideline so that they can be implemented, especially in the political endorsement for the reactivation of the coordination instance for the treatment of illegal logging, which is a matter of vital importance of the financial support of the central government to provide the demanded resources to the respective institutions. In this regard, short-term actions (2 years) have been highlighted to have the expected results.

Managers: INAB, CONAP, Public Ministry (MP - for its acronym in Spanish), Judicial Branch (OJ - for its acronym in Spanish) and National Civil Police (PNC - for its acronym in Spanish). Partners: MARN, MAGA, Municipalities, social and economic actors, represented by local communities and NGOs.

Strategic Actions

- 1) Strengthen national, sub-national and local platforms for the control of illegal logging of wood and other forest products
- 2) Strengthen municipal and community participation in the control of the harvest and extraction of forest products at the local level
- 3) Promotion of social participation in the promotion of the legal use of forest products and their control
- 4) Implement an Interinstitutional plan for monitoring, patrolling and controlling the harvest and extraction of forest products in red spots of deforestation and forest degradation
- 5) Budget impact to strengthen environmental crime prevention and enforcement activities
- 6) Development and strengthening of forest value chains that strengthen Forest-Industry-Market integration

5.5.3 Strategic Line. Establishment and Strengthening of Forest Fire Prevention and Recovery of Burned Areas

Actions referring to the institutionalization and strengthening of systems for the prevention of forest fires and improve fire management in agricultural and livestock lands of the country through coordination to ensure the articulation of actions and reduction of forest degradation.

The action seeks to integrate the relevant actors, institutionalize fire management through legal, technical, financial instruments and

arrangements between the actors. In both cases, the aim is to strengthen institutions and preventive mechanisms in areas with community and private forest management, through regulatory instruments (management plans and forest licenses) and compliance with management plans for plantations and natural forest in forest management activities for prevention of forest fires.

There are other policy instruments that will contribute specifically to these strategic actions, such as:

- 1) National policy for the prevention and control of forest fires and integrated fire management (proposed in 2009)
 - 2) National Strategy of Forest Landscape Restoration: Mechanism for Sustainable Rural Development of Guatemala 2015-2045 (Forest Landscape Restoration Table of Guatemala, 2015)
 - 3) Forest Incentive Programs (PINPEP and PROBOSQUE)
 - 4) Forest Investment Programs (FIP) with financial resources from the Climate Investment Funds (CIF) with the support of Banco Interamericano de Desarrollo and the World Bank.
- Attention to these actions, demand political decisions at the highest level and must have a provision and guideline so that they can be implemented, especially in the political endorsement for the creation of the coordination instance for the prevention and control of forest fires; of vital importance of the financial support of the central government to provide the demanded resources to the respective institutions. In this regard, short-term actions (2 years) have been highlighted to have the expected results.
- Managers: INAB, CONAP, and National Coordinator for Disaster Reduction (CONRED). Partners: MARN, MAGA, Municipalities, social and economic actors, represented by local communities and NGOs.

Strategic Actions

- 1) Institutionalize the actions of prevention and control of forest fires and recovery of affected areas
- 2) Establish detection and early warning systems for the control of forest fires
- 3) Control and regulate the use of fire in agricultural activities
- 4) Promote the creation of technical and social capacities for forest fire management at the community level
- 5) Program of restoration of areas affected by forest fires
- 6) Integrate a forest fire registration module that conducts periodic evaluations to the MRV

5.6. Thematic Axis.

RESTORATION OF FORESTS AND DEGRADED LANDS

5.6.1 Strategic Line.

Recovery of Natural Forests and Degraded Lands

These are actions aimed at restoring the functionality and productivity of forests that have been affected by various causes or lands that have been used in unsustainable production systems, which has caused their degradation. The recovery processes can be carried out using various production techniques, such as the selective management of residual forests and secondary forests, the management of natural regeneration, or the restoration of lands without forest cover with forest plantations, being able to use commercial or species under protection, native and introduced (as the case may be), agroforestry systems and silvopastoral systems. There are policy instruments that are oriented towards the promotion of forest management of natural forests and that will contribute to progress in achieving the objectives of this line, mainly:

- 1) Forest incentive programs (PINPEP and PROBOSQUE); in the case of protected areas, where the zones established for sustainable forest management allow it
- 2) Forest Investment Programs (FIP) with financial resources from the Climate Investment Funds (CIF) with the support of Banco Interamericano de Desarrollo and the World Bank
- 3) National Strategy for Forest Landscape Restoration (ENRPF)
- 4) National Strategy for the management and conservation of natural resources in communal lands

This strategy is aimed at increasing the productivity of degraded forests through the introduction of silvicultural techniques, such as selective pruning, sunlight thinning and others, that promote the growth and yield of species of interest; in the case of degraded lands, by introducing trees and generating processes for the protection and recovery of soils. In both cases, the increase of carbon reserves in these ecosystems is promoted. The aim is to convert unproductive lands into forests and productive systems that generate goods and services for the owner and society, through their sustainable use by communities and populations that live inside or outside them.

For this purpose, the use of regulatory instruments, such as master plans, management plans and group forest licenses will be encouraged, as well as promotion instruments, among which stand out the forestry incentive programs, productive forest concessions and public-private partnerships.

Direct managers: CONAP and INAB. Partners: MARN, MAGA, Municipalities, NGOs, organizational platforms, local communities, groups of women and indigenous peoples, and other local social and economic actors identified in the construction of the National Dialogue and Participation Plan.

Strategic Actions

- 1) Determine forests and degraded lands that may be susceptible to the restoration of forests and degraded lands
- 2) Evaluate the best silvicultural techniques and strategies that can be promoted for the restoration of forests and degraded lands
- 3) Establish a Development Program aimed at the restoration of forests and degraded lands owned by municipalities, communities, groups of small holders of land (men and women), and cooperatives
- 4) Evaluate the creation of normative and financial instruments aimed at the restoration of forests and degraded lands

5.6.2 Strategic Line.

Promotion of AFS in Areas of Agricultural and Livestock Production

This activity is aimed at promoting the incorporation of trees in agricultural and livestock production systems, through the promotion and establishment of various forms of agroforestry systems (AFS), systems that will contribute to the

- reduction of vulnerability to climate change, at the same time that they generate forest products, like wood and firewood. These actions, by promoting the increase of forest biomass in plots and land for agricultural use, contribute to increase forest carbon stocks in the agricultural and livestock production sectors, mainly in systems and /or degraded lands without forest cover within and outside protected areas without forest cover inside and outside protected areas.
- 2) ucts, like wood and firewood. These actions, by promoting the increase of forest biomass in plots and land for agricultural use, contribute to increase forest carbon stocks in the agricultural and livestock production sectors, mainly in systems and /or degraded lands without forest cover within and outside protected areas without forest cover inside and outside protected areas.
 - 3) tural and livestock production sectors, mainly in systems and /or degraded lands without forest cover within and outside protected areas without forest cover inside and outside protected areas.
 - 4) It includes activities for the establishment and management of forest and agroforestry plantations, particularly in degraded forest lands. The establishment of agroforestry arrangements, agroforestry systems and silvopastoral systems is promoted with native commercial species or in cases that are feasible and allowed by legislation, introduced species will be promoted.

It seeks to improve the condition of degraded lands and to increase forest production, as well as the forest carbon reserves and to recover their capacity to generate goods and services for sustainable use by the communities that live inside or outside them. There are forest policy instruments that will contribute specifically to these strategic actions, such as:

- 1) Framework Law to Regulate the Reduction of Vulnerability, Compulsory Adaptation, to the Effects of Climate Change and the Mitigation of Greenhouse Gas Effects
- 2) Forest incentive programs (PINPEP and PRO-BOSQUE)

- 3) Family Agriculture Program for the Strengthening of Farmer's Economy (PA-FEC)
- 4) National Strategy for Forest Landscape Restoration (ENRPF)
- 5) Forest Investment Programs (FIP) with financial resources from the Climate Investment Funds (CIF) with the support of Banco Interamericano de Desarrollo and the World Bank

In the field of economic instruments, the Forest Incentive Programs, are for the case of protected areas, where the zones established for the sustainable management of forests allow it. Attention to these actions, demand political decisions at the highest level and must have a provision and guideline so that they can be implemented, but also the financial support of the central government is required, to provide the demanded resources to the respective institutions.

Managers: MAGA, INAB, and CONAP. Partners: MARN, Municipalities, social and economic actors, represented by local communities and NGOs.

Strategic Actions

- 1) Establish a Promotion Program for the incorporation of AFS in agricultural and livestock production systems, especially oriented to groups of small owners and owners and cooperatives
- 2) Establish mechanisms to facilitate the access of groups of smallholders, possessors and co-operatives to the modalities of agroforestry systems of the Forest Incentive Programs
- 3) Promote and strengthen (or support) the implementation of activities related to Climate-Adapted Agriculture (or Climate-Smart Agriculture)
- 4) Promote the diversification of productive activities and livelihoods of indigenous peoples, groups of women and local communities, through the development of productive models that promote the sustainable use of biological diversity (ecotourism, family gardens, underutilized plants), as well as the strengthening of existing the ones

5.6.3 Strategic Line. Recovery of Degraded Pasture Lands and Meadows

The analysis of agents and causes of deforestation in Guatemala indicate that the conversion of forests to livestock is the main cause of this problem. Many of the forest lands, especially in the departments of Petén and Izabal were converted for the expansion of the agricultural frontier, and are currently covered with grass for the breeding and fattening of cattle.

Many of these present diverse levels of degradation and, therefore, their productivity is strongly reduced, which implies that these systems can sustain a low animal load, fattening is slow and milk production is low. As a result of this, many producers choose to expand the area of their meadows thus contributing to

deforestation, producing other negative impacts such as, the decrease of biodiversity, erosion and loss of soil, loss of forest carbon, contributing to the emission of greenhouse gases, among others.

This strategic line seeks to improve the management of lands in areas with pastures and degraded meadows, promoting a more sustainable use of livestock lands and achieving greater livestock productivity in harmony with the environment. Some of the actions considered are directly related to pastures and meadows, such as the introduction of improved pastures, the establishment of forage banks, or the use of associated grasses, while others are aimed at improving the productivity of the productive system livestock, such as the management of drinking troughs and gouaches, incorporation of trees to protect animals from the climate, etc.

For the operationalization of this strategic line, some existing policy instruments and others that are under construction or proposal are taken into consideration, and that will contribute specifically to these strategic actions, such as:

- 1) National Policy of Integral Rural Development (PNDRI - for its acronym in Spanish)
- 2) Family Agricultural Program for the Strengthening of the Farming Economy (PAFFEC - for its acronym in Spanish)

- 3) Proposal of the activity “Nationally Appropriate Mitigation Actions (NAMA - for its acronym in Spanish) of Cattle Raising in Guatemala”

- 4) Proposal for “Sustainable Bovine Livestock with Low Emissions in Guatemala” project, a process under construction and driven by the efforts for the construction of the NAMA for Bovine Cattle in Guatemala

In the field of economic instruments, Forest Incentive Programs, in cases where the management of forest systems allows it. Attention to these actions, demand political decisions at the highest level and must have a provision and guideline so that they can be implemented, but also the financial support of the central government to provide the demanded resources to the respective institutions.

Manager: MAGA. Partners: MARN, INAB, and CONAP, Universities, Federations of Livestock Producers, social and economic actors, represented by local communities, International Cooperation projects, and NGOs.

Strategic Actions

- 1) Establish a Research Program on efficient and sustainable livestock production technologies
- 2) Establish a Technology Extension, Diffusion and Transfer Program, aimed at small and medium livestock producers in areas of greater active deforestation
- 3) Promotion of the establishment of financial mechanisms for the recovery of degraded pastures and meadows

5.6.4 Promotion of Good Practices of Sustainable Agricultural Production

Like the previous analyzes, another cause of deforestation in Guatemala is that the implementation of many inadequate traditional practices in agronomic management has promoted soil degradation, deterioration of agroecosystems, fostered the advance of deforestation and forest degradation and low agricultural productivity, reflected in the low income to families, affecting the quality of life of the Guatemalans. Many of these forest lands are located mainly in the entire region of the volcanic and mountainous chain of Guatemala, where forests have been degraded due to agricultural expansion, mainly of basic grain crops³⁰ and some vegetables for the national and international market.

Obviously, many of these areas have different levels of degradation and, therefore, their productivity is reduced in different ways. Added to this, the negative effects of climate change and the climat-

- 1) ic variability that Guatemala experiences annually, exacerbate this vulnerability of downward crops and in extreme times to the loss of agricultural production. In the
- 2) same way as happens in livestock, many agricultural producers choose to expand the area of their crops, thus contributing to deforestation, producing

other negative impacts such as, the decrease in biodiversity, erosion and loss of soil, loss of forest carbon contributing to degradation, increasing the emission of greenhouse gases, among others.

With the approach of this strategic line, the aim is to improve the management of the lands subject to the agricultural production of basic grains and vegetables mainly and to make it more efficient. Good agricultural practices (GAPs) will be aimed at the improvement and optimization of traditional farming practices (cleaning systems, fertilization, etc.), for the reduction of soil degradation (varieties), reduction of soil and water pollution (management of leftovers/waste), and other friendly to the conservation of biodiversity, protection and maintenance of water and reduction of carbon emissions (GHG).

Some of the actions that are considered are directly linked to agricultural crops such as: the use of improved varieties (climate and demand for inputs), the use of friendly practices (for burning and cleaning, sowing, fertilization, rotation of crops, use of agrochemicals), while others are aimed at improving the productivity of the agricultural system, such as the management and protection of soils, water sources, use or incorporation of scattered trees, waste management (containers, packaging), etc).

For the operationalization of this strategic line, some policy instruments are taken into

³⁰ 31% of the total distribution of deforestation in Guatemala, by land use category (See chapter 2).

consideration that will contribute specifically to these strategic actions, such as:

- 1) National Policy of Integral Rural Development (PNDRI - for its acronym in Spanish)
- 2) Family Agriculture Program for the strengthening of the Farmer's Economy (PAFFEC - for its acronym in Spanish)
- 3) Proposed Law of Management, Conservation and Restoration of Agricultural Soils

Currently, there are no financial instruments for the promotion of GAP. Therefore, the attention to these actions also requires political decisions at the highest level and the technical and financial mechanisms for the promotion of these GAP at a decentralized level must be generated.

Managers: MAGA, Institute of Agricultural Science and Technology (ICTA - for its acronym in Spanish). Partners: MARN, CONAP, Universities, Producer Associations, social and economic actors (AGEXPORT and local communities, International Cooperation projects, and NGOs).

Strategic Options

- 1) Strengthen the Institute of Agricultural Science and Technology (ICTA) for the generation of appropriate technology proposals
- 2) Strengthen the technology transfer processes and developed and evaluated GAP.

In addition, to be effective and responsible in the extension processes and technical assistance to agricultural producers throughout Guatemala through the CADERs (Learning Center for Rural Development - for its acronym in Spanish)

- 3) Strengthen an Outreach, Dissemination and Technical Social Communication Program, oriented to small and medium agricultural producers in zones of greater deforestation/active degradation or to agricultural producers established in vulnerable areas such as the dry corridor. This in order to improve the process of empowerment of GPA at the level of a producing family
- 4) Design and promotion of financial mechanisms for GAP in Guatemala
- 5) Strengthen strategic alliances with key actors within the agricultural sector (basic grains and vegetables)



6. Financing

It is considered that the implementation of the activities articulated under the National Strategy for Deforestation and Forest Degradation in Guatemala will be financed according to the nature of activities corresponding to the thematic axis or cross-cutting axis, prioritizing actions according to the results of Reference Levels, from the sources listed below:

1. National Investment Fund

- a) National Budget of operation and investment of the State assigned to the institutions involved. Agriculture, Forests, Protected Areas, Energy, Security, governance/governability.
- b) Investment through policy instruments with specific regulation/legislation
 - i) Forest Incentives (PROBOSQUE, PINPEP, etc.): PROBOSQUE invests approximately US \$ 20 million per year in incentives for activities compatible with the Strategy, as part of the State's own resources. In the case of the PINPEP Law (Decree 51-2010) from 0.5 to 1% of the Ordinary Income Budget of the State is assigned and for the PROBOSQUE Law (Decree 2-2015) 1% is assigned
 - ii) Environmental funds
 - iii) State transfers in agricultural programs, rural development, food security

2. Preparation/implementation Funds for REDD+ Policies, Restoration, Reduction of Illegal Logging, Improvement of The Traceability of Forest Products

- a) Forest Investment Program (FIP): There is an approved investment plan³¹ that allocates financing to 3 specific projects: i) Project 1: Sustainable Forest Management (US \$ 9.7 million); ii) Project 2: Strengthening Governance, Governability and Diversification of Livelihoods (US \$ 11.8 million); iii) Project 3: Access to Financing (public and private) (US \$ 2.5 million).
- b) Dedicated Grant Mechanism of Indigenous Peoples (DGM) of FIP: with the approval of Guatemala's FIP Investment Plan it has a donation of US \$ 4.5 million for the implementation of REDD+ activities in local communities and indigenous peoples, in accordance to what is established in the FIP Investment Plan.

³¹ Plan de Inversión FIP de Guatemala <https://www.climateinvestmentfunds.org/country/guatemala/guatemala-fip-programming>

- c) Carbon Fund: the National Emissions Reduction Program is currently being designed with the Carbon Fund, which will capitalize the emission reductions generated by the implementation of the REDD+ Strategy. In 2016 Guatemala signed a Letter of Intent (LOI) with this fund, to access economic compensation for the proven reduction of up to 10.5 million tons of CO₂e for up to 5 years; for which it must design the aforementioned Program.³²
- d) Nama Facility: the Program of Efficient Use of Firewood in Indigenous and Rural Communities of Guatemala is currently being designed and for which a funding of EUR 10.9 million has been approved³³
- e) Green
- f) International Cooperation Funds for specific topics (UNDP, Germany, Norway, FAO, USAID, etc.)
- g) FLEGT

3. Payments By Results

Here are included the payment by REDD+

- a) Carbon Fund
- b) Volunteer markets for REDD+ projects in the country (Bosques para la Vida (Forests for Life), Guatecarbon, etc.), for this avoiding double counting with the emission reductions indicated in the Letter of Intent with the Carbon Fund
- c) Other investment windows for REDD+ (Germany, Norway, for example)

4. Private Investment

Private investments in productive activities of restoration, forest management, forest plantations, agroforestry, land use at capacity, sustainable livestock, chains of added value of products. (Firewood/energy, coffee, cocoa, rubber, livestock, wood, non-timber products, etc.)

- a) Through the FIP, it is expected to leverage about US \$ 10 million from the private sector through access to direct financing of beneficiaries, within the framework of the guarantee fund of Project 3.
- b) Firewood NAMA seeks to leverage about EUR 13.7 million from the private sector through loans and micro credits for the production and purchase of improved stoves of wood and biodigesters, through financial institutions and loans to manufacturers.

³² Letter of Intent between the Republic of Guatemala and the International Bank for Reconstruction and Development (IBRD) as the Carbon Fund trustee <https://www.forestcarbonpartnership.org/sites/fcp/files/2017/May/816%20BM%20envio%20CdI%20suscrita%20280417.pdf>

³³ NAMA of Efficient Use of Firewood in Guatemala <http://www.nama-facility.org/projects/efficient-use-of-fuel-and-alternative-fuels-in-indigenous-and-rural-communities/>



7. Monitoring System, Report and Verification

As part of the follow-up process of the ENDDBG, the country focused on the development of a system that allows tracking progress in meeting the emission reduction goals associated with deforestation and forest degradation, as well as the compliance with safeguards, a process that is based on two subcomponents: a) forest monitoring system and b) information system for multiple benefits, other impacts, management and safeguards.

In 2016, CEAB-UVG (Environmental and Biodiversity Study Center - CEAB - for its acronym in Spanish / Del Valle University of Guatemala - UVG - for its acronym in Spanish), under the USAID /CNCG (Climate, Nature and Communities in Guatemala - CNCG - for its acronym in Spanish) project, presented the proposal of the Governance Framework for the National System of Measurement, Reporting and Verification of the LULUCF Sector in Guatemala, which will serve as a platform for multiple purposes, and that it will allow monitoring of GHG emission reductions. The main purpose of the monitoring component of the MRV System for Guatemala will be to generate verifiable information on GHG emissions related to deforestation and forest degradation, as well as the removal of these by increasing carbon stocks in the forests. To this the Interinstitutional Group of REDD+ Safeguards (GISREDD+ - for its acronym in Spanish) is added, it is the entity created for the management of the Information System of Safeguards and other non-carbon variables of the MRV System (multiple benefits, other impacts, management).

This process and its governance framework is fully compatible with the proposal of the National Information System for GHG Emissions, multiple benefits, other impacts, management and REDD+ safeguards (SIREDD+ (REDD+ Information System - SIREDD+ -for its acronym in Spanish)), which was created as a tool to fulfill certain functions for reporting information on the National Monitoring, Reporting and Verification System (MRV) of Guatemala's REDD + Strategy, both for the components on GHG emissions and removals, and for the components of non-carbon variables (REDD+, Safeguards Multiple Benefits, Other Impacts and Management).

In this sense, SIREDD+ is conceived as a repository of information on REDD+, which is fed by relevant information nodes included in the monitoring component of the National MRV System for Land Use, Land Use Change and Forestry (LULUCF) sector for Guatemala.

- a) Accounting for GHG emissions and removals associated with REDD+ activities
- b) Compliance with the approach and respect of safeguards in the implementation of REDD+ activities
- c) Reports of Multiple Benefits, Other Impacts and Management

SIREDD+ will be an input of information that will be integrated into the National Information System on Climate Change (SNICC (National Information System on Climate Change - SNICC - for its acronym in Spanish) in the mitigation component, as part of the Agriculture, Forestry and Other Land Uses (AFOLU), for which it will include three general components:

- a) Data, methodologies, and other official information that serve as inputs for the estimation of emissions and removals
- b) Final estimates of emissions and removals
- c) Other data and information relevant to the GHG accounting of REDD+.

SIREDD+ is part of the National Information System on Climate Change (SNICC) in its component of the National System of Measurement, Reporting and Verification of the AFOLU Sector in Guatemala (National System of MRV-REDD+) in the Reporting part (See Figure 7).

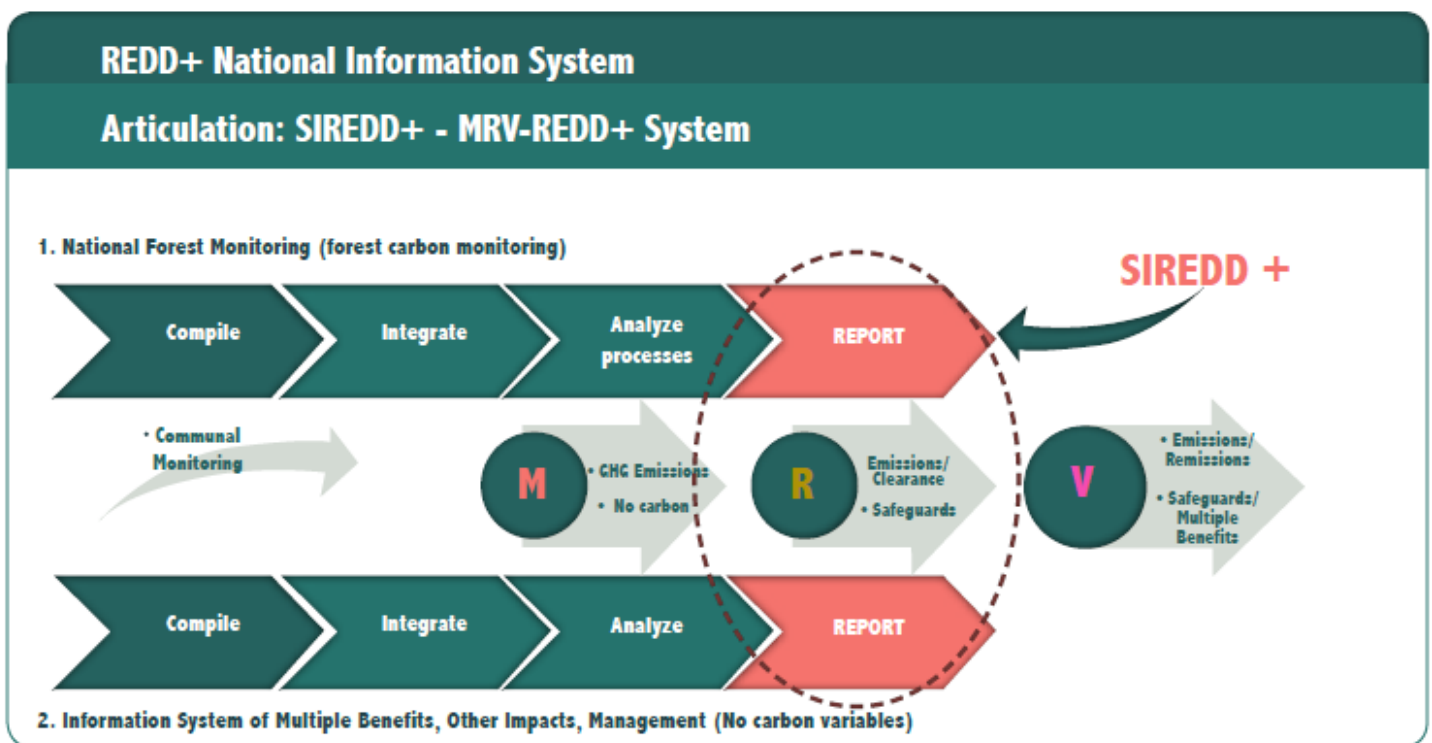


Figure 7. Articulation of SIREDD+ With the National System of MRV

From the operative technical part, the SIREDD+ establishes the following functions for the information processing phase:

- 1) Processes of generation, capture and compilation of primary information
- 2) Processes of integration or aggregation and information analysis
- 3) Processes of validation and officialization of information
- 4) Information dissemination processes

For the fulfillment of the information processing phase, which for the effects will be done from the monitoring system of emissions of greenhouse gases (GHG) and the information system of safeguards and multiple benefits (SISyMB), it is important consider the supply chain of information up to the SIREDD+, as a repository of REDD+ information (See Figure 8).



Figure 8. Functions and Responsible Entities for the Processing of SIREDD+ Information

7.1. Institutionality for the SIREDD+ Management

The information that will be published in the SIREDD + is generated, reviewed and made official through the entities of the Governance of the MRV System in an expanded form, for whom specific functions have been established for each information component of the SIREDD +. The organizational structure for the management of the MRV System for Guatemala is presented in Table 5.

Table 5. Functions of the organizational structure in context of SIREDD+

STRUCTURE	FUNCTIONS/RESPONSIBILITIES	GEI Accounting	SISyMB
GCI in its political level.	<ul style="list-style-type: none"> • Direct, at the highest level, the system's activities • Make system administration decisions • Define the policies for its evolution and operation 	GCI, in its political level (MARN, INAB, CONAP, MAGA)	
Group of Institutions Generating Institutions	<ul style="list-style-type: none"> • Generate information • Document technical procedures • Generation of methodologies and research • Image processing • Field checks • Collection of forest and carbon inventory data • Generation of information on non-carbon variables • GIMBUT participation is important, since it contributes to continuity and credibility to the information generated 	Technical GCI GIMBUT	Technical GCI GISREDD+
Group of supporting organizations	<p>These organizations can support the process of monitoring the forest cover, through:</p> <ul style="list-style-type: none"> • Logistic and financial support • Field checks • Collection of forest and carbon inventory data • Community monitoring of non-carbon and compliance with safeguards 	Communities and PI, ONG, CNSREDD+ and donors	Communities and PI, ONG, CNSREDD+ and donors
Integrating Unit of MRV System-MARN	<ul style="list-style-type: none"> • Compile, integrate and systematize the generated information already digested by the institutions • In charge of the MRV System reporting phase • Maintain methodological homogeneity • Define information exchange protocols • Ensure that the information shared with the UNFCCC, the Carbon Fund and other financing mechanisms, as well as information published in national GHG inventories, the Carbon Market Project Registry, National Communications and emission baselines for the LULUCF sector do not have discrepancies 	National Climate Change Information System -SNICC-, Climate Change Directorate -DCC-MARN-, Geographic Information System -SIG- and Computer Unit	SNIC, DCC, SIG, IT, PI and Gender.

Source: Adapted from UVG-GIMBUT, 2017



8. Safeguards, The Strategic Evaluation Process, Management Framework and Information and Complaints Resolution Mechanism

8.1. National Approach to Safeguards (ENS - for its acronym in Spanish)

In response to the provisions of the Framework Law on Climate Change (LMCC - for its acronym in Spanish), among the international commitments that Guatemala has assumed before the United Nations Framework Convention on Climate Change (UNFCCC), which are included in the REDD+ Strategy is the approach, respect and compliance with safeguards. Within the framework of the preparation and with the objective of accessing payments for REDD+ results, Guatemala has developed a National Approach on REDD+ Safeguards (ENS REDD+ - for its acronym in Spanish) with which it seeks to comply with the requirements associated with REDD+ safeguards, which has the purposes of: i) define the way in which compliance with the REDD+ safeguards will be guaranteed, ii) political-legal framework and institutions responsible for implementation, and iii) compliance aspects that allow the resolution of conflicts, non-compliance mechanisms and report generated information.

This effort has been built in a participatory manner since 2014, facilitated by the REDD + Multi-sector Safeguards Committee, with the technical and financial support of IDB and CARE International in the framework of the USAID /PRCC project, based on a critical path, which was oriented in the following stages:

- 1) Constitute a Technical Committee on Safeguards
- 2) Determine objectives and scope of the ENS REDD+
- 3) Identification and analysis of the legal, institutional and compliance framework relevant to safeguards
- 4) Definition of the architecture and operation of the ENS REDD+
- 5) Launch the Safeguards Information System

In this context, progress was made in August 2015 and with the participation of multiple actors, workshops were held for the interpretation and construction of the National Safeguards Approach (75 stakeholders, 35% women). The principles, purposes, indicators and the applicable legal, institutional and compliance framework for each safeguard were also defined preliminarily. Additionally, it was identified how the existing governance frameworks in the country will serve to respond to the commitments assumed by Guatemala in terms of

REDD+ safeguards.

The National Committee of Safeguards, composed of 16 members, is proposed to act as a multisector advisor to legitimize and validate how the components of the National Strategy will address and respect the safeguards. In this process, the objectives of the ENS have been established, also that of each safeguard and preliminary indicators that measure the compliance with the REDD+ safeguards

8.2 Social and Environmental Strategic Evaluation and Social and Environmental Management Framework

Guatemala has developed the Social and Environmental Strategic Assessment (SESA - for its acronym in Spanish) and the Environmental and Social Management Framework (ESMF) that are based on the FCPF safeguard requirements. These have been developed under a participatory process involving 611 interested parties (242 women and 369 men) in five geographic regions of the country. The purpose of the evaluation is to identify and prioritize possible impacts (adverse and positive) derived from the implementation of Guatemala's REDD+ options and activities.

The analysis was carried out based on the guidelines and inputs provided by GCI and guided by IDB as the delivery partner. Regarding the country's REDD+ proposal, it is based on three REDD+ measures: a) avoided deforestation; b) avoided forest degradation (due to forest fires and forest biomass extraction); and c) increases in forest carbon reservoirs. As well as the

REDD+ options and activities defined in the ER-PIN and Mid-Term Report (2016).

For the analysis of impacts, the following is presented:

- Brief explanation of the scope of the strategy option, along with its specialization and linkage with the REDD+ measures
- Identification of the legal framework linked to each strategic option
- List of REDD+ activities to be considered under each option
- Identification of potential impacts (adverse and positive) derived from the implementation of each strategic option (based on the information compiled in the regional SESA workshops and with due consideration of the REDD+ activities proposed to date)
- Identification of potential complaints and claims associated with the implementation of each strategic option

As a result, 51 potential adverse impacts, 64 potential positive impacts and 59 potential conflicts and claims were identified. As a result of the Evaluation, mitigation measures have been defined to address the potential adverse impacts or promote the positive impacts of REDD+, this is known as the Environmental and Social Management Framework.

8.3 Environmental and Social Management Framework (ESMF)

As a result of the SESA, Guatemala has developed the Environmental and Social Management Framework (ESMF, for its acronym in English) as the operational instrument where the principles, guidelines and procedures are established to address, avoid and minimize the potential risks of adverse impacts. and potentiate the social and environmental benefits associated with the implementation of the options of REDD+ National Strategy.

The ESMF proposes measures to reduce, mitigate or counteract adverse environmental and social impacts, and to improve the positive impacts and opportunities of projects, activities, policies or regulations associated with the future implementation of the options of REDD+ Strategy. The preparation of the management framework considered the following as inputs:

- The review of the proposed REDD + Strategy options within the R-PP and the ER-PIN
- The analysis of government institutional entities responsible for the implementation and supervision of the SESA and ESMF, including the required institutional arrangements
- Analysis of existing platforms and /or governance structures that are estimated to be used in the context of REDD+

It is also based on the proposal of the specific dissemination, communication and dialogue mechanisms of the SESA and ESMF, as well as the report with the mapping of actors. Another important input is the report generated on the legal/regulatory deficiencies and the application of policies, institutions and existing capacities linked to the possible social and environmental risks associated with the implementation of REDD+ National Strategy.

The ESMF proposal developed to date includes the following sections:

Section 1:	Measures to reduce, mitigate or counteract adverse environmental and social impacts and to enhance the positive impacts associated with the future implementation of the options of REDD+ Strategy. This is in accordance with the IDB's Safeguard Policies under the Common Approach of the FCPF, as well as the application of UNFCCC safeguards.
Section 2:	Specific frameworks required by the FCPF to mitigate and manage the potential impacts derived from the implementation of REDD+ Strategy options.
Section 3:	Institutional arrangements for the implementation and supervision of the ESMF. It is preliminary because it is pending to confirm who the institutions in charge will be.
Section 4:	Mechanism of Information and Attention to Complaints (MIAQ - for its acronym in Spanish).
Section 5:	Arrangements for dialogue and participation of relevant actors. To date, it plans to present a description and evaluation of the existing and relevant participation and dialogue platforms, and how they can play a role in the supervision and implementation of the ESMF.
Section 6:	Practical considerations for the implementation of the ESMF.

8.4 Mechanism of Information and Attention to Complaints (MIAQ - for its acronym in Spanish)

Guatemala designed a Mechanism of Information and Attention to Complaints (MIAQ - for its acronym in Spanish) that allows information and clear and effective handling of complaints or conflicts arising of the preparation and implementation of the REDD+ Strategy. An important premise is that it will not be destined to replace the judicial power or other forms of legal and/or traditional action existing in the country, but to complement them. Therefore, aggrieved parties may address their complaints and use the typology of existing and relevant mechanisms according to their competencies. This proposal emerged as part of the participatory process of the SESA and ESMF, where the participants generated key inputs, for example: the scope, the components from the receipt of complaints to the monitoring of the resolution, as well as the analysis of each

component with respect to the eight principles of the FCPF for these mechanisms.

The process generated a proposal for the design of the MIAQ that includes objectives, scope, principles and procedure in accordance with FCPF guidelines; and then an implementation route to operationalize said mechanism. The specific objectives of the MIAQ in accordance with the requirements of the FCPF are (See Figure 9):

- 1) Provide timely and clear information to users who require it.
- 2) Identify and solve implementation problems in a timely manner and cost effectively.
- 3) Identify systemic problems.
- 4) Identify the REDD+ results.
- 5) Promote accountability in the country.
- 6) Contribute to promote participation and empowerment of forest users in REDD+.



Figure 9. MIAQ Guatemala purposes

The MIAQ has a structure of an administrative nature, it is under MARN coordination. At the operational level, it will operate in regional offices of MARN, MAGA, INAB and CONAP. The MIAQ procedure to be implemented by the relevant institutions will not be intended to replace the judicial power or other forms of legal and/or traditional action existing in the country. It is considered a structural process that foresees to deliver a binding contractual result between the parties in dispute. From the moment the complaint is received until a resolution is issued on the dispute, approximately 30 working days are contemplated. The MIAQ has a systematic process consisting of five steps: i) Receipt and registration, ii) Research, iii) Selection of an approach, iv) Evaluation and Response, v) Monitoring.

The scope of the MIAQ is geared to the grievances that arise in connection with the implementation of the options of REDD+ Strategy (and REDD+ activities and actions in each territory). The proposal considers that the type of grievances that should be addressed by the MIAQ are related to tensions that exist over land tenure and the use of forest resources, as well as aspects related to participation in the design and implementation of the options of REDD + Strategy.



9. Benefit-sharing Mechanism

The REDD+ preparation process includes the design and implementation of the Benefit-sharing Mechanism, which seeks to be clear, transparent, effective and in line with the existing national policy framework, to consider the Forestry Law and the Law on Protected Areas, as well as the inclusion of gender considerations, indigenous peoples and local communities, duly socialized with the stakeholders.

Guatemala has developed extensive experience in the design and implementation of economic policies and instruments aimed at promoting the conservation, management and sustainable use of natural resources in different modalities and institutional arrangements. These instruments have been designed with a governance framework and the institutional, legal and financial basis to operate and distribute state resources to beneficiaries who implement management, conservation, reforestation, restoration, agroforestry, among others, for the benefit of the national community. Among these are the national forest incentive programs (PINFOR, PINPEP and PROBOSQUE), the forestry concession schemes on state lands considered in forest regulation inside and outside protected areas. It is worth mentioning that the Strategy proposal includes these mechanisms as strategy options.

Under the forestry incentive programs, INAB has more than 15 years of experience channeling economic benefits of more than \$300 million dollars to more than one million beneficiaries, and whose mechanism highlights transparency throughout the entire process with the participation of: a) INAB with the certification of the fulfillment of the forest management plans by the users, which entails an internal audit, b) the Ministry of Public Finances with the review and approval of the files sent by INAB, for which bank deposits are issued directly to the monetary accounts of previously registered users and the parallel payment of administrative expenses to INAB, and c) the General Comptroller's Office, which, as an external entity, performs external audits of the INAB as a mechanism to guarantee the transparency of the processes. This mechanism will be the same process for the distribution of PROBOSQUE benefits through the National Forest Fund (FONABOSQUES - for its acronym in Spanish).

Other mechanisms have also been created to make investments of State resources in conservation and management activities, which come from direct investments of the Administra

tion and Investment Trust Fund of the National Fund for Nature or other funds established in specific laws.

The participation of relevant actors in the design, implementation and benefits of these mechanisms enjoys of legitimacy and representativeness and the results show success, changes and positive impacts according to the specific purposes.

Under the premise of good governance, as one of the outcomes of the Dialogue and Participation Process that was implemented during REDD+ preparation, it is proposed a REDD+ benefit sharing mechanism, one that uses the legal, technical, financial and operational governance platform of these existing mechanisms, taking into account the strategic proposal and the orientation and destination that the payments for results may have; and if it necessary, to create or adapt any additional option to cover the missing issues.

Currently there is a work team focused on the next route:

- 1) Generation of the conceptual and reference framework of the REDD+ National Benefit-sharing Mechanism
- 2) Systematization and analysis of the current mechanisms that includes the establishment of compatibilities and/or incompatibilities related to the requirements stipulated in the FCPF methodological framework.
- 3) Mapping of stakeholders, as potential beneficiaries of the mechanism to be proposed.
- 4) Preparation of a proposal for the Benefit-sharing Mechanism of the REDD+ National Strategy to be submitted for consultation and validation.

This process will involve the Ministry of Public Finances and multiple parties interested in REDD+, also seeking to link the benefit distribution mechanisms of existing REDD + projects.



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